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VOL. III. BAR——BZO

INDOCTI DISCANT, ET AMENT MEMINISSE PERITI.

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BRITISH MUSEUM

ENCYCLOPÆDIA.

BARBARUS (Francis), a noble Venetian, was a man of great fame in the 15th century, not only for learning, but likewiſe for a ſkilful addreſs in the management of public affairs. He is author of a book *De Re Uxoria*, and ſome ſpeeches.

BARBARUS (Hermolaus), grandſon of the preceding, one of the moſt learned men in the 15th century. The public employments he was entruſted with early, did not prevent him from cultivating polite learning with great application. As he was very ſkilful in the Greek, he undertook the moſt difficult tranſlations, and began with a famous paraphraſe upon Ariſtotle. He then attempted Dioſcorides, whoſe text he corrected, gave a tranſlation of him, and added a commentary. But of all his works, there is none which has gained him ſo much reputation as that which he made upon Pliny; he corrected in him above 5000 paſſages, and occaſionally reſtored 300 in Pomponius Mela. Pope Innocent VIII. to whom he was ambaſſador, conferred the patriarchate of Aquileia upon him. He was ſo imprudent as to accept of it without waiting for the conſent of his ſuperiors; though he could not be ignorant that the republic of Venice had made laws to forbid all the miniſters they ſent to the court of Rome to accept any benefice. His ſuperiors were inflexible; and not being able to gain any thing upon them either by his flattery or his father's intereſt, the father died of grief, and the ſon ſoon followed him.

BARBARUS (Daniel), of the ſame family with the preceding, was patriarch of Aquileia, and famous for his learning. He was ambaſſador from Venice to England; and was one of the fathers of the council of Trent, where he acted with great zeal for the intereſt of the pope. He wrote, 1. A commentary upon Vitruvius. 2. *Catena Græcorum Patrum in quinquaginta Pſalmos Latine verſa.* 3. *La Prattica della Perſpectiva.* He died in 1569, at 41 years of age.

1 Extent, &c.

BARBARY, a kingdom of Africa, including the ſtates of *Algiers*, *Morocco*, *Tripoli*, and *Tunis*; (ſee thoſe articles). This country contains almoſt the whole of what the Romans poſſeſſed of the continent of Africa, excepting Egypt. It ſtretches itſelf in length from eaſt to weſt, beginning at the ſouthern limits of Egypt, to the ſtraits of Gibraltar, full 35 degrees of longitude, and from thence to Santa Cruz, the utmoſt weſtern edge of it, about 6 more, in all 41 degrees; ſo that the utmoſt length of Barbary from eaſt to weſt is computed at about 759 German leagues. On the ſouth, indeed, it is confined within much narrower bounds, extending no farther than from 27 to 35½ degrees of north latitude; ſo that its utmoſt breadth from north to ſouth, does not exceed 128 German miles. More particularly, Barbary begins on the weſt of the famed mount Atlas, called by the Arabs *Ay Duacal*, or *Al Duacal*, incloſing the ancient kingdoms of Suez and Dela, now provinces of Morocco; thence ſtretching north-eaſtward along the Atlantic to the pillars of Hercules at Cape Finiſterre, then along the coaſt of the Mediterranean, it is at laſt bounded by the city of Alexandria in Egypt.

2 Whence named.

Concerning the origin of the name *Barbary*, there are many conjectures. According to ſome, the Romans, after they had conquered this large country, gave it that name out of contempt and diſlike to the barbarous manners of the natives, according to their cuſtom of calling all other people but themſelves *Barbarians*. Marmol, on the contrary, derives the word *Barbary* from *Berber*, a name which the Arabs gave to its ancient inhabitants, and which they retain to this day in many parts of the country, eſpecially along the great ridge of the mountains of Atlas; and which name was given them on account of the barrenneſs of their country. According to Leo Africanus, the name of Barbary was given by the Arabs on account of the ſtrange language of the natives, which appeared to them more like a murmur or grumbling of ſome brute animals than articulate ſounds. Others, however, derive it from the Arabic word *bar*, ſignifying a deſart, twice repeated; which was given by one *Ifric*, or *Africus*, a king of Arabia, from whom the whole continent of Africa is pretended to have taken its name. According to them, this king being driven out of his own dominions, and cloſely purſued by his enemies, ſome of his retinue called out to him *Bar, bar*; that is, *To the deſart, to the deſart*; from which the country was afterwards called *Barbary*.

3 Subject to the Romans.

4 Bonifacius calls in the Vandals.

Among the Romans this country was divided into the provinces of Mauritania, Africa Propria, &c. and they continued abſolute maſters of it from the time of Julius Cæſar till the year of Chriſt 428. At that time Bonifacius the Roman governor of theſe provinces, having through the treachery of Ætius been forced to revolt, called in to his aſſiſtance Genſeric king of the Vandals, who had been ſome time ſettled in Spain. The terms offered, according to Procopius, were, that Genſeric ſhould have two-thirds, and Bonifacius one-third of Africa, provided they could maintain themſelves againſt the Roman power; and to accompliſh this they were to aſſiſt each other to the utmoſt.—This propoſal was inſtantly complied with, and Genſeric ſet ſail from Spain in May 428, with an army of 80,000 men, according to ſome, or only 24,000 according to others,

thers, together with their wives, children, and all their effects. In the mean time, however, the empreſs Placidia having diſcovered the true cauſe of Bonifacius's revolt, wrote a moſt kind and obliging letter to him, in which ſhe aſſured him of her favour and protection for the future, exhorting him to return to his duty, and exert his uſual zeal for the welfare of the empire, by driving out the Barbarians whom the malice of his enemies had obliged him to call in for his own ſafety and preſervation.

5 Endeavours unſucceſsfully to perſuade them to return.

6 Romans defeated by Genſeric king of the Vandals.

Bonifacius readily complied with this requeſt, and offered the Vandals conſiderable ſums if they would retire out of Africa and return to Spain. But Genſeric already maſter of the greateſt part of the country, firſt returned a ſcoffing anſwer, and then, falling unexpectedly on him cut moſt of his men in pieces, and obliged Bonifacius himſelf to fly to Hippo, which place he inveſted in May 430. The ſiege laſted till the month of July the following year; when the Vandals were forced by a famine that began to rage in their camp, to drop the enterprize and retire. Soon after, Bonifacius having received two reinforcements, one from Rome, and the other, under the conduct of the celebrated Aſpar, from Conſtantinople, a reſolution was taken by the Roman generals to offer the enemy battle. The Vandals readily accepting the challenge, a bloody engagement enſued, in which the Romans were utterly defeated, a prodigious number of them taken, and the reſt obliged to ſhelter themſelves among the rocks and mountains. Aſpar, who commanded the eaſtern troops, eſcaped with difficulty to Conſtantinople, and Bonifacius was recalled to Italy. Upon their departure, the Vandals over-ran all Africa, committing every where the moſt terrible ravages; which ſtruck the inhabitants of Hippo with ſuch terror, that they abandoned their city, which was firſt plundered, and then ſet on fire by the victorious enemy; ſo that Cirtha and Carthage were now the only ſtrong places poſſeſſed by the Romans.

7 Peace concluded with the Vandals.

8 Genſeric's treachery.

In 435, Genſeric, probably being afraid of an attack by the united forces of the eaſtern and weſtern empires, concluded a peace with the Romans, who yielded to him part of Numidia, the province of Proconſularis, and likewiſe Byzacene; for which, according to Proſper, he was to pay a yearly tribute to the emperor of the eaſt. Genſeric delivered up his ſon Hunneric by way of hoſtage, but ſo great was the confidence which the Romans placed in this Barbarian, that ſome time after they ſent him back his ſon. Of this they ſoon had reaſon to repent, for in 439, the Romans being engaged in a war with the Goths in Gaul, Genſeric laid hold of that opportunity to ſeize upon the city of Carthage; by which he conſiderably enlarged his African dominions. Valentinian, the Roman emperor, however, maintained as long as he lived, the two Mauritanias, with Tripolitana, Tingitana, and that part of Numidia where Cirtha ſtood.

On the taking of Carthage, Genſeric made it the ſeat of his empire; and in 440 made a deſcent on the iſland of Sicily, where he ravaged the open country, and even laid ſiege to Palermo. Not being able, however, to reduce that place, he ſoon returned to Africa with an immenſe booty, and a vaſt number of captives. Being now become formidable to both empires, Theodoſius emperor of the eaſt reſolved to aſſiſt Valentinian againſt ſo powerful an enemy. Accordingly, he fitted out a fleet conſiſting of 1100 large ſhips; and putting on board of it the flower of his army, under the conduct of Arcovindas, Anſilus, and Germanus, he ordered them to land in Africa, and, joining the weſtern forces there, to drive Genſeric out of the countries he had ſeized. But Genſeric in the mean time pretending a deſire to be reconciled with both empires, amuſed the Roman general with propoſals of peace, till the ſeaſon for action was over: and, next year, Theodoſius being obliged to recall his forces to oppoſe the Huns, Valentinian found it neceſſary to conclude a peace with the Vandals; and this he could obtain on no other terms than yielding to them the quiet poſſeſſion of the countries they had ſeized.

9 Makes himſelf maſter of all the Roman provinces.

10 Defeated by Ricimer and Majorianus.

So powerful was Genſeric now become, or rather ſo low was the Roman empire by this time reduced, that in 455, he he took and plundered the city of Rome itſelf, as fully related under the article ROME; and, after his return to Africa, made himſelf maſter of the remaining countries held by the Romans in that part of the world. Hereupon Avitus, who had ſucceeded Valentinian in the empire, diſpatched ambaſſadors to Genſeric, putting him in mind of the treaty he had concluded with the empire in 442; and threatening, if he did not obſerve the articles at that time agreed upon, to make war upon him not only with his own forces, but with thoſe of his allies the Viſigoths, who were ready to paſs over into Africa. To this Genſeric was ſo far from paying any regard, that he immediately put to ſea with a fleet of 60 ſhips; but being attacked by the Roman fleet under Ricimer, he was utterly defeated, and forced to fly back into Africa: he returned, however, ſoon after with a more powerful fleet, committing great ravages on the coaſt of Italy; but in a ſecond expedition he was not attended with ſo good ſucceſs; the Romans falling unexpectedly upon his men while buſied in plundring the country, put great numbers of them to the ſword, and among the reſt the brother-in-law of Genſeric himſelf. Not content with this ſmall advantage, Majorianus, at that time emperor, reſolved to paſs over into Africa, and attempt the recovery of that country. For this purpoſe he made great preparations; but his fleet being ſurpriſed and defeated by the Vandals, through the treachery, it is ſaid, of ſome of his commanders, the enterpriſe miſcarried.

11 Genſeric defeats the eaſtern emperor's fleet.

Notwithſtanding this misfortune, however, Majorianus perſiſted in his reſolution; and would in all likelihood have accompliſhed his purpoſe, had not he himſelf been murdered ſoon after by Ricimer. After his death, Genſeric committed what ravages he pleaſed in the poor remains of the weſtern empire, and even made deſcents on Peloponneſus, and the iſlands belonging to the emperor of Conſtantinople. To avenge this affront, Leo made vaſt preparations for the invaſion of Africa, inſomuch, that, according to Procopius, he laid out 130,000 pounds weight of gold in the equipment of his army and navy. The forces employed on this occaſion were ſufficient for expelling the Vandals, had they been much more powerful than they were; but the command being given to Baſiliſcus a covetous and ambitious man, the fleet was utterly defeated through his treachery, and all the vaſt preparations came to nothing. By this laſt defeat the power of the Vandals in Africa was fully eſtabliſhed, and Genſeric made himſelf maſter of Sicily, as well as of all the other iſlands between Italy and Africa, without oppoſition from the weſtern emperors, whoſe power was entirely taken away in the year 476.

12 Kingdom of the Vandals founded.

Thus was the Vandalic monarchy in Barbary founded by Genſeric, between the years 428 and 468. If we take a view of that prince's government in his new dominions, it preſents no very agreeable proſpect. Being himſelf an abſolute babarian in the ſtricteſt ſenſe of the word, and an utter ſtranger to every uſeful art, he did not fail to ſhow his own proweſs by the deſtruction of all the monuments of Roman greatneſs which were ſo numerous in the country he had conquered. Accordingly, inſtead of improving his country, he laid it waſte, by demoliſhing all the ſtately ſtructures both public and private, and all other valuable and ſumptuous works with which thoſe proud conquerors had adorned this part of their dominions. So that, what ever monuments the Romans had been at ſuch an immenſe expence to erect, in order to eternize their own glory, the barbarous Vandals were now at no leſs pains to reduce into heaps of ruins. Beſides this kind of devaſtation, Genſeric made his domonions a ſcene of blood and ſlaughter, by perſecuting the orthodox Chriſtians; being himſelf, as well as moſt of his countrymen, a zealous Arian; and for this his long reign is chiefly remarkable. He died in 477, after a reign of 60 years; and was ſucceeded by his ſon Hunneric.

13 Barbarity and tyranny of Genſeric.

14 Hunneric a bloody tyrant.

15 His terrible death.

The new king proved yet a greater tyrant than his father, perſecuting the orthodox with the utmoſt fury; and, during his ſhort reign of ſeven years and an half deſtroyed more of them than Genſeric had done in all his life time. He is ſaid to have died in the ſame manner as the hereſiarch Arius*; before which time his fleſh had been rotting upon his bones, and crawling with worms, ſo that he looked more like a dead carcaſe than a living man. Concerning his ſucceſſors Gutamund, Thraſamund, and Hilderic, we find nothing remarkable, except that they ſometimes perſecuted, and ſometimes were favorable to, the orthodox; and by his favour for them the laſt king was ruined. For, having unadviſedly publiſhed, in the beginning of his reign, a manifeſto, wherein he repealed all the acts of his predeceſſors againſt the orthodox, a rebellion was the immediate conſequence. At the head of the malecontents was one Gilimer, or Gildemar, a prince of the blood-royal, who by degrees became ſo powerful, as to depoſe Hilderic in the ſeventh year of his reign; after which he cauſed the unhappy monarch with all his family to be cloſely confined, and was himſelf crowned king of the Vandals at Carthage.

16 Helderic depoſed by Gilimer.

Gilimer proved a greater tyrant than any that had gone before him. He not only cruelly perſecuted the orthodox, but horribly oppreſſed all the reſt, ſo that he was held in univerſal abhorrence and deteſtation when the Greek emperor Juſtinian projected an invaſion of Africa. This expedition of Juſtinian's is ſaid to have been occaſioned by an apparition of Lætus an African biſhop, who had been murdered ſome time before, but now commanded the emperor to attempt the recovery of Africa, and aſſured him of ſucceſs. Accordingly, this, or ſome other motive, prevailed upon Juſtinian ſo far, that, notwithſtanding his being at that time engaged in a war with Perſia, he ſent a powerful fleet and army to Africa, under the command of the celebrated general Beliſarius, who was for that reaſon recalled from Perſia.

17 Beliſarius invades Africa.

So much was Gilimer, all this time, taken up with his own pleaſures, or with oppreſſing his ſubjects, that he knew little or nothing of the formidable preparations that were making againſt him. On the arrival of Beliſarius, however, he was conſtrained to put himſelf into a poſture of defence. The management of his army he committed to his two brothers Gundimer and Gelamund, who accordingly attacked the Romans at the head of a numerous force. The engagement was long and bloody; but at laſt the Vandals were defeated, and the two princes ſlain. Gilimer, grown deſperate at this news, ſallied out at the head of his corps de reſerve, with full purpoſe to renew the attack with the utmoſt vigour; but by his own indiſcretion loſt a fair opportunity of defeating the Romans. For no ſooner did they perceive Gilimer haſtening after them at the head of a freſh army, than they betook themſelves to flight; and the greateſt part were diſperſed in ſuch a manner, that, had the king followed them cloſe, they muſt have been totally cut off. Inſtead of this, however, ſtumbling unfortunately on the body of one of his ſlain brothers, the ſight of it made him loſe all thoughts about the enemy; and inſtead of purſuing them, he ſpent part of his time in idle lamentations, and part in burying the corpſe with ſuitable pomp and dignity. By this means Beliſarius had an opportunity of rallying his men; which he did ſo effectually, that, coming unexpectedly upon Gilimer, he eaſily gained a new and complete victory over him.

18 Defeats the Vandals.

19 Takes Carthage.

This defeat was followed by the loſs of Carthage, which the barbarians had been at no pains to put into a poſture of defence. After which Gilimer, having in vain endeavoured to obtain aſſiſtance from the Moors and Goths; was obliged to recal his brother Tzaſon from Sardinia. The meeting between the two brother was very mournful; but they ſoon came to a reſolution of making one deſperate attempt to regain the loſt kingdom, or at leaſt recover their captives out of the hands of the enemy. The conſequence of this reſolution was another engagement, in which Tzaſon was killed with 800 of his choiceſt men, while the Romans loſt no more than 50; after which Beliſarius moving ſuddenly forward at the head of all his army, fell upon the camp of the Vandals. This Gilimer was no ſooner appriſed of, than, without ſtaying to give any more orders to the reſt of his army, he fled towards Numidia in the utmoſt conſternation. His flight was not immediately known among his troops; but when it was, ſuch an univerſal confuſion enſued, that they abandoned their camp to the Romans, who had now nothing to do but plunder it; and not content with this, they maſſacred all the men found in it, carrying away the women captives.

20 And puts an end at the Vandalic monarchy.

Thus a total end was put to the power of the Vandals in Barbary, and the Romans once more became maſters of this country. The Vandal inhabitants were permitted to remain as they were, on condition of exchanging the hereſy of Arius for the orthodox faith. As for Gilimer, he fled with the utmoſt expedition to Medamus, a town ſituated on the top of the Pappuan mountain, and almoſt inacceſſible by reaſon of its height and ruggedneſs. The ſiege of this place was committed to Pharas, an officer of great experience, who having ſhut up all avenues to the town, the unhappy Gilimer was reduced to the greateſt ſtraits for want of proviſions.

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* See *Arius*

21 Gilimer's extreme diſtreſs.

Pharas being ſoon appriſed of the diſtreſs he was in, wrote him a moſt friendly and pathetic letter, earneſtly exhorting him to put an end to the diſtreſs of himſelf and his friends by a ſurrender. This Gilimer declined; but at the ſame time concluded his anſwer with a moſt ſubmiſſive requeſt, that Pharas would ſo far pity his great diſtreſs as to ſend him a loaf of bread, a ſponge, and a lute. This ſtrange requeſt greatly ſurpriſed Pharas; but at laſt it was explained by the meſſenger, who told him that the king had not taſted any baked bread ſince his arrival on that mountain, and earneſtly longed to eat a morſel of it before he died: the ſponge he wanted to allay a tumour that was fallen on one of his eyes; and the lute, on which he had learned to play, was to aſſiſt him in ſetting ſome elegiac verſes he had compoſed on the ſubject of his misfortunes to a ſuitable tune. At this mournful report Pharas could not refrain from tears, and immediately diſpatched the meſſenger with the things he wanted.

Gilimer had ſpent near three winter months on the ſummit of this inhoſpitable mountain, his miſery hardening him ſtill more againſt the thoughts of ſurrendering, when a melancholy ſcene in his own family at once reconciled him to it. This was a bloody ſtruggle between two boys, one of them his ſiſter's ſon, about a flat bit of dough, laid on the coals; which the one ſeized upon, burning hot as it was, and clapped it into his mouth; but the other by dint of blows forced it out, and eat it from him. This quarrel, which might have ended fatally had not Gilimer interpoſed, made ſo deep an impreſſion upon him, that he immediately diſpatched a meſſenger to Pharas, acquainting him that he was willing to ſurrender himſelf and all his effects upon the conditions he had offered, as ſoon as he was aſſured that they were embraced by Beliſarius. Pharas loſt no time to get them ratified and ſent back to him; after which he was conducted to Beliſarius, who gave him a very kind reception.

22 Kindly treated by Juſtinian.

Gilimer was afterwards brought before Juſtinian in golden chains, whom he beſought in the moſt ſubmiſſive manner to ſpare his life. This was readily granted by the emperor; who alſo allowed him a handſome yearly penſion to live upon as a private gentleman. But his mind and heart were too much unſettled and broken to enjoy the ſweets of a private ſtate; ſo that Gilimer, oppreſſed with grief, died in the year 534, the firſt of his captivity, and five years after he had been raiſed to the throne.

23 Barbary ſubdued by the Saracens.

Barbary being thus again reduced under the power of the Romans, its hiſtory falls to be taken notice of under that of Rome. In the khalifat of Omar, this country was reduced by the Saracens, as we have already related under the article Arabia. It continued ſubject to the khalifs of Arabia and Bagdad till the reign of Harun Al Raſhid, who having appointed Ibrahim Ebn Aglab governor of the weſtern parts of his empire, that prefect took the opportunity, firſt of aſſuming greater powers to himſelf than had been granted by the khalif, and then erecting a principality altogether independent of the khalifs.

24 Principal city of the Aglabites founded.

The race of Aglab continued to enjoy their new principality peaceably till the year of the Hegira 297 or 298, during which time they made ſeveral deſcents on the iſland of Sicily, and conquered part of it. About this time, however, one Obeidallah rebelled againſt the houſe of Aglab, and aſſumed the title of khalif of *Kairwan* (the ancient Cyrene, and reſidence of the Aglabite princes). To give the greater weight to his pretenſions he alſo took the ſurname of Al Mohdi, or Al Mahedi, the *director*. According to ſome, alſo, he pretended to be deſcended in a right line from Ali Ebn Abu Taleb, and Fatema the daughter of Mahomet; for which reaſon, ſay they, the Arabs called him and his deſcendants *Fatemites*. He likewiſe encouraged himſelf and his followers by a traditional prophecy of Mahomet, that at the end of 300 years the ſun ſhould riſe out of the weſt.

25 Driven out by Al Mohdi the firſt Fatemite khalif.

Having at length driven the Aglabites into Egypt, where they became known by the name of *Magrebians*, he extended his dominions in Africa and Sicily, making Kairwan the place of his reſidence.

26 His general Habbaſah invades Egypt.

In the 300th year of the Hegira, Habbaſah, one of Al Mohdi's generals, overthrew the khalif Al Mokhtader's forces in the neighbourhood of Barca, and made himſelf maſter of that city. After which he reduced Alexandria itſelf; and was making great progreſs in the conqueſt of the whole country, when Al Mokhtader diſpatched againſt him his two generals Takin and Al Kaſem, with an army of 100,000 men. Habbaſah being informed that the khalif's troops were in motion, advanced at the head of his army to give them battle, and at laſt came up with them in an iſland called by the Arabs *Ard Al Khamſin*. Here he attacked them with incredible bravery, notwithſtanding their force was much ſuperior to his; but the approach of night obliged both generals to ſound a retreat.—The action therefore was by no means deciſive, tho' extremely bloody, the khalif's generals having loſt 20,000, and Habbaſah 10,000. The latter, however, durſt not renew the fight next morning; but ſtole off in the night, and returned home, ſo that Al Mokhtader in effect gained a victory. In the 302d year of the Hegira, however, Habbaſah returned, poſſeſſed himſelf of Alexandria a ſecond time, defeated a body of the khalif's forces, and killed 7000 of them upon the ſpot. What further progreſs he made at that time we are not certainly told;

27 As does alſo his ſon Abul Kaſem.

but in the 307th year of the Hegira, Abul Kaſem, ſon to the Fatemite khalif Al Mohdi, again entered Egypt with an army of 100,000 men. At firſt he met with extraordinary ſucceſs, and over-ran a conſiderable part of that fine country. He made himſelf maſter of Alexandria, Al Tayum, Al Baknaſa, and the iſle of Al Aſhmaryin, penetrating even to Al Jizah, where the khalif's army under the command of Munes was poſted in order to oppoſe him. In this country he found means to maintain himſelf till the 308th year of the Hegira.

28 Who is utterly defeated by Munes.

This year, however, he was entirely defeated by Munes, who made himſelf maſter of all his baggage, as well as of the plunder he had acquired; and this blow obliged him to fly to Kairwan with the ſhattered remains of his army, where he remained without making any further attempt on Egypt.

Al Mohdi, reigned 24 years; and was ſucceeded by his ſon Abul Kaſem abovementioned, who then took the ſurname of *Al Kayem Mohdi*. During his reign we read of nothing remarkable, except the revolt of one

29 Rebellion of Yezid.

one Yezid Ebn Condat, a man of mean extraction, but who, having been raiſed to the dignity of chancellor, found means to raiſe ſuch a ſtrong party, that the khalif was obliged to ſhut himſelf up in the caſtle of Mohedia. Yezid, being then at the head of a powerful army, ſoon reduced the capital of Kairwan, the cities of Al Rakkada and Tunis, and ſeveral other fortreſſes. He was no leſs ſucceſsful in defeating a conſiderable number of troops which Al Kayem had raiſed and ſent againſt him; after which he cloſely beſieged the khalif himſelf in the caſtle where he had ſhut himſelf up. The ſiege continued ſeven months: during which time the place was reduced to ſuch ſtraits, that the khalif muſt either have ſurrendered it or been ſtarved, when death put an end to his anxiety in the 12th year of his reign, and 334th of the Hegira.

30 Al Manſur khalif.

Al Kayem was ſucceeded by his ſon Iſhmael, who immediately took upon himſelf the title of *Al Manſur*. This khalif thought proper to conceal the death of his father till he had made the preparations neceſſary for reducing the rebels. In this he was ſo ſucceſsful, that he obliged Yezid to raiſe the ſiege of Mohedia the ſame year; and in the following gave him two great overthrows, obliging him to ſhut himſelf up in the fortreſs of Kothama, or Gutama, where he beſieged him in his turn. Yezid defended the place a long time with deſperate bravery; but finding the garriſon at laſt obliged to capitulate, he made ſhift to eſcape privately. Al Manſur immediately diſpatched a body of forces in purſuit of him; who overtook, and brought him back in fetters; but not till after a vigorous defence, in which Yezid received ſeveral dangerous wounds, of which he died in priſon. After his death, Al Manſur cauſed his body to be flayed and his ſkin ſtuffed and expoſed to public view. Of Al Manſur's exploits in SICILY an account is given under that article. Nothing farther remarkable happened in his African dominions; and he died after a reign of ſeven years and 16 days in the 341ſt of the Hegira.

31 Death of Yezid.

32 Al Moez Ledinillah khalif.

Al Manſur was ſucceeded by his ſon Abu Zamin Moad, who aſſumed the ſurname of *Al Moez Ledinillah*. He proved a very warlike prince, and maintained a bloody conteſt with Abdalrahman, khalif of Andaluſia: for a particular account of which ſee the article SPAIN. In the 347th year of the Hegira, beginning March 25th, 958, Al Moez ſent a powerful army to the weſtern extremity of Africa, under the command of Abul Haſan Jawhar, one of his ſlaves, whom he had advanced to the dignity of Vizir. Jawhar firſt advanced to a city called *Tahart*, which he beſieged for ſome time ineffectually. From thence he marched to Fez, and made the proper diſpoſitions for attacking that city. But finding that Ahmed Ebn Becr, the Emir of the place, was reſolved to defend it to the laſt, he thought proper to abandon the enterprize. However, having traverſed all the tract between that capital and the Atlantic ocean, he again ſat down before Fez, and took it by ſtorm the following year.

33 He conquers Egypt.

But the greateſt atchievement performed by this khalif was his conqueſt of Egypt, and the removal of the khalifat to that country. This conqueſt, though long projected, he did not attempt till the year of the Hegira 358. Having then made all neceſſary preparations for it, he committed the care of that expedition to a faithful and experienced general called *Giafar*, or *Jaafar*; but in the mean time, this enterprize did not divert Al Moez from the care of his other conqueſts, particularly thoſe of Sicily and Sardinia: to the laſt of which he ſailed in the year of the Hegira 361, continuing a whole year in it, and leaving the care of his African dominions to an experienced officer named *Yuſef Ben Zeiri*. He ſailed thence the following year for Tripoli in Barbary, where he had not ſtaid long before he received the agreeable news that his general had made himſelf maſter of Alexandria. He loſt no time, but immediately embarked for it, leaving the government of his old African dominions in the hands of his truſty ſervant Yuſef abovementioned, and arriving ſafely at that port was received with all the demonſtrations of joy. Here he began to lay the foundations of his new Egyptian dynaſty, which was to put a final end to the old one of Kairwan after it had continued about 65 years.

34 And transfers the ſeat of government to that country.

Al Moez preſerved all his old dominions of Kairwan or Africa Proper. But the ambition or avarice of the governors whom he appointed ſuffered them to run quickly to a ſhameful decay; particularly the new and opulent metropolis of Mohedia, on which immenſe ſums had been laviſhed, as well as labour and care, ſo as to render it not only one of the richeſt and ſtatelieſt, but one of the ſtrongeſt, cities in the world: ſo that we may truly ſay, the wealth and ſplendour of this once famed, though ſhort-lived ſtate, took their final leave of it with the departure of the khalif Al Moez, ſeeing the whole maritime tract from the Egyptian confines to the Straits of Gibraltar hath ſince become the neſt of the moſt odious piratical crew that can be imagined.

Under the article ALGIERS we have given a ſhort account of the erection of a new kingdom in Barbary by Texefien; which, however, is there no farther continued than is neceſſary for the proper underſtanding the hiſtory of that country. A general hiſtory might here be given of the whole country of Barbary; but as that would neceſſarily occaſion repetitions under the articles MOROCCO, TRIPOLI, TUNIS, &c. we muſt refer to thoſe articles for the hiſtorical part, as well as for an account of the climate, inhabitants, &c.

BARBATELLI (Bernardino), otherwiſe called *Pochetti*, a painter of hiſtory, fruit, animals, and flowers, was born at Florence in 1542. He was the diſciple of Ridolfo Ghirlandaio at Florence; from whoſe ſchool he went to Rome, and ſtudied there with ſuch uncommon aſſiduity, that he was frequently ſo abſtracted, and ſo abſolutely engroſſed by the objects of his contemplations, as to forget the neceſſary refreſhments of ſleep and food. He was excellent in painting every ſpecies of animals, fruit, or flowers; and in thoſe ſubjects not only imitated, but equalled nature. His touch was free, light, and delicate, and the colouring of his objects inexpreſſibly true; and, beſide his merit in his moſt uſual ſtyle of painting, the hiſtorical ſubjects which he deſigned from ſacred or profane authors were much eſteemed and admired. He died in 1612.

BARBE, or BARB. See BARB.

BARBE, in the military art. To fire in barbe, means to fire the cannon over the parapet, inſtead of firing through the embraſures: in which caſe, the parapet muſt not be above three feet and a half high.

BARBE, or BARDE, is an old word, denoting the armour of the horſes of the ancient knights and ſoldiers, who were accoutred at all points. It is ſaid to have been an armour of iron and leather, wherewith the neck, breaſt and ſhoulders of the horſe were covered.

Barbe (St), a town of New Biſcay in Mexico, near which are rich ſilver mines. W. Long. 109. 55. N. Lat. 26. 0.

BARBED, in a general ſenſe, bearded like a fiſh-hook ſet with barbs; alſo ſhaved or trimmed.

Barbed and Creſted, in heraldry, an appellation given to the combs and gills of a cock, when particularized for being of a different tincture from the body.

A *barbed croſs*, is a croſs the extremities whereof are like the barbed irons uſed for ſtriking of fiſh.

BARBEL, in ichthyology. See Cyprinus.

BARBELICOTÆ, an ancient ſect of Gnoſtics, ſpoken of by Theodoret. Their doctrines were abſurd, and their ceremonies too abominable to be repeated.

BARBER, one who makes a trade of ſhaving or trimming the beards of other men for money. Anciently, a lute or viol, or ſome ſuch muſical inſtrument, was part of the furniture of a barber's ſhop, which was uſed then to be frequented by perſons above the ordinary level of the people, who reſorted to the barber either for the cure of wounds, or to undergo ſome chirurgical operations, or, as it was then called, to be *trimmed*, a word that ſignified either ſhaving or cutting and curling the hair; theſe, together with letting blood, were the ancient occupations of the barber-ſurgeon. As to the other important branch of ſurgery, the ſetting of fractured limbs, that was practiſed by another claſs of men, called *bone-ſetters*, of whom there are hardly any now remaining. The muſical inſtruments in his ſhop were for the entertainment of waiting cuſtomers; and anſwered the end of a newſpaper, with which at this day thoſe who wait for their turn at the barber's amuſe themſelves. For the origin of the barber's *pole*, ſee the article Appellation.

BARBERINI (Francis), one of the moſt excellent poets of his age, was born at Barberino, in Tuſcany, in the year 1264. As his mother was of Florence, he ſettled in that city; where his profeſſion of the law, but eſpecially the beauty of his poetry, raiſed him a very conſiderable character. The greateſt part of his works are loſt; but that which is intitled the *Precepts of Love*, which is a moral poem calculated to inſtruct thoſe in their duty who have a regard for glory, virtue, and eternity, has had a better fate. It was publiſhed at Rome, adorned with beautiful figures, in 1640, by Frederic Ubaldini: he prefixed the author's life; and, as there are in the poem many words which are grown obſolete, he added a gloſſary to explain them, which illuſtrates the ſenſe by the authority of contemporary poets.

BARBERINO, a town of Tuſcany in Italy, ſituated at the foot of the Apennine mountains, in E. Long. 12. 15. N. Lat. 43. 40.

BARBERRY, in botany. See Berberis.

BARBESUL (anc. geog.), a town and river of Bœtica, and a colony in the reſort of the Conventus Gaditanus in Spain: now *Marbella* in Grenada.

BARBET, in natural hiſtory, a name given by M. Reaumur, and other of the French writers, to a peculiar ſpecies of the worms which feed on the pucerons or aphides. See Aphis.

BARBETS, the name of the inhabitants of ſeveral valleys in Piedmont, particularly thoſe of Lucern, Angrona, Peruſa, and St Martin.

BARBEYRAC (John), was born in Beſiers in Lower Languedoc in 1674. He was made profeſſor of law and hiſtory at Lauſanne in 1710; which he enjoyed for ſeven years, and during that time was three times rector: in 1717, he was profeſſor of public and private law at Groningen. He tranſlated into French the two celebrated works of Puffendorf, his *Law of Nature and Nations*, and his *Duties of a Man and a Citizen*; to both which he wrote excellent notes, and to the former an introductory preface. He tranſlated alſo Grotius's treatiſe *De Juro Belli ac Pacis*, with large and excellent notes; and ſeveral of Tillotſon's ſermon's. He wrote a work entitled *Traitè de Jeu*, 2 vols. 8vo.

BARBEZIEUX, a town of Saintonge in France, with the title of a marquiſate. It hath a manufacture of linen cloth; and lies in W. Long. 0. 5. N. Lat. 45. 23.

BARBICAN, or Barbacan. See Barbacan.

BARBIERI (Giovanni Franceſco), otherwiſe called, *Guercino da Cento*, an eminent hiſtorical painter, was born at Cento, a village not far from Bologna, in 1590. At firſt he was the diſciple of Benedetto Gennari; but he afterwards ſtudied for ſome time in the ſchool of the Caracci, though he did not adopt the manner of that famous academy. He ſeemed to prefer the ſtyle of Caravaggio to that of Guido or Albano, imagining it impoſſible to imitate nature truly, without the aſſiſtance of ſtrong lights and ſtrong ſhadows; and from that principle, his light was admitted into his painting room from above. In effect, by the oppoſition of his ſtrong lights and ſhadows, he gave ſuch force to his pictures, that few, except thoſe of Caravaggio, can ſtand near them, and not ſeem feeble in their effect: however, that manner is cenſured as not being like nature, becauſe it makes objects appear as if they were ſeen by candle light, or by the brightneſs of a ſun-beam, which alone can juſtify the deepneſs of his ſhadowing. The principal attention of Guercino ſeems to have been fixed on arriving at perfection in colouring; he ſaw the aſtoniſhing effects produced by the colouring of the celebrated Venetian maſters; and obſerved, that notwithſtanding any imperfections in regard to grace, correctneſs, or elegance, the works of thoſe maſters were the objects of univerſal admiration. From which obſervation, he ſeems to have devoted his whole ſtudy to excel in colouring; as if he were convinced, that few are qualified to diſcern the elevation of thought, which conſtitutes the excellence of a compoſition; few may be touched with the grandeur or beauty of the deſign, or perhaps have a capacity to examine even the correctneſs of any part of a painting; and yet every eye, and even every imperfect judge of a picture, may be ſenſibly affected by the force and beauty of the colouring. His taſte of deſign was natural, eaſy, and often grand, but without any extraordinary ſhare of elevation, correctneſs, or elegance. The airs of his heads often want dignity, and his local colours want truth. However, there is great union and harmony in his colours, although his carnations are not very freſh; and in all his works there is a powerful and expreſſive imitation of life, which will for ever render them eſtimable. Towards the decline of his life, he obſerved that the clearer and brighter ſtyle of Guido and Albano had attracted the admiration of all Europe; and therefore he altered his manner, even againſt his own judgment. But he apologized for that conduct, by declaring, that in his former time he painted for fame, and to pleaſe the judicious; and he now painted to pleaſe the ignorant, and enrich himſelf. He died in 1666.—The moſt capital performance of Guercino, is the hiſtory of S. Petronilla, which is conſidered as one of the ornaments of S. Peter's at Rome.

Barbieri (Paolo Antonio), da Cento, painter of ſtill life and animals, was the brother of Guercino, and born at Cento in 1596. He choſe for his ſubjects fruit, flowers, inſects, and animals; which he painted after nature with a lively tint of colour, great tenderneſs of pencil, and a ſtrong character of truth and life. He died in 1640.

BARBITOS, or **Barbiton**, an ancient inſtrument of muſic, mounted with three, others ſay ſeven, ſtrings; much uſed by Sappho, and Alcæus, whence it is alſo denominated *Leſboum*.

BARBLES, or **Barbs**, in farriery, the knots or ſuperfluous fleſh that grow up in the channels of a horſe's mouth; that is, in the intervals that ſeparate the bars, and lie under the tongue. Theſe, which are alſo called *barbes*, obtain in black cattle as well as horſes, and obſtruct their eating. For the cure, they caſt the beaſt, take out his tongue, and clip off the barbles with a pair of ſciſſars, or cut them with a ſharp knife; others chooſe to burn them off with a hot iron.

BARBOUR (John), archdeacon of Aberdeen, was eſteemed an elegant poet in the reign of David I. He wrote the hiſtory of Robert the Bruce, in an heroic poem, which is ſtill extant, and which contains many facts and anecdotes omitted by other hiſtorians. The lateſt edition of this book is that of Glaſgow, 8vo, printed in the year 1672. It is intitled, "The acts and life of the moſt victorious conqueror Robert Bruce king of Scotland; wherein alſo are contained the martial deeds of the valiant princes Edward Bruce, Sir James Douglaſs, Earl Thomas Randal, Walter Steward, and ſundry others." In one paſſage, he calls it a *romance*; but that word was then of good reputation: every body knows that the 'Romaunt of romaunts' has been innocently applied to true hiſtory; as well as the 'Ballad of ballads' to a ſacred ſong.

BARBUDA, one of the Britiſh Caribbee iſlands, about 20 miles long and 12 broad. It is low land, but fruitful and pretty populous. The inhabitants addict themſelves to huſbandry, and find always a ready market for their corn and cattle in the ſugar iſlands. Barbuda is the property of the Codrington family, who have great numbers of negroes here as well as in Barbadoes. It lies in W. Long. 61. 3. N. Lat. 18. 5.

BARCA, a large country of Africa, lying on the coaſts of the Mediterranean ſea, between the kingdoms of Egypt and Tripoli, extending itſelf in length from eaſt to weſt from the 39th to the 46th degree of eaſt longitude, and in breadth from north to ſouth about 30 leagues, as is generally ſuppoſed. It is for the moſt part, eſpecially in the middle, a dry ſandy deſart; on which account the Arabs call it *Sahart*, or *Ceyart Barka*, that is, the deſart or road of whirlwinds or hurricanes. It labours almoſt every where under a great ſcarcity of water; and except in the neighbourhood of towns and villages, where the ground produces ſome ſmall quantities of grain, ſuch as millet, and ſome maize, the reſt is in a manner quite barren and uncultivated, or to ſpeak more properly, uncultivable: and even of that ſmall quantity which thoſe few ſpots produce, the poor inhabitants are obliged to exchange ſome part with their indigent neighbours, for dates, ſheep, and camels, which they ſtand in greater need of than they, by reaſon of their great ſcarcity of graſs and other proper food; for want of which, thoſe that are brought to them ſeldom thrive or live long. In this country ſtood the famed temple of Jupiter Ammon; and notwithſtanding the pleaſantneſs of the ſpot where it ſtood, this part of the country is ſaid to have been the moſt dangerous of any, being ſurrounded with ſuch quick and burning ſands as are very detrimental to travellers; not only as they ſink under their feet, but being light, and heated by the rays of the ſun, are eaſily raiſed by every breath of wind; which, if it chance to be in their faces, almoſt burns their eyes out, and ſtiffles them for want of breadth; or if vehement, often overwhelms whole caravans. Againſt this temple Cambyſes king of Perſia diſpatched an army of 50,000 men. They ſet out from Thebes in upper Egypt, and under the conduct of proper guides reached the city of Oaſis ſeven days journey from that place: but what was their fate afterwards is uncertain; for they never returned either to Egypt or to their own country. The Ammonians informed Herodotus, that, after the army had entered the ſandy deſart which lies beyond Oaſis, a violent wind began to blow from the ſouth at the time of their dinner, and raiſed the ſand to ſuch a degree, that the whole army was overwhelmed and buried alive.

Concerning the government or commerce of this country we know nothing certain. Moſt probably the maritime towns are under the protection of the Porte: but whether under the baſha of Egypt or Tripoli, or whether they have formed themſelves into independent ſtates like thoſe of Algiers and Tunis, we cannot ſay; only we are told that the inhabitants of the maritime towns are more civilized than thoſe that dwell in the inland parts. The firſt profeſs Mahometaniſm, and have imbibed ſome notions of humanity and juſtice; whilſt the latter, who have neither religion nor any ſign of worſhip among them, are altogether ſavage and brutiſh. They are a ſort of Arabs, and like them live entirely upon theft and plunder. By them this tract, which before was a continued deſart, was firſt inhabited. At their firſt coming in, they ſettled themſelves in one of the beſt places of the country; but as they multiplied, and had frequent wars with one another, the ſtrongeſt drove the weakeſt out of the beſt ſpots, and ſent them to wander in the deſart parts, where they live in the moſt miſerable manner, their country hardly affording one ſingle neceſſary of life. Hence it is that they are ſaid to be the uglieſt of all the Arabs: their bodies having ſcarcely any thing but ſkin and bone, their faces meagre, with fierce ravenous looks; their garb, which is commonly what they take from the paſſengers who go through theſe parts, tattered with long wearing; while the pooreſt of them have ſcarce a rag to cover their nakedneſs. They are moſt expert and reſolute robbers, that being their chief employment and livelihood; but the travellers in theſe parts are ſo few, that the Barcans are often neceſſitated to make diſtant excurſions into Numidia, Libya, and other ſouthern countries. Thoſe that fall into their hands are made to drink plenty of warm milk: then they hang them up by the feet, and ſhake them, in order to make them vomit up any money they think they have ſwallowed; after which, they ſtrip them of all their clothes, even to the laſt rag: but with all this inhumanity, they commonly ſpare their life, which is more than the other African robbers do. Yet notwithſtanding every artifice they can uſe, the Barcans are ſo poor, that they commonly let, pledge, or even ſell, their children to the Sicilians and others from whom they have their corn, eſpecially before they ſet out on any long excurſion.

BARCALON, an appellation given to the prime miniſter of the king of Siam. The barcalon has in his department every thing relating to commerce, both at home and abroad. He is likewiſe ſuperintendant of the king's magazines.

BARCELONA, a handſome, rich, and ſtrong city of Spain, in the province of Catalonia, of which it is the capital. This city was originally founded by Hamilcar Barcas, and from him called *Barcino.* It was reduced by the Romans, and continued ſubject to them till the kingdom of Spain was over-run by the Goths and Vandals, and afterwards by the Saracens or Moors. In the beginning of the 9th century, Barcelona was in the hands of the Moors, and under the government of one *Zade.* This governor having more than once abuſed the clemency of Charlemagne, at laſt irritated Lewis king of Aquitain, and ſon to Charles, to ſuch a degree, that he gave orders to his generals to inveſt the city, and not to riſe from before it till they had put Zade into his hands. The Moor made a moſt obſtinate reſiſtance, ſo that the ſiege laſted many months: at laſt, finding it impoſſible to preſerve the city much longer, and being deſtitute of all hopes of relief, he determined, or rather was compelled by the inhabitants, to go to the Chriſtian camp and implore the emperor's mercy; but here he was no ſooner arrived than he was arreſted and ſent priſoner to Charlemagne, who condemned him to perpetual baniſhment. The people gaining nothing by this expedient, continued to hold out for ſix weeks longer, when the king of Aquitain himſelf took the command of the ſiege. To him they made a propoſal, that if he would allow them to march out and go where they pleaſed, they would ſurrender the place. Lewis having agreed to this, made his public entry into Barcelona, where he formed a deſign of extending his father's dominions as far as the Ebro; but being recalled before he could put his deſign in execution, he appointed one Bera count of Barcelona. The city continued ſubject to him and his ſucceſſors, who ſtill enjoyed the title of *counts of Barcelona*, from the year 802 to 1131; during which time we find nothing remarkable, except that the city was once taken by the Moors, but ſoon after retaken by the aſſiſtance of Lewis IV. king of France. In 1131 it was united to the crown of Arragon by the marriage of Don Raymond V. count of Barcelona with the daughter of Don Ramiro the Monk, king of Arragon. In 1465 the Catalonians revolted againſt Don Juan II. king of Arragon, out of hatred to his queen Donna Juanna; the conſequence of which was, that Barcelona was beſieged by that monarch in 1471. Various efforts were made by Lewis XI. of France and the duke of Lorrain in order to raiſe the ſiege, but without effect. Things at length were brought to the utmoſt extremity, when the king offered to pardon them all, without the ſmalleſt puniſhment either in perſon or property, provided they would ſubmit: but theſe terms they rejected, chiefly through the influence of the count de Pailhars, who had been pardoned the year before. The army, on the other hand, was very earneſt in being led on to the aſſault, in hopes of plunder. The king, however, wrote a letter to the citizens, dated the 6th of October, in terms as affectionate as if he had been writing to his children, bewailing the miſeries they had brought on themſelves, and concluding with a proteſtation that they, and not he, muſt be anſwerable for the conſequences. Upon this, at the perſuaſion of a prieſt who had a reputation for ſanctity, they ſent deputies to the king, and made a capitulation on the 17th of the ſame month. In this the king acknowledged they had taken up arms on juſt motives; and forgave every body except Pailhars, who was, however, ſuffered to eſcape. On the 22d of October the king made his entry into the city, and confirmed all their ancient privileges. In 1697, Barcelona was taken by the French, after a bloody ſiege of 52 days; and the loſs of this city had a conſiderable effect in diſpoſing the Spaniards to agree to the treaty of Ryſwick. In Queen Anne's time it was taken by the allies under the Earl of Peterborough; but being afterwards ſhamefully denied aſſiſtance by the Engliſh miniſtry, was obliged to ſubmit to Philip II. by whom the whole province was deprived of its ancient privileges; for a particular account of which, ſee the article SPAIN.

Barcelona is ſituated by the ſea-ſide, of a form between a ſquare and an oval; it is ſurrounded with a good brick wall, round which is another, with 14 baſtions, horn-works, ramparts, and ditches; the ramparts are high, broad, and ſpacious, inſomuch that 100 coaches may be ſeen every evening driving thereon for pleaſure. The city is divided into two parts, the Old and the New, which are ſeparated from each other by a wall and a large ditch; the ſtreets are handſome, well paved with large ſtones, wide, and very clean. It is the reſidence of a viceroy, is a biſhop's ſee, has a fine univerſity, a mint, a good port, and is adorned with handſome buildings. Here is a court of inquiſition, which the inhabitants look upon as an advantage. The remarkable buildings are the cathedral, which is large, handſome, and adorned with two high towers, the church of the Virgin Mary, the palace of the biſhop, that of the inquiſition, and ſeveral religious houſes: add to theſe the palace of the viceroy; the arſenal, which contains arms for 1000 men; the exchange, where the merchants meet; the terſana, where they build the galleys; and the palace where the nobility of the country meet, called *La Caſa de la Deputation.* This laſt is built with fine large free ſtone, and adorned with columns of marble: there is in it a large hall, with a gilt cieling and a handſome portico, wherein perſons may either walk or ſit; the hall is adorned with the portraits of all the counts of Barcelona. There are ſeveral fine ſquares, particularly that of St

Michael, into which all the great ſtreets run. The port is wide, ſpacious, deep, and ſafe; defended on the one ſide by a great mole, and the other ſheltered from the weſt wind by two mountains that advance into the ſea, and form a kind of promontory: the mole is 750 paces long, with a quay, at the end of which is a light-houſe and a ſmall fort. One of the mountains, called *Mount Joy*, is very high, and riſes in the middle of the plain near the city: it is covered with gardens, vineyards, groves of trees, and has a ſtrong fort for the defence of the city: this mountain, being a rock, yields an inexhauſtible quarry of fine hard free ſtone. Barcelona is a place of great trade, on account of the conveniency of its harbour; and it has a manufacture of knives greatly eſteemed in Spain, as alſo of blankets. Here are alſo ſeveral glaſs-houſes. The inhabitants are diligent, and equally fit for labour and trade; they are alſo very civil to ſtrangers. The women are well ſhaped, and as handſome as any in Spain; they are briſk and lively in their converſation, and more free and unreſtrained in their behaviour than in other parts of Spain. E. Long. 2. 5. N. Lat. 41. 26.

BARCELONETTA, a town of France in the government of Dauphiny, and capital of the valley of its own name. It belonged to the Duke of Savoy, and was ceded to France by the treaty of Utrecht in 1712. E. Long. 6. 40. N. Lat. 44. 26.

BARCELOR, a town of Aſia, in the Eaſt Indies, on the coaſt of Malabar. It is a Dutch factory, where they carry on a conſiderable trade in pepper. E. Long. 74. 15. N. Lat. 13. 45.

BARCELOS, a town of Portugal, with the title of a duchy. It is ſeated on the river Cavado, over which there is a handſome bridge. W. Long. 7. 0. N. Lat. 41. 20.

BARCINO (anc. geog.), a town of the Terraconenſis in Spain, and capital of the Laletani. Now BARCELONA. See that article.

BARCLAY (Alexander), a learned monk in the reign of Henry VIII. Where he was born, though of no great importance, was nevertheleſs a matter of virulent contention among his former biographers. Bale, who was his cotemporary, is of opinion he was born in Somerſetſhire. There is indeed a village of his name, and a numerous family, in that county. Pits thinks he was born in Devonſhire. Mackenzie is poſitive he was a Scotchman; but without proof, unleſs we admit as ſuch his name *Alexander*. He was, however, educated in Oriel college Oxford. After leaving the univerſity he went abroad, and continued ſome time in France, Italy, and Germany, where he acquired a competent knowledge of the languages of thoſe countries, as appears from ſeveral tranſlations of books, which he afterwards publiſhed. On his return to England, he was made chaplain to his patron the biſhop of Tyne, who likewiſe appointed him a prieſt of St Mary, at the college of Ottery in Devonſhire, founded by Grandiſon biſhop of Exeter. After the death of his patron, he became a Benedictine monk of Ely. On the diſſolution of that monaſtery, he firſt obtained the vicarage of St Matthew at Wokey in Somerſetſhire; and, in 1549, being then doctor of divinity, was preſented to the vicarage of Much Badew in Eſſex. In 1552 he was appointed rector of Allhallows, Lombard-ſtreet, which he lived to enjoy but a very ſhort time. He died at Croydon in Sorrey in June 1552. He is generally allowed to have improved the Engliſh language, and to have been one of the politeſt writers of his time. He compoſed ſeveral original works; but was chiefly remarkable for his tranſlations from the Latin, Italian, French, and German languages. His verſion from Salluſt of the war of Jugurtha is accurate, and not without elegance. His lives of ſeveral ſaints, in heroic verſe, are ſtill unpubliſhed. His *Stultifero navis*, or *The ſhip of fools*, is the moſt ſingular of his performances. It was printed by Richard Pynſon at London 1509 in folio; and contains a variety of wooden plates, which are worthy the inſpection of the curious.

BARCLAY (William), a learned civilian, was born in Aberdeenſhire in the year 1541. He ſpent the early part of his life, and much of his fortune, at the court of Mary Queen of Scots, from whoſe favour he had reaſon to expect preferment. In 1573 he went over to France, and at Bourges commenced ſtudent of civil law under the famous Cujacius. He continued ſome years in that ſeminary, where he took a doctor's degree; and was ſoon after appointed profeſſor of civil law in the univerſity of Pont-à-Mouſſon, then firſt founded by the Duke of Lorraine. That prince afterwards made him counſellor of ſtate and maſter of requeſts. Barclay, in the year 1581, married Ann de Mallaville, a French lady, by whom he had a ſon, who became a celebrated author, and of whom the reader will find an account in the next article. This youth the Jeſuits would gladly have received into their ſociety. His father refuſed his conſent, and for that reaſon theſe diſciples of Jeſus ſoon contrived to ruin him with the duke his patron. Barclay now embarked for Britain, where King James I. offered him conſiderable preferment, provided he would become a member of the church of England: but, not chooſing to comply, he returned to France in 1604; and, ſoon after his arrival, was appointed profeſſor of civil law in the univerſity of Angers, where he died the year following, and was buried in the Franciſan church. He was eſteemed a learned civilian; and wrote elaborately in defence of the divine right of kings, in anſwer to Buchanan and others. The titles of his works are, 1. *De regno et regali poteſtate*, &c. 2. *Commentarius in tit. pandectarum de rebus creditis, et de jurejurando.* 3. *De poteſtate papæ*, &c. 4. *Præmetia in vitam Agricolæ*.

BARCLAY (John), ſon of the former, was, as we have abovementioned, ſo great a favourite of the Jeſuits, that they uſed all their efforts to engage him in their ſociety. His father would not conſent, and carried his ſon with him into England, who was already an author, for he had publiſhed *A commentary upon the Thebais of Statius*, and a Latin poem on the coronation of King James, and the firſt part of *Euphormio*, 1603. He returned to France with his father; and after his father's death went to Paris, and ſoon after came back to London: he was there in 1606. He publiſhed *The Hiſtory of the Gun-powder Plot*, a pamphlet of ſix leaves, printed at Amſterdam. He publiſhed at London in 1610 *An Apology for the Euphormio*, and his father's treatiſe *De poſtetate papæ*. And at Paris, 1612, he publiſhed a book intitled *Pietas*, in anſwer to Cardinal Bellarmin, who had written againſt William Barclay,

clay's book concerning the power of the Pope. Two years after he publiſhed *Icon Animorum.* He was invited to Rome by Pope Paul V. and received a great deal of civility from Cardinal Bellarmin, though he had written againſt him. He died at Rome in 1621, while his *Argenis* was printing at Paris. This celebrated work has ſince gone through a great number of editions, and has been tranſlated into moſt languages. M. de Peireſc, who had the care of the firſt edition, cauſed the effigies of the author to be placed before the book; and the following diſtich, written by Grotius, was put under it:

Gente Caledonius, Gallus natalibus, hic eſt,
Romam Romano qui docet ore loqui.

BARCLAY (Robert), one of the moſt eminent among the Quakers, the ſon of Colonel David Barclay, deſcended of the ancient family of Barclays, was born at Edinburgh in 1648. He was educated under an uncle at Paris, where the Papiſts uſed all their efforts to draw him over to their religion. He joined the Quakers in 1669, and diſtinguiſhed himſelf by his zeal and abilities in defence of their doctrines. In 1676 he publiſhed in Latin at Amſterdam his *Apology for the Quakers*; which is the moſt celebrated of his works, and eſteemed the ſtandard of the doctrine of the Quakers. The *Theſes Theologicæ*, which were the foundation of this work, and addreſſed to the clergy of what ſort ſoever, were publiſhed before the writing of the *Apology*, and printed in Latin, French, High-Dutch, Low-Dutch, and Engliſh. The dedication of his *Apology* to King Charles II. is very remarkable for the uncommon frankneſs and ſimplicity with which it is written. Amongſt many other extraordinary paſſages, we meet with the following: "There is no king in the world who can ſo experimentally teſtify of God's providence and goodneſs; neither is there any who rules ſo many free people, ſo many true Chriſtians; which thing renders thy government more honourable, thyſelf more conſiderable, than the acceſſion of many nations filled with ſlaviſh and ſuperſtitious ſouls. Thou haſt taſted of proſperity and adverſity; thou knoweſt what it is to be baniſhed thy native country, to be over-ruled as well as to rule and ſit upon the throne; and being oppreſſed, thou haſt reaſon to know how hateful the oppreſſor is both to God and man: if, after all thoſe warnings and advertiſements, thou doſt not turn unto the Lord with all thy heart, but forget him who remembered thee in thy diſtreſs, and give up thyſelf to follow luſt and vanity, ſurely great will be thy condemnation."—He travelled with the famous Mr William Penn through the greateſt part of England, Holland, and Germany, and was every where received with the higheſt reſpect; for though both his converſation and behaviour were ſuitable to his principles, yet there was ſuch livelineſs and ſpirit in his diſcourſe, and ſuch ſerenity and cheerfulneſs in his deportment, as rendered him extremely agreeable to all ſorts of people. When he returned to his native country he ſpent the remainder of his life in a quiet and retired manner. He died at his own houſe at Ury on the 3d of October 1690, in the 42d year of his age.

BARCOCHEBAS, or rather BARCOCHAB, a Jewiſh impoſtor, whoſe real name was *Akiba*; but he took that of *Barcochab*, which ſignifies the *Son of a Star*; in alluſion to the prophecy of Balaam, "There ſhall a ſtar ariſe out of Jacob." He proclaimed himſelf the Meſſiah; and talking of nothing but wars, victories, and triumphs, made his countrymen riſe againſt the Romans, by which means he was the author of innumerable diſorders: he ravaged many places, took a great number of fortreſſes, and maſſacred an infinite multitude of people, particularly the Chriſtians. The emperor ſent troops to Rufus, governor of Judea, to ſuppreſs the ſedition. Rufus, in obedience, exerciſed a thouſand cruelties, but could not finiſh his attempt. The emperor was therefore obliged to ſend Julius Severus, the greateſt general of that time; who attained his end without a direct battle: he fell on them ſeparately; cut off their proviſions; and at laſt the whole conteſt was reduced to the ſiege of Bitter, in the 18th year of Hadrian. The impoſtor periſhed there. This war coſt the Romans a great deal of blood.

BARD, a word denoting one who was a poet by his genius and profeſſion; and, "who ſung of the battles of heroes, or the heaving breaſts of love." *Oſſian's Poems*, I. 37.

The curioſity of man is great with reſpect to the tranſactions of his own ſpecies; and when ſuch tranſactions are deſcribed in verſe, accompanied with muſic, the performance is enchanting. An ear, a voice, ſkill in inſtrumental muſic, and, above all, a poetical genius, are requiſite to excel in that complicated art. As ſuch talents are rare, the few that poſſeſſed them were highly eſteemed; and hence the profeſſion of a bard, which, beſide natural talents, required more culture and exerciſe than any other known art. Bards were capital perſons at every feſtival and at every ſolemnity. Their ſongs, which, by recording the atchievements of kings and heroes, animated every hearer, muſt have been the entertainment of every warlike nation. We have Heſiod's authority, that in his time bards were as common as potters or joiners, and as liable to envy. Demodocus is mentioned by Homer as a celebrated bard; and Phemius, another bard, is introduced by him deprecating the wrath of Ulyſſes in the following words:

Kaims's Sketches, Sk. V. ſect. ii.

" O King! to mercy be thy ſoul inclin'd,
" And ſpare the poets ever-gentle kind:
" A deed like this thy future fame would wrong,
" For dear to gods and men is ſacred ſong.
" Self-taught I ſing; by heav'n, and heav'n alone,
" The genuine ſeeds of poeſy are ſown;
" And (what the gods beſtow) the lofty lay,
" To gods alone, and godlike worth, we pay.
" Save then the poet, and thyſelf reward;
" 'Tis thine to merit, mine is to record."

ODYSSEY, viii.

Cicero reports, that at Roman feſtivals, anciently, the virtues and exploits of their great men were ſung. The ſame cuſtom prevailed in Peru and Mexico, as we learn from Garcilaſſo and other authors. We have for our authority Father Gobien, that even the inhabitants of the Marian iſlands have bards, who are greatly admired, becauſe in their ſongs are celebrated the feats of their anceſtors.

But in no part of the world did the profeſſion of bard appear with ſuch luſture as in Gaul, in Britain, and in Ireland. Wherever the Celtæ or Gauls are mentioned by ancient writers, we ſeldom fail to hear of their druids and their bards; the inſtitution of which two orders, was the capital diſtinction of their manners and policy. The druids were their philoſophers and prieſts; the bards, their poets and recorders of heroic actions; and both theſe orders of men ſeem to have ſubſiſted among them, as chief members of the ſtate, from time immemorial. The Celtæ poſſeſſed, from very remote ages, a formed ſyſtem of diſcipline and manners, which appears to have had a deep and laſting influence. Ammianus Marcellinus * gives them this expreſs teſtimony, that there flouriſhed among them the ſtudy of the moſt laudable arts; introduced by the bards, whoſe office it was to ſing in heroic verſe the gallant actions of illuſtrious men; and by the druids, who lived together in colleges or ſocieties, after the Pythagorean manner, and philoſophizing upon the higheſt ſubjects, aſſerted the immortality of the human ſoul. Though Julius Cæſar, in his account of Gaul, does not expreſly mention the bards; yet it is plain, that, under the title of *Druids*, he comprehends that whole college or order; of which the bards, who, it is probable, were the diſciples of the druids, undoubtedly made a part. It deſerves remark, that, according to his account the druidical inſtitution firſt took riſe in Britain, and paſſed from thence into Gaul; ſo that they who aſpired to be thorough maſters of that learning were wont to reſort to Britain. He adds too, that ſuch as were to be initiated among the druids, were obliged to commit to their memory a great number of verſes, inſomuch that ſome employed 20 years in this courſe of education; and that they did not think it lawful to record theſe poems in writing, but ſacredly handed them down by tradition from race to race.

Blair's Diſſertation, ſubjoined to Oſſian's Poems, Vol. II. p. 306.

De Bel. Gal. l. 6.

So ſtrong was the attachment of the Celtic nations to their poetry and their bards, that amidſt all the changes of their government and manners, even long after the order of the druids was extinct, and the national religion altered, the bards continued to flouriſh; not as a ſet of ſtrolling ſongſters, like the Greek Ἀοιδοὶ or *rhapſodiſts*, in Homer's time, but as an order of men highly reſpected in the ſtate, and ſupported by a public eſtabliſhment. We find them, according to the teſtimonies of Strabo and Diodorus, before the age of Auguſtus Cæſar; and we find them remaining under the ſame name, and exerciſing the ſame functions as of old, in Ireland, and in the north of Scotland, almoſt down to our own times. It is well known, that, in both theſe countries, every *regulus* or chief had his own bard, who was conſidered as an officer of rank in his court.

Of the honour in which the bards were held, many inſtances occur in Oſſian's poems. On all important occaſions, they were the ambaſſadors between contending chiefs; and their perſons were held ſacred. "Cairbor feared to ſtretch his ſword to the bards, though his ſoul was dark. Looſe the bards (ſaid his brother Cathmor), they are the ſons of other times. Their voice ſhall be heard in other ages, when the kings of Temora have failed."—The bards, as well as the druids, were exempted from taxes and military ſervices, even in times of the greateſt danger; and when they attended their patrons in the field, to record and celebrate their great actions, they had a guard aſſigned them for their protection. At all feſtivals and public aſſemblies they were ſeated near the perſon of the king or chieftain, and ſometimes even above the greateſt nobility and chief officers of the court. Nor was the profeſſion of the bards leſs lucrative than it was honourable. For, beſides the valuable preſents which they occaſionally received from their patrons when they gave them uncommon pleaſure by their performances, they had eſtates in land alloted for their ſupport. Nay, ſo great was the veneration which the princes of theſe times entertained for the perſons of their poets, and ſo highly were they charmed and delighted with their tuneful ſtrains, that they ſometimes pardoned even their capital crimes for a ſong.

Oſſian, II. 22.

Henry's Hiſtory, Vol. I. p. 365.

We may very reaſonably ſuppoſe, that a profeſſion that was at once ſo honourable and advantageous, and enjoyed ſo many flattering diſtinctions and deſirable immunities, would not be deſerted. It was indeed very much crowded; and the accounts which we have of the numbers of the bards in ſome countries, particularly in Ireland, are hardly credible. We often read, in the poems of Oſſian, of a hundred bards belonging to one prince, ſinging and playing in concert for his entertainment. Every chief bard, who was called *Allah Redan*, or *doctor in poetry*, was allowed to have 30 bards of inferior note conſtantly about his perſon; and every bard of the ſecond rank was allowed a retinue of 15 poetical diſciples.

Though the ancient Britons of the ſouthern parts of this iſland had originally the ſame taſte and genius for poetry with thoſe of the north, yet none of their poetical compoſitions of this period have been preſerved. Nor have we any reaſon to be ſurprized at this. For after the provincial Britons had ſubmitted quietly to the Roman government, yielded up their arms, and had loſt their free and martial ſpirit, they could take little pleaſure in hearing or repeating the ſongs of their bards in honour of the glorious atchievments of their brave anceſtors. The Romans too, if they did not practiſe the ſame barbarous policy which was long after practiſed by Edward I. of putting the bards to death, would at leaſt diſcourage them, and diſcountenance the repetition of their poems, for very obvious reaſons. Theſe ſons of the ſong being thus perſecuted by their conquerors, and neglected by their countrymen, either abandoned their country or their profeſſion; and their ſongs being no longer heard, were ſoon forgotten.

It is probable that the ancient Britons, as well as many other nations of antiquity, had no idea of poems that were made only to be repeated, and not to be ſung to the ſound of muſical inſtruments. In the firſt ſtages of ſociety in all countries, the two ſiſter arts of poetry and muſic ſeem to have been always united; every poet was a muſician, and ſung his own verſes to the ſound of ſome muſical inſtrument. This, we are directly told by two writers of undoubted credit, was the caſe in Gaul, and conſequently in Britain, in this period. "The bards (ſays Diodorus Siculus *) ſung their poems to the ſound of an inſtrument not unlike a lyre." "The bards, (according to Ammianus Marcellinus †, as above hinted), celebrated the brave actions of illuſtrious men in heroic poems, which they ſung to the ſweet ſounds of the lyre." This account of theſe Greek and Latin writers is confirmed by the general ſtrain, and by many particular paſſages, of the poems of Oſſian. "Beneath his own tree, at intervals, each bard ſat down with his harp. They raiſed the ſong, and touched the ſtring, each to the chief he loved ‡."

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* *Lib.* xv. c. 9.

* *Lib.* v. ſect. 31.

† *Lib.* xv. c. 9.

The invention of writing made a conſiderable change in the bard-profeſſion. It is now an agreed point, that no poetry is fit to be accompanied with muſic, but what is ſimple: a complicated thought or deſcription requires the utmoſt attention, and leaves none for the muſic; or, if it divide the attention, it makes but a faint impreſſion §. The ſimple operas of Quinault bear away the palm from every thing of the kind compoſed by Boileau or Racine. But when a language, in its progreſs to maturity, is enriched with variety of phraſes fit to expreſs the moſt elevated thoughts, men of genius aſpired to the higher ſtrains of poetry, leaving muſic and ſong to the bards: which diſtinguiſhed the profeſſion of a poet from that of a bard. Homer, in a lax ſenſe, may be termed a bard; for in that character he ſtrolled from feaſt to feaſt. But he was not a bard in the original ſenſe: he, indeed, recited his poems to crowded audiences; but his poems are too complex for muſic, and he probably did not ſing them, nor accompany them with the lyre. The Trovadores of Provence were bards in the original ſenſe, and made a capital figure in the days of ignorance, when few could read and fewer write. In later times, the ſongs of the bards were taken down in writing, which gave every one acceſs to them without a bard; and the profeſſion ſunk by degrees into oblivion. Among the Highlanders of Scotland, reading and writing in their own tongue is not common even at preſent; and that circumſtance ſupported long the bard-profeſſion among them, after being forgot among the neighbouring nations.

BARDANA, or **BURDOCK**. See **ARCTIUM**.

BARDARIOTÆ, in antiquity, were a kind of ancient guard attending the Greek emperors, armed with rods, wherewith they kept off the people from crowding too near the prince when on horſeback. Their captain, or commander, was denominated *primivergius*.—The word was probably formed from the *bardæ*, or houſings on their horſes.

BARDAS, the brother of the empreſs Theodora, and uncle of the famous Photius, is ſaid to have had no other good quality beſides that of loving the ſciences and polite literature, which he eſtabliſhed in the Eaſtern empire; for he was treacherous, cruel, and ambitious. In the year 856, he aſſaſſinated Theoctiſtes, general of the Emperor Michael's forces, and obtained his poſt. At length he cauſed the diſgrace of the Empreſs Theodora: and St Ignatius, patriarch of Conſtantinople, reproaching him for his vices, he had him depoſed in 858, in order to make room for Photius. Bardas was aſſaſſinated by Baſilius the Macedonian in 866.

BARDED, in heraldry, is uſed in ſpeaking of a horſe that is capariſoned. He bears ſable, a *cavalier d'or*, the horſe *barded*, argent.

BARDESANISTS, a ſect of ancient heretics, thus denominated from their leader Bardeſanes, a Syrian of Edeſſa in Meſopotamia. Bardeſanes, born in the middle of the ſecond century, became eminent, after his converſion to Chriſtianity, for his zeal againſt heretics; againſt whom, we are informed by St Jerome and Euſebius, he wrote a multitude of books: yet had the misfortune to fall, himſelf, into the errors of Valentinus, to which he added ſome others of his own. He taught, that the actions of men depend altogether on fate, and that God himſelf is ſubject to neceſſity. His followers went further, and denied the reſurrection of the body, and the incarnation and death of our Saviour; holding that theſe were only apparent or phantaſtical.

BARDEWICK, a town of Germany, in the circle of Lower Saxony and duchy of Lunenberg; formerly a very large place; but being ruined in 1189, by the Duke of Saxony has never yet recovered itſelf. It is ſeated on the river Ilmenau, in E. Long. 10. 6. N. Lat. 53. 40.

BARDT, a ſtrong and rich town of Germany, in the duchy of Pomerania, with a caſtle and ſpacious harbour. It is ſubject to the Swedes; and is ſituated near the Baltic Sea, in E. Long. 13. 20. N. Lat. 54. 23.

BARE, in a general ſenſe, ſignifies *not covered*. Hence we ſay bare-headed, bare-footed, &c.

The Roman women, in times of public diſtreſs and mourning, went *bare-headed*, with their hair looſe.—Among both Greeks, Romans, and Barbarians, we find a feaſt called *Nudipedalia*.—The Abyſſinians never enter their churches, not the palaces of kings and great men, but *bare-footed*.

Bare-Foot Carmelites and Auguſtines, are religious of the order of St Carmel and St Auſtin, who live under a ſtrict obſervance, and go without ſhoes, like the capuchins. There are alſo bare-foot fathers of mercy. Formerly there were bare-foot dominicans, and even barefoot nuns of the order of St Auguſtin.

BAREITH, a town of Germany in Franconia, in the margravate of Culembach, with a famous college belonging to the margrave of Brandenburg Bareith. E. Long. 11. 50. N. Lat. 50. 0.

BARENT (Diteric), an excellent painter, was born at Amſterdam, and was the ſon of a very induſtrious painter. He ſtudied in Italy, and became the favourite diſciple of Titian, with whom he lived a long time; but at length returned to Amſterdam, where he performed many extraordinary pieces. He died in 1582, aged 48.

BARFLEUR, a town of France, in Normandy, on the continent. It was ruined, and had its harbour filled up by the Engliſh in 1346. The Cape of that name is 12 miles eaſt of Cherburg, and near it part of the French fleet was deſtroyed in 1692. W. Long. 1. 6. N. Lat. 49. 40.

BARGAIN AND SALE, a ſpecies of conveyance in the Engliſh law. It is a kind of a real contract, whereby the bargainer for ſome pecuniary conſideration bargains and ſells, that is, contracts to convey, the land of the bargainee; and becomes by ſuch bargain a truſtee for, or ſeized to the uſe of, the bargainee; and then the ſtatute of uſes completes the purchaſe: or, as it hath been well expreſſed, the bargain firſt veſts the uſe, and then the ſtatute veſts the poſſeſſion. But as it was foreſeen that conveyances, thus made, would want all thoſe benefits of notoriety which the old common-law aſſurances were calculated to give; to prevent therefore clandeſtine conveyances of freeholds, it

‡ Vol. II. p. 112, 113.

Kaims's Sketches, ubi ſupra.

§ See the article *Attention*.

was enacted in the ſame ſeſſion of parliament by ſtatute 27 Hen. VIII. c. 16. that ſuch bargains and ſales ſhould not enure to paſs a freehold, unleſs the ſame be made by indenture, and enrolled within ſix months in one of the courts in Weſtminſter-hall, or with the *cuſtos rotulorum* of the county. Clandeſtine bargains and ſales of chattel intereſts, or leaſes for years, were thought not worth regarding, as ſuch intereſts were very precarious till about ſix years before; which alſo occaſioned them to be overlooked in framing the ſtatute of uſes: and therefore ſuch bargains and ſales are not directed to be enrolled. But how impoſſible is it to foreſee, and provide againſt, all the conſequences of innovations! This omiſſion has given riſe to the ſpecies of conveyance by LEASE and RELEASE.

BARGE (*Bargie*, Dutch), a veſſel or boat of ſtate, furniſhed with elegant apartments, canopies, and cuſhions; equipped with a band of rowers, and decorated with flags and ſtreamers; they are generally uſed for proceſſions on the water, by noblemen, officers of ſtate, or magiſtrates of great cities. Of this ſort, too, we may naturally ſuppoſe the famous barge or galley of Cleopatra, which, according to Shakeſpear,

——————— Like a burniſh'd throne
Burnt on the water: the poop was beaten gold:
Purple her ſails; and ſo perfumed, that
The winds were love-ſick with them: the oars were ſilver
Which to the tune of flutes kept time, and made
The water which they beat to follow faſter,
As amorous of their ſtrokes———
——————————— At the helm
A ſeeming mermaid ſteer'd: the ſilken tackles
Swell'd with the touches of thoſe flower-ſoft hands
That yarely 'form'd their office.———

There are likewiſe other barges of a ſmaller kind for the uſe of admirals and captains of ſhips of war. Theſe are of a lighter frame, and may be eaſily hoiſted into and out of the ſhips to which they occaſionally belong.

BARGE is alſo the name of a flat-bottomed veſſel of burden, for lading and diſcharging ſhips, and removing their cargoes from place to place in a harbour.

BARGE-Couples, in architecture, a beam mortiſed into another, to ſtrengthen the building.

BARGE-Courſe, with bricklayers, a term uſed for that part of the tiling which projects over without the principal rafters, in all ſorts of buildings where there is either a gable or a kirkin-head.

BARGHMASTER, BARMER, or BAR-MASTER, in the royal mines, the ſteward or judge of the barmote. —The bar-maſter is to keep two great courts of barmote yearly; and every week a ſmall one, as occaſion requires.

BARGHMOTE, or BARMOTE, a court, which takes cognizances of cauſes and diſputes between miners.—By the cuſtom of the mines, no perſon is to ſue any miner for ore-debt, or for ore, or for any ground in variance, but only in the court of barmote, on penalty of forfeiting the debt, and paying the charges at law.

BARI, a very handſome and rich town of Italy, in the kingdom of Naples; the capital of Terra di Bari, and an archbiſhop's ſee. It is well fortified, is ſeated on the gulph of Venice, and had formerly a good harbour, but it was deſtroyed by the Venetians. E. Long. 17. 40. N. Lat. 41. 31.

BARI, or *Terra di Bari*, a territory of Italy, in the kingdom of Naples, of which the abovementioned city is the capital. It is bounded on the north by the Capitanata, on the north-eaſt by the Ulterior Principato, on the ſouth by the Baſilicata, on the ſouth-eaſt by the Terra de Otranto, and on the north-eaſt by the gulph of Venice. It has no conſiderable river except the Offanto, which ſeparates it from the Capitanata. The air is temperate; and the ſoil produces plenty of corn, fruit, and ſaffron: but there are a great many ſerpents, and ſpider's called *tarantulas*. See ARANEA. The principal towns are Bari the capital, Frani, Andria, Bavo, Bilonto, Converſano, Monopoli, Polignano, Barletta, and Malſetto. The two firſt are archiepiſcopal, and all the reſt epiſcopal.

BARILLA, or BARILHA, the name of a plant cultivated in Spain for its aſhes, from which the pureſt kinds of mineral alkali are obtained.

There are four plants, which in the early part of their growth, bear ſo ſtrong a reſemblance to each other as would deceive any but the farmers and nice obſervers. Theſe four are, *barilla*, *gazul*, (or, as ſome call it, *algazul*), *ſoza*, and *ſalicornia* or *ſalicor*. They are all burnt to aſhes; but applied to different uſes, as being poſſeſſed of different qualities. Some of the roguiſh farmers mix more or leſs of the three laſt with the firſt; and it requires a complete knowledge of the colour, taſte, and ſmell of the aſhes to be able to detect their knavery.

Barilla is ſown afreſh every year. Its greateſt height above ground is four inches: each root puſhes out a vaſt number of little ſtalks, which again are ſubdivided into ſmaller ſprigs reſembling ſamphire; and all together form a large ſpreading tufted buſh. The colour is bright green; as the plant advances towards maturity, this colour vaniſhes away till it comes at laſt to a dull green tinged with brown.

Gazul bears the greateſt affinity to barilla, both in quality and appearance: the principal difference conſiſts in its growing on a ſtill drier ſalter earth, conſequently it is impregnated with a ſtronger ſalt. It does not riſe above two inches out of the ground, ſpreading out into little tufts. Its ſprigs are much flatter and more pulpy than thoſe of barilla, and are ſtill more like ſamphire. It is ſown but once in three, four, or five years, according to the nature of the ſoil.

Soza, when of the ſame ſize, has the ſame appearance as gazul; but in time grows much larger, as its natural ſoil is a ſtrong ſalt marſh, where it is to be found in large tufts of ſprigs, treble the ſize of barilla, and of a bright green colour, which it retains to the laſt.

Salicor has a ſtalk of a deep green colour inclining to red, which laſt becomes by degrees the colour of the whole plant. From the beginning it grows upright, and much reſembles a buſh of young roſemary. Its natural ſoil is on the declivities or hills near the ſalt marſhes, or on the edges of the ſmall drains or channels cut by the huſbandmen for the purpoſe of watering the fields: before it has acquired its full growth, it is very like the barilla of thoſe ſeaſons in which the ground has been dunged before ſowing. In thoſe years of manuring, barilla, contrary to its uſual nature, comes up with a tinge of red; and when burnt falls far ſhort of its wonted goodneſs, being bitter, more impregnated with ſalts than it ſhould be, and raiſing a bliſter if applied for a few minutes to the tongue. Barilla contains leſs ſalt than the others; when burnt, it runs into a maſs reſembling a ſpongy ſtone, with a faint caſt of blue.

Gazul, after burning comes as near barilla in its outward appearance as it does while growing in its vegetable form; but, if broken, the inſide is of a deeper and more gloſſy blue. Soza and ſalicor are darker, and almoſt black within, of a heavier conſiſtence, with very little or no ſigns of ſpongineſs.

All theſe aſhes contain a ſtrong alkali; but barilla the beſt and pureſt, though not in the greateſt quantity. Upon this principle, it is fitteſt for making glaſs and bleaching linen; the others are uſed in making ſoap. Each of them would whiten linen; but all, except barilla, would burn it. A good crop of barilla impoveriſhes the land to ſuch a degree, that it cannot bear good barilla a ſecond time, being quite exhauſted. For this reaſon the richer farmers lay manure upon the ground, and let it lie fallow for a ſeaſon; at the end of which it is ſown afreſh without any danger, as the weeds that have ſprung up in the year of reſt have carried off all the pernicious effects of the dung. A proper ſucceſſion of crops is thus ſecured by manuring and fallowing the different parts of the farm, each in their turn. The poorer tribe of cultivators cannot purſue the ſame method for want of capital; and are therefore under the neceſſity of ſowing their lands immediately after manuring, which yields them a profit juſt ſufficient to afford a preſent ſcanty ſubſiſtence, though the quality and price of their barilla be but trifling.

The method uſed in making barilla is the ſame as that followed in Britain in burning kelp. The plant as ſoon as ripe is plucked up and laid in heaps, then ſet on fire. The ſalt juices run out below into an hole made in the ground, where they run into a vitrified lump, which is left about a fortnight to cool. An acre may give about a tun.

BARING OF TREES, in agriculture, the taking away ſome of the earth about the roots, that the winter-rain and ſnow-water may penetrate farther into the roots. This is frequently practiſed in the autumn.

BARJOLS, a ſmall populous town of Provence, in France. E. Long. 5. 23. N. Lat. 43. 35.

BARIUM, (anc. geog.) a town of Apulia on the Adriatic; ſo called from the founders, who being expelled from the iſland Bara, built this town. It is now called BARI; ſee that article.

BARK, in the anatomy of plants, the exterior part of trees, correſponding to the ſkin of an animal. For its organization, texture, &c. ſee the article PLANTS.

As animals are furniſhed with a panniculus adipoſus, uſually replete with fat, which inveſts and covers all the fleſhy parts, and ſcreens them from external cold: plants are encompaſſed with a bark replete with fatty juices, by means whereof the cold is kept out, and in winter-time the ſpiculæ of ice prevented from fixing and freezing the juices in the veſſels: whence it is, that ſome ſort of trees remain ever-green the year round, by reaſon their barks contain more oil than can be ſpent and exhaled by the ſun, &c.

The bark has its peculiar diſeaſes, and is infected with inſects peculiar to it.—It appears from the experiments of M. Buffon, that trees ſtripped of their bark the whole length of their ſtems, die in about three or four years. But it is very remarkable, that trees thus ſtripped in the time of the ſap, and ſuffered to die, afford timber heavier, more uniformly denſe, ſtronger, and fitter for ſervice, than if the trees had been cut down in their healthy ſtate. Something of a like nature has been obſerved by Vitruvius and Evelyn.

The ancients wrote their books on bark, eſpecially of the aſh and lime-tree, not on the exterior, but on he inner and finer bark called *philyra*.

There are a great many kinds of barks in uſe in the ſeveral arts. Some in agriculture, and in tanning leather, as the oak-bark (A); ſome in phyſic, as the *quinquina* or Jeſuit's bark, mace, &c.; others in dyeing, as the bark of alder, and walnut-trees; others in ſpicery, as cinnamon, caſſia lignea, &c.; and others for divers uſes, as the bark of the cork-tree, &c.

In the Eaſt Indies, they prepare the bark of a certain tree ſo as to ſpin like hemp. After it has been beat and ſteeped in water, they extract long threads from it, which are ſomething between ſilk and common thread; being neither ſo ſoft nor ſo gloſſy as ſilk, nor ſo rough and hard as hemp. They mix ſilk with it in ſome ſtuffs; and theſe are called *nillaes*, and *cherquemolles*.

Of the bark of a ſpecies of mulberry-tree the Japaneſe make their paper. See MORUS.

In the iſland of O-Taheite, the natives make their cloth, which is of three kinds, of the bark of three different trees; the paper-mulberry above-mentioned, the bread-fruit-tree, and the cocoa-tree. That made of the mulberry is the fineſt and whiteſt, and worn chiefly by the principal people. It is manufactured in the following manner. When the trees are of a proper ſize, they are drawn up, and ſtripped of their branches; after which, the roots and tops are cut off: the bark of theſe rods being then ſlit up longitudinally, is eaſily drawn off; and, when a proper quantity has been procured, it is carried down to ſome running water, in which it is depoſited to ſoak, and ſecured from floating away by heavy ſtones: when it is ſuppoſed to be ſufficiently ſoftened, the women ſervants go down to the brook, and, ſtripping themſelves, ſit down in the water, to ſeparate the inner bark from the green part on the outſide: to do this, they place the under ſide upon a flat ſmooth board, and with a kind of ſhell ſcrape it very carefully, dipping it continually in the water till nothing remains but the fine fibres of the inner coat. Being thus prepared in the afternoon, they are ſpread

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(A) The bark of the oak has been long uſed in tanning leather, and even thought eſſential to that operation: but a different ſubſtance has been lately diſcovered, which anſwers the purpoſe full as well, and may be procured at a much cheaper rate; we mean oak ſaw-duſt, or the chips of oak reduced to powder. This valuable ſecret was purchaſed by the ſociety for the encouragement of arts, &c.

ſpread out upon plantain leaves in the evening; they are placed in lengths of about 11 or 12 yards, one by the ſide of another, till they are about a foot broad, and two or three layers are alſo laid one upon the other: care is taken that the cloth ſhall be in all parts of an equal thickneſs, ſo that if the bark happens to be thinner in any one particular part of one layer than the reſt, a piece that is ſomewhat thicker is picked out to be laid over in the next. In this ſtate it remains till the morning, when great part of the water which it contained when it was laid out is either drained off or evaporated, and the ſeveral fibres adhere together, ſo as that the whole may be raiſed from the ground in one piece. It is then taken away, and laid upon the ſmooth ſide of a long piece of wood prepared for the purpoſe, and beaten by the women ſervants. The inſtrument uſed for this purpoſe is a ſquare wooden club, having each of its four ſides or faces marked, lengthways, with ſmall grooves, or furrows, of different degrees of fineneſs; thoſe on one ſide being of a width and depth ſufficient to receive a ſmall pack-thread, and the others finer in a regular gradation, ſo that the laſt are not more than equal to ſewing ſilk. They beat it firſt with the coarſeſt ſide of this mallet, keeping time like our ſmiths; it ſpreads very faſt under the ſtrokes, chiefly however in the breadth, and the grooves in the mallet mark it with the appearance of threads; it is ſucceſſively beaten with the other ſides, laſt with the fineſt, and is then fit for uſe. Of this cloth there are ſeveral ſorts, of different degrees of fineneſs, in proportion as it is more or leſs beaten. The other cloth alſo differs in proportion as it is beaten; but they differ from each other in conſequence of the different materials of which they are made. The bark of the bread-fruit is not taken till the trees are conſiderably longer and thicker than thoſe of the mulberry; the proceſs afterwards is the ſame.—Of the bark, too, of a tree which they call *poerou*[*], they manufacture excellent matting; both a courſe ſort which ſerves them to ſleep upon, and a finer to wear in wet weather. Of the ſame bark they alſo make ropes and lines, from the thickneſs of an inch to the ſize of a ſmall pack-thread.

BARK, or *Jeſuit's Bark*, is a name given by way of eminence to the quinquina, or cinchona. See CINCHONA.

BARK, in navigation, a general name given to ſmall ſhips; it is however peculiarly appropriated by ſeamen to thoſe which carry three maſts without a mizen top-ſail. Our northern mariners, who are trained in the coal-trade, apply this diſtinction to a broad-ſterned ſhip which carries no ornamental figure on the ſtern or prow.

*Water-*BARKS, are little veſſels uſed in Holland for the carriage of freſh water to places where it is wanting, as well as for the fetching ſea-water to make ſalt of. They have a deck, and are filled with water up to the deck.

BARK-Binding, a diſtemper incident to trees; cured by ſlitting the bark, or cutting along the grain.

BARK-Galling, is when the trees are galled with thorns, &c. It is cured by binding clay on the galled places.

BARK-Longue, or *Barca Longa*, a ſmall low ſharp-built, but very long, veſſel without a deck. It goes with ſails and oars, and is very common in Spain.

BARKHAMSTEAD, or BERHAMSTEAD, a town of Hertfordſhire in England; formerly of more note than at preſent. It had formerly a ſtrong caſtle built by the Normans, but it has been long ſince demoliſhed. W. Long. 0. 35. N. Lat. 45. 49.

BARKING, a town of Eſſex in England, ſeated on the river Roding, not far from the Thames, in a very unwholeſome air. It has been chiefly noted for a large monaſtery, now in ruins; there being nothing left ſtanding but a ſmall part of the walls, and a gate-houſe. E. Long. 0. 13. N. Lat. 51. 30.

BARKING of Trees, the peeling off the rind or bark. This muſt be done, in our climate, in the month of May, becauſe at that time the ſap of the tree ſeparates the bark from the wood. It would be very difficult to perform it at any other time of the year, unleſs the ſeaſon was extremely wet and rainy; for heat and dryneſs are a very great hindrance to it.

By the French laws, all dealers are forbid to bark their wood while growing, on the penalty of 500 livres. This law was the reſult of ignorance; it being now found, that barking of trees, and letting them die, increaſes the ſtrength of timber.

BARKLEY, a town of Glouceſterſhire in England, ſeated on a branch of the river Severn. It was formerly of ſome note for a nunnery, and has ſtill the title of a barony. W. Long. 2. 30. N. Lat. 51. 40.

BARKWAY, a town of Hertfordſhire in England, on the great road from London to York. W. Long. 0. 5. N. Lat. 52.

BARLÆUS (Gaſpar), profeſſor of philoſophy at Amſterdam, and one of the beſt Latin poets of the 17th century. There was ſcarce any thing great that happpened in the world while he lived, but he made a pompous elegy upon it, when reaſons of ſtate were no obſtacle to it. He was a great defender of Arminius; and ſhowed his abilities in hiſtory by his relation of what paſſed in Braſil during the government of count Maurice of Naſſau, publiſhed 1647. He died the year after.

BARLERIA, SNAP-DRAGON: A genus of the angioſpermia order, belonging to the didynamia claſs of plants; and in the natural method ranking under the 40th order, *Perſonatæ*. The calyx is quadripartite; two of the ſtamina are much leſs than the reſt; the capſule is quadrangular, bilocular, bivalved, elaſtic, and without claws; and the ſeeds are two. There are ten ſpecies; all natives of the warm parts of America, and therefore require to be kept in a ſtove and treated like other tender exotics. They poſſeſs no great beauty nor any remarkable property; but are kept for the ſake of variety.

BARLETTA, a handſome and ſtrong town of Italy, in the kingdom of Naples, and in the Terra di Bari, with a biſhop's ſee. It is ſituated on the gulph of Venice, in E. Long. 16. 32. N. Lat. 41. 30.

BARLEY, in botany. See HORDEUM; and AGRICULTURE, n° 139.

The principal uſe of barley among us is for making beer; in order to which it is firſt malted. See the article BEER.

The Spaniards, among whom malt liquors are little known, feed their horſes with barley as we do with oats. In Scotland, barley is a common ingredient in broths; and the conſumpt of it for that purpoſe is

[*] *Hibiſcus, tiliaceus* of Linnæus.

very conſiderable, *barley-broth* being a diſh as frequent there as that of *ſoup* in France.

Pearl Barley, and *French Barley*; barley freed of the huſk by a mill; the diſtinction between the two being, that the pearl barley is reduced to the ſize of ſmall ſhot, all but the very heart of the grain being ground away.

Barley-Water, is a decoction of either of theſe, reputed ſoft and lubricating, of frequent uſe in phyſic. This well-known decoction is a very uſeful drink in many diſorders; and is recommended, with nitre, by ſome authors of reputation, in ſlow fevers.

Barley-Corn is uſed to denote a long meaſure, containing in length the third part of an inch, and in breadth the eight. The French carpenters alſo uſe barley-corn, *grain d'orge*, as equivalent to a line, or the twelfth part of an inch.

Barley-Corn (*grain d'orge*), is alſo uſed in building, for a little cavity between the mouldings of joiners work, ſerving to ſeparate or keep them aſunder; thus called becauſe made with a kind of plane of the ſame name.

BARLOW (William), biſhop of Chicheſter, deſcended of an ancient family in Wales, was born in the county of Eſſex. In his youth he favoured the reformation; and travelled to Germany to be inſtructed by Luther, and other preachers of the new doctrine. How long he continued a Proteſtant is uncertain: but from his letter to king Henry VIII. quoted below, it appears that he wrote ſeveral books againſt the church of Rome. However, he was a regular canon in the Auguſtine monaſtery of St Oſith in the county of Eſſex, and ſtudied ſome time at Oxford with the brothers of that order, where he took the degree of doctor in divinity. He was then made prior of the convent at Biſham in Berkſhire; and afterwards ſucceeded to the ſeveral priories of Blackmore, Typtree, Lega, Bromhole, and Haverford-weſt. On the diſſolution of abbeys, he reſigned not only with a good grace, but perſuaded ſeveral other abbots to follow his example. King Henry was ſo pleaſed with his ready obedience on this occaſion, that he ſent him, in 1535, on an embaſſy to Scotland; in the ſame year, made him biſhop of St Aſaph; in two months after, tranſlated him to the ſee of St David's, and in 1547 to that of Bath and Wells. During this time, our good biſhop, as appears from the following epiſtle to the king, was, or pretended to be, a ſtaunch Papiſt; it was written in 1533. "Prayſe be to God, who of his infynyte "goodneſs and mercy ineſtymable hath brought me "out of darkneſs into light, and from deadly ignorance into the quick knowledge of the truth. From "the whiche, through the fiend's inſtigation and falſe "perſuaſion, I have greatly ſwerved.——In ſo much "that I have made certayn bokes, and have ſoffred "them to be emprinted, as the tretiſe of the *buryall* "*of the maſſe*, &c. In theſe tretiſes I perceive and "acknowledge myſelf grievouſly to have erred, namely againſt the bleſſed ſacrament of the altare; diſallowing the maſſe and denying purgatory, with "ſlanderous infamy of the pope and my lord cardinal, "and outrageous raylying againſt the clergy; which "I have forſaken and utterly renounced—Aſks pardon. *William Barlow*," However, when Edward VI. came to the crown, he was again a Proteſtant; and for that reaſon, on queen Mary's acceſſion, was deprived of his biſhoprick, and ſent priſoner to the fleet, where he continued ſome time. At length he found means to eſcape, and immediately joined the other Engliſh Proteſtants in Germany. When queen Elizabeth aſcended the throne, our prelate was raiſed to the ſee of Chicheſter, and ſoon after made firſt prebendary of the collegiate church of Weſtminſter. He died in 1568, and was buried in the cathedral at Chicheſter. He had five daughters, each of which married a biſhop. He wrote, 1. *The buryal of the maſſe*. 2. *The climbing up of fryers and religious perſons portred with figures*. 3. *Chriſtian homilies*. 4. *A book upon Coſmography*. 5. *The godly and pious inſtitution of a Chriſtian man, commonly called the biſhop's book*: and ſeveral other works. He is ſaid to be the tranſlator of the Apocrypha as far as the book of Wiſdom. His letters to M. Parker are in manuſcript in Corpus Chriſti college Cambridge, Miſc. i. 445.

Barlow (William), a mathematician and divine, the ſon of the biſhop of Chicheſter, was born in Pembrokeſhire whilſt his father was biſhop of St David's. In 1560, he was entered commoner of Baliol college in Oxford; and in 1563, took a degree in arts, which having completed by determination, he left the univerſity and went to ſea; but in what capacity is uncertain: however, he acquired conſiderable knowledge in the art of navigation. About the year 1573, he entered into orders; and became prebendary of Wincheſter, and rector of Eaſton near that city. In 1588, he was made prebendary of Litchfield, which he exchanged for the place of treaſurer of that church. Some years after, he was made chaplain to prince Henry, the ſon of king James I.; and in 1614, archdeacon of Saliſbury. He was the firſt writer on the nature and properties of the magnet. Barlow died in the year 1625, and was buried in the church at Eaſton. His works are, 1. *The navigator's ſupply, containing many things of principal importance belonging to navigation, and uſe of diverſe inſtruments framed chiefly for that purpoſe*. Lond. 1597, 4to. Dedicated to Robert Earl of Eſſex. 2. *Magnetical advertiſements, or diverſe pertinent obſervations and approved experiments concerning the nature and properties of the loadſtone*, Lond. 1616, 4to. 3. *A brief diſcovery of the idle animadverſions of Mark Ridley, M. D. upon a treatiſe entitled Magnetical advertiſements*. Lond. 1618, 4to.

Barlow (Thomas), born in 1607, was appointed fellow of Queen's college in Oxford in 1633; and two years after was choſen reader of metaphyſics to the univerſity. He was keeper of the Bodleian library, and in 1657 was choſen provoſt of Queen's college. After the reſtoration of king Charles II. he was nominated one of the commiſſioners for reſtoring the members unjuſtly expelled in 1648. He wrote at that time *The caſe of Toleration in matters of Religion*, to Mr R. Boyle. In 1675, he was made biſhop of Lincoln. After the popiſh plot, he publiſhed ſeveral tracts againſt the Roman-catholic religion; in which he ſhows an uncommon extent of learning, and ſkill in polemical divinity. Nevertheleſs, when the Duke of York was proclaimed king, he took all opportunities of expreſſing his affection toward him; but after the revolution he as readily voted that the king had abdicated his kingdom; and was very vigorous in excluding thoſe of the clergy who refuſed the oaths, from their benefices.

Mr Granger obſerves, that "this learned prelate, whom nature deſigned for a ſcholar, and who acted in conformity with the bent of nature, was perhaps as great a maſter of the learned languages, and of the works of the celebrated authors who have written in thoſe languages, as any man of his age. The greateſt part of his writings, of which Mr Wood has given us a catalogue, are againſt Popery; and his conduct for ſome time, like that of other Calviniſts, appeared to be in direct oppoſition to the Church of Rome. But after James aſcended the throne, he ſeemed to approach much nearer to Popery than he ever did before. He ſent the king an addreſs of thanks for his declaration for liberty of conſcience, and is ſaid to have written reaſons for reading that declaration. His compliances were much the ſame after the revolution. His moderation, to call it by the ſofteſt name, was very great; indeed ſo great as to bring the firmneſs of his character in queſtion. But caſuiſtry, which was his moſt diſtinguiſhed talent, not only reconciles ſeeming contradictions, but has alſo been known to admit contradictions themſelves. He was, abſtracted from this laxity of principles, a very great and worthy man." He died at Buckden, in Huntingdonſhire, on the 8th of October 1691, in the 85th year of his age.

BARLOW (Francis), and Engliſh painter, was born in Lincolnſhire. On his coming to London, he was placed with one Shepherd, a limner; but his genius led him chiefly to drawing of birds, fiſh, and other animals. There are ſix books of animals from his drawings, and he painted ſome cielings with birds for noblemen and gentlemen in the country.—His etchings are numerous: his illuſtration of Eſop is his greateſt work. He died in 1702.—There is ſomething pleaſing in the compoſition and manner of this maſter, though neither is excellent. His drawing too is very indifferent; nor does he characterize any animal juſtly. His birds in general are better than his beaſts.

BARM, the ſame with yeſt. See YEST.—Barm is ſaid to have been firſt uſed by the Celtæ in the compoſition of bread. About the time of Agricola's entrance into Lancaſhire, a new ſort of loaf had been introduced at Rome; which was formed only of water and flour, and much eſteemed for its lightneſs: and it was called the *water cake* from its ſimple compoſition, and the *Parthian roll* from its original inventors. But even this was not comparable to the French or Spaniſh bread for its lightneſs. The uſe of curmi*, and the knowledge of brewing, had acquainted the Celtes with an ingredient for their bread, which was much better calculated to render it light and pleaſant, than the leaven, the eggs, the milk, or the wine and honey, of other nations. This was the ſpume which aroſe on the ſurface of their curw in fermentation, and which the Welch denominate *burm*, and we *barm*. The Celtes of Gaul, of Spain, and moſt probably therefore of South-Britain, had long uſed it; and their bread was, in conſequence of this, ſuperior in lightneſs to that of any other nation in the world†. See the articles BAKING and BREAD.

BARMAS, an Eaſt Indian people, who, in 1515, poſſeſſed all the coaſt extending from Bengal to Pegu. It appears alſo, that they were formerly maſters of Ava, the dominions of which extended as far as China; and of conſequence the Barmas were maſters of moſt of the northern part of the peninſula beyond the Ganges. Their dominions, however, were afterwards reduced to very narrow bounds, and their king became tributary to him of Pegu; but by degrees they not only recovered their former empire, but conquered the kingdoms of Pegu, Siam, and ſeveral others. By the lateſt accounts, their kingdom extends from the province of Yun-nan in China, about 800 miles in length from north to ſouth, and 250 in breadth from eaſt to weſt. See the article PEGU.

BARN, in huſbandry, a covered place or houſe, with air-holes in the ſides, for laying up any ſort of grain, hay, or ſtraw.

St BARNABAS's DAY, a Chriſtian feſtival, celebrated on the 11th of June.—St Barnabas was born at Cyprus, and deſcended of the tribe of Levi, whoſe Jewiſh anceſtors are thought to have retired thither to ſecure themſelves from violence during the troubleſome times in Judea. His proper name was *Joſes*; to which, after his converſion to Chriſtianity, the apoſtles added that of *Barnabas*, ſignifying either *the ſon of prophecy*, or *the ſon of conſolation*; the firſt reſpecting his eminent *prophetic gifts*, the other his *great charity* in ſelling his eſtate for the comfort and relief of the poor Chriſtians. He was educated at Jeruſalem, under the great Jewiſh doctor Gamaliel; which might probably lay the foundation of that intimate friendſhip which was afterwards contracted between this apoſtle and St Paul. The time of his converſion is uncertain; but he is generally eſteemed one of the ſeventy diſciples choſen by our Saviour himſelf.

At Antioch, St Paul and St Barnabas had a conteſt, which ended in their ſeparation; but what followed it with reſpect to St Barnabas, is not related in the *Acts of the Apoſtles*. Some ſay, he went into Italy, and founded a church at Milan. At Salamis, we are told, he ſuffered martyrdom; whither ſome Jews, being come out of Syria, ſet upon him, as he was diſputing in the ſynagogue, and ſtoned him to death. He was buried by his kinſman Mark, whom he had taken with him, in a cave near that city. The remains of his body are ſaid to have been diſcovered in the reign of the emperor Zeno, together with a copy of St Matthew's goſpel, written with his own hand, and laying on his breaſt.

St BARNABAS's *Epiſtle*, an apocryphal work aſcribed to St Barnabas, and frequently cited by St Clement of Alexandria and Origen.—It was firſt publiſhed in Greek, from a copy of father Hugh Menard a Benedictine monk. An ancient verſion of it was found in a manuſcript of the abbey of Coebey, near a thouſand years old. Voſſius publiſhed it, in the year 1656, together with the epiſtles of St Ignatius.

St BARNABAS's *Goſpel*, another apocryphal work, aſcribed to St Barnabas the apoſtle, wherein the hiſtory of Jeſus Chriſt is related in a manner very different from the account given us by the four Evangeliſts. The Mahometans have this goſpel in Arabic, and it correſponds very well with thoſe traditions which Mahomet followed in his Koran. It was, probably, a frogery of ſome nominal Chriſtians; and afterwards altered and interpolated by the Mahometans, the better to ſerve their purpoſe.

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* See *Ale*.

† *Pliny*, lib. xviii. c. 7, 11.

BARNABITES, a religious order, founded in the 16th century by three Italian gentlemen, who had been adviſed by a famous preacher of thoſe days to read carefully the epiſtles of St Paul. Hence they were called *clerks of St Paul*; and *Barnabites*, becauſe they performed their firſt exerciſe in a church of St Barnabas at Milan. Their habit is black; and their office is to inſtruct, catechiſe, and ſerve in miſſion.

BARNACLE, in ornithology, a ſpecies of gooſe. See ANAS.

BARNACLES, in farriery, an inſtrument compoſed of two branches joined at one end with a hinge, to put upon horſes noſes when they will not ſtand quietly to be ſhod, blooded, or dreſſed.

BARNADESIA, in botany; a genus of the polygamia æqualis order, belonging to the ſyngeneſia claſs of plants; the characters of which are: The corolla is radiated; the calyx is naked, imbricated, and pungent; the pappus of the rays feathery, of the diſk briſtly and retrofracted. There is but one ſpecies, the ſpinoſa, a native of America.

BARNARD, or BERNARD (John), the ſon of John Barnard, gent. was born at Caſtor in Lincolnſhire, and educated at Cambridge. After ſeveral preferments, he was made a prebendary of the church of Lincoln. He wrote *Cenſura Clerior*, againſt ſcandalous miniſters not fit to be reſtored to church livings; the Life of Dr Heylyn; and a few other works. He died at Newark, Auguſt 17, 1683.

BARNARD-Caſtle, ſeated on the river Tees in the county of Durham, is a town and barony belonging to Vane earl of Darlington. It is indifferently large, and has a manufacture of Stockings. W. Long. 1. 45. N. Lat. 54. 35.

BARNES (Joſhua), profeſſor of the Greek language at Cambridge, in the beginning of the 16th century. He was choſen queen's profeſſor of Greek in 1695, a language he wrote and ſpoke with the utmoſt facility. His firſt publication was a whimſical tract, intitled, *Gerania*, or *a new diſcovery of the little ſort of people called Pygmies*. After that appeared his *Life of Edward* III. in which he introduces his hero making long and elaborate ſpeeches.—In the year 1700, when he publiſhed many of his works, Mrs Maſon, of Hemmingford, in Huntingdonſhire, a widow lady of between 40 and 50, with a jointure of L.200 *per annum*, who had been for ſome time a great admirer of him, came to Cambridge, and deſired leave to ſettle L. 100 a-year upon him after her death; which he politely refuſed, unleſs ſhe would likewiſe condeſcend to make him happy with her perſon, which was not very engaging. The lady was too obliging to refuſe any thing to Joſhua, for whom ſhe ſaid, "the ſun ſtood ſtill;" and they were accordingly married. Mr Barnes wrote ſeveral other books beſides thoſe abovementioned, particularly, *Sacred poems; The Life of Oliver Cromwell, the Tyrant; ſeveral dramatic pieces; A poetical Paraphraſe on the Hiſtory of Eſther, in Greek verſe*, with a Latin tranſlation, &c.; and he publiſhed editions of *Euripides*, *Anacreon*, and *Homer's Iliad and Odyſſey*, with notes and a Latin tranſlation. He wrote with greater eaſe in Greek than even in Engliſh, and yet is generally allowed not to have underſtood the delicacies of that language. He was of ſuch a humane diſpoſition, and ſo unacquainted with the world, that he gave his only coat to a vagrant begging at his door. This excellent man died on the 3d of Auguſt 1712, in the 58th year of his age.

BARNAVELDT (John d'Olden), the celebrated Dutch ſtateſman, and one of the founders of the civil liberty of Holland. His patriotic zeal inducing him to limit the authority of Maurice prince of Orange the ſecond ſtadtholder of Holland, the partizans of that prince falſely accuſed him of a deſign to deliver his country into the hands of the Spaniſh monarch. On this abſurd charge he was tried by 26 commiſſaries deputed from the ſeven provinces, condemned, and beheaded in 1619. His ſons William and Réné, with a view of revenging their father's death, formed a conſpiracy againſt the ſtadtholder, which was diſcovered. William fled: but Réné was taken and condemned to die; which fatal circumſtance has immortalized the memory of his mother, of whom the following anecdote is recorded. She ſolicited a pardon for Réné; upon which Maurice expreſſed his ſurpriſe that ſhe ſhould do that for her ſon which ſhe had refuſed for her huſband. To this remark, ſhe replied with indignation, "I would not aſk a pardon for my huſband, becauſe he was innocent. I ſolicit it for my ſon, becauſe he is guilty."

BARNET, a town partly in Middleſex, and partly in Hertfordſhire. It is a great thorough-fare, and the market is very remarkable for hogs. W. Long. 0. 5. N. Lat. 51. 42.

BARNSLEY, or BLACK BARNSLEY, a town of the weſt riding of Yorkſhire, ſeated on the ſide of a hill, and five furlongs in length. W. Long. 1. 20. N. Lat. 53. 35.

BARNSTABLE, a ſea-port town of Devonſhire, ſeated on the river Tau, over which there is a good bridge. It is a corporation town, and ſends two members to Parliament. W. L. 4. 5. N. Lat. 51. 15.

BARO, or BARON (Peter), profeſſor of divinity in the univerſity of Cambridge, in the 16th century, was born at Eſtampes in France, and educated in the univerſity of Bourges, where he was admitted a licentiate in the law; but being of the Proteſtant religion, he was obliged to leave his native country to avoid perſecution; and withdrawing into England, was kindly entertained by Lord Burleigh. He afterwards ſettled at Cambridge; and by the recommendation of his noble patron, was, in 1574, choſen lady Margaret's profeſſor there. For ſome years he quietly enjoyed his profeſſorſhip; but there was at laſt raiſed a reſtleſs faction againſt him, by his oppoſing the doctrine of abſolute predeſtination; which rendered his place ſo uneaſy to him, that he choſe to leave the univerſity, and to ſettle in London. He wrote, 1. *In Jonam Prophetam Prælectionis*, xxxix. 2. *De Præſtantia & Dignitate Divinæ Legis*: and other pieces. He died in London, about the year 1600.

BAROCCI (Frederic), a celebrated painter, was born at Urbino, where the genius of Raphael inſpired him. In his early youth he travelled to Rome; where he painted ſeveral things in freſco. He then returned to Urbino; and giving himſelf up to intenſe ſtudy, acquired a great name in painting. His genius particularly led him to religious ſubjects. At his leiſure hours, he etched a few prints from his own deſigns; which are highly finiſhed, and executed with great ſoftneſs and delicacy. The *Salutation* is his capital performance in that way: of which we ſeldom meet with any impreſſions, but thoſe taken from the retouched plate, which are very harſh. He died at Urbino in 1612, aged 84.

BAROCHE, a town of Cambaya, in the dominions of the Great Mogul; it is walled round, and was formerly a place of great trade. It is now inhabited by weavers and ſuch mechanics as manufacture cotton cloth. Here they have the beſt cotton in the world, and of conſequence the beſt baſtas are manufactured in this place. The Engliſh and Dutch had formerly factories here, which are now abandoned. E. Long. 72. 5. N. Lat. 22. 15.

BAROCO, in logic, a term given to the fourth mode of the ſecond figure of ſyllogiſms. A ſyllogiſm in baroco has the firſt propoſition univerſal and affirmative, but the ſecond and third particular and negative, and the middle term is the predicate in the two firſt propoſitions. For example,

Nullus homo non eſt bipes:
Non omne animal eſt bipes:
Non omne animal eſt homo.

BAROMETER (from βαρος *weight*, and μετρον *meaſure*), an inſtrument for meaſuring the weight of the atmoſphere, and of uſe in fortelling the changes of the weather, and alſo for meaſuring the height of mountains, &c.

1
Principles of the barometer.

The common barometer conſiſts of a glaſs tube hermetically ſealed at one end, and filled with quickſilver well defecated and purged of its air. The finger being then placed on the open end, in immediate contact with the mercury, ſo as not to admit the leaſt particle of air, the tube is inverted, and the lower end plunged into a baſon of the ſame prepared mercury; then upon removing the finger, the mercury in the tube will join that in the baſon, and the mercurial column in the tube will ſubſide to the height of 29 or 30 inches, according to the ſtate of the atmoſphere at that time. This is the principle on which all barometers are conſtructed. Of their invention, the different kinds of them, and the theories by which their phenomena are ſolved, we ſhall proceed to give an hiſtorical account.

2
Diſcovered by Galilæo, and improved by Torricelli.

In the beginning of the laſt century, when the doctrine of a plenum was in vogue, philoſophers were of opinion, that the aſcent of water in pumps was owing to the abhorrence of a vacuum; and that by means of ſuction, fluids might be raiſed to any height whatever. But Galilæo, who flouriſhed about that time, diſcovered that water could not aſcend in a pump unleſs the ſucker reached within 33 feet of its ſurface in the well. From hence he concluded, that not the power of ſuction, but the preſſure of the atmoſphere, was the cauſe of the aſcent of water in pumps; that a column of water 33 feet high was a counterpoiſe to one of air of an equal baſe, whoſe height extended to the top of the atmoſphere; and that for this reaſon the water would not follow the ſucker any farther. From this Torricelli, Galilæo's diſciple took the hint; and conſidered, that if a column of water of about 33 feet in height was equal in weight to one of air having the ſame baſe, a column of mercury no longer than about 29½ inches would be ſo too, becauſe mercury being about 14 times heavier than water, a column of mercury muſt be 14 times ſhorter than one of water equally heavy. Accordingly, having filled a glaſs tube with mercury, and inverted it into a baſon of the ſame, he found the mercury in the tube to deſcend till it ſtood about 29½ inches above the ſurface of that in the baſon.

3
Strange hypotheſis of Linus.

4
Experiments in confirmation of it.

Notwithſtanding this clear proof of the preſſure of the atmoſphere, however, the aſſertors of a plenum left no means untried to ſolve the phenomena of the Torricellian experiment by ſome other hypotheſis. The moſt ridiculous ſolution, and which at the ſame time gave the adverſe party the greateſt difficulty to overthrow it, was that of Linus. He contended, that in the upper part of the tube, there is a film, or *rope of mercury*, extended through the ſeeming vacuity; and that, by this rope, the reſt of the mercury was ſuſpended, and kept from falling into the baſon. Even this ſo abſurd hypotheſis he pretended to confirm by the following experiments. Take, ſays he, a ſmall tube, open at both ends, ſuppoſe about 20 inches long; fill this tube with mercury, ſtopping the lower orifice with your thumb: Then cloſing the upper end with your finger, and immerging the lower in ſtagnant mercury, you ſhall perceive, upon the removal of your thumb, a manifeſt ſuction of your finger into the tube; and the tube and mercury will both ſtick ſo cloſe to it, that you may carry them about the room. Therefore, ſays he, the internal cylinder of mercury in the tube is not held up by the preponderate air without; for if ſo, whence comes ſo ſtrong a ſuction, and ſo firm an adheſion of the tube to the finger?—The ſame effect follows, though the tube be not quite filled with mercury; for if a little ſpace of air is left at the top, after the tube is immerged in the ſtagnant mercury, there will be a conſiderable ſuction as before.

5
Refuted.

6
Remarkable experiments by Mr Huygens.

7
Unſatisfactorily accounted for in the Philoſophical Tranſactions.

8
Mr Rowning's ſolution.

Theſe experiments, which are themſelves clear proof of the preſſure of the air, ſupported for ſome time the *funicular* hypotheſis, as it was called of Linus. But when it was diſcovered, that if the tube was carried to the top of an high mountain the mercury ſtood lower than on the plain, and that if removed into the vacuum of an air-pump it fell out altogether, the hypotheſis of Linus was rejected by every body.—There are, however, two experiments which create a conſiderable difficulty. One is mentioned by Mr Huygens, viz. that if a glaſs tube 75 inches long, or perhaps longer, is filled with mercury well purged of its air, and then inverted, the whole will remain ſuſpended; whereas, according to the Torricellian experiment, it ought to ſubſide immediately to the height of 29 or 30 inches. It is true indeed, that, upon ſhaking the tube, the mercury preſently ſubſides to that height; but why it ſhould remain ſuſpended at all, more than twice the height to which it can be raiſed by the preſſure of the moſt denſe atmoſphere, ſeems not eaſily accounted for; and accordingly, in the Philoſophical Tranſactions, we find attempts to account for it by the preſſure of a medium more ſubtile than the common air, and capable of pervading both the mercury and glaſs. We find there alſo another very ſurpriſing fact of the ſame kind mentioned; viz. that a pretty large tube under 29 inches in length, filled with mercury, and inverted into a baſon of the ſame, will remain full, though there be a ſmall hole in the top. This, too, is there accounted for by the preſſure of a medium more ſubtile than common air; but by no means in a ſatisfactory manner. Mr Rowning, who mentions the phenomenon of the 75 inch tube, accounts for it in the following manner. "The cauſe of this phenomenon ſeems to be, that by the great weight of ſo long a column of mercury, it was preſſed into ſo cloſe a contact with the glaſs in pouring in, that, by the mutual attraction of coheſion between the mercury and the glaſs, the whole column was ſuſtained after the tube was inverted."

9 Inſufficient

—Here, however, we muſt obſerve, that this ſolution ſeems equally unſatisfactory with that of the ſubtile medium already mentioned; becauſe it is only one end of the column which ſuſtains ſo great a preſſure from the weight of the mercury; and therefore, though five or ſix inches of the upper part of the tube, where the preſſure had been ſtrongeſt, might thus remain full of mercury, yet the reſt ought to fall down. Beſides, it is only the outſide of the mercurial column that is in contact with the glaſs, and conſequently theſe parts only ought to be attracted. Therefore, even granting the preſſure to be equally violent, on the inverſion of the tube, all the way from 29 to 75 inches, yet the glaſs ought to be only as it were ſilvered over by a very thin film of mercury, while the middle parts of the column ought to fall out by reaſon of their fluidity.

10 Another experiment with ſiphons.

The other experiment hinted at, is with regard to ſiphons; which though it belongs more properly to the article HYDROSTATICS, yet ſeems neceſſary to be mentioned here. It is this; That a ſiphon, once ſet a running, will continue to do ſo though ſet under the receiver of an air-pump and the air exhauſted in the moſt perfect manner; or if a ſiphon is filled, and then ſet under a receiver and the air exhauſted, if by any contrivance the end of the lower leg is opened, it will immediately begin to run, and diſcharge the water of any veſſel in which the other leg is placed, as though it was in the open air. The cauſe of this phenomenon, as well as the former, ſeems very difficult to be inveſtigated.

11 Solution by Mr Chambers.

In Chambers's Dictionary, under the word *Siphon*, we have a ſolution ſomething ſimilar to the funicular hypotheſis of Linus abovementioned; namely, that "fluids in ſiphons ſeem as it were to form one continued body; ſo that the heavier part, deſcending, like a chain pulls the lighter after it."

12 Inſufficient

This might be deemed a ſufficient explication, if the ſiphon was only to empty the water it at firſt contains in itſelf: but when we conſider that the water in the veſſel, which much exceeds the quantity contained in the ſiphon, is likewiſe evacuated, Mr Chambers's hypotheſis can by no means be admitted; becauſe this would be like the lighter part of a chain pulling the heavier after it.

13 Another ſolution from the action of electricity.

Concerning the cauſe of theſe ſingular phenomena, we can only offer the following conjecture. The exiſtence of a medium much more ſubtile than air, and which pervades the vacuum of an air-pump with the utmoſt facility, is now ſufficiently aſcertained in the phenomena of electricity. It is alſo well known, that this fluid ſurrounds the whole earth to an indeterminate height. If therefore this fluid either is the power of gravity itſelf, or is acted upon by that power, it muſt neceſſarily preſs upon all terreſtrial bodies in a manner ſimilar to the preſſure of the atmoſphere. If then we could from any veſſel entirely exclude this ſubtile fluid, and form an electrical vacuum, as well as we can do an aerial one by means of the air-pump, we would in that caſe ſee fluids as evidently raiſed by the preſſure of the electric matter, as we now ſee them raiſed by that of the air. But tho' this cannot be done, we are aſſured that there are certain ſubſtances, of which glaſs is one, through which the electric matter cannot paſs but with difficulty. We are likewiſe certain, that tho' the electric matter paſſes through the pores of water, metals, &c. with very great facility, yet it ſtill muſt meet with ſome reſiſtance from their ſolid and impenetrable parts, which cannot be pervaded by any material ſubſtance. We know alſo, that all ſubſtances do naturally contain a certain quantity of this electric matter, which they are not always ready to part with; and when by any means the fluid they contain is ſet in motion, they are then ſaid to be *electrified*. Now, though we are certain, that the friction of glaſs by mercury does ſet in motion the electric fluid contained in the mercury or in the glaſs; yet when the tube is filled with the metallic fluid, whatever quantity has been extricated either from the glaſs or mercury during the time of filling, will be reabſorbed by the metal and conveyed to the earth during the time of inverſion; and conſequently the mercurial tube, when inverted, will not be electrified, but both glaſs and mercury will be in their natural ſtate. Here, then, the preſſure of the electrical fluid is kept off in ſome meaſure from the upper part of the mercury by the glaſs, which it cannot penetrate eaſily at leaſt. To the mercury in the baſon it has free acceſs, and therefore preſſes more upon the lower than the upper part; the conſequence of which is a ſuſpenſion of the mercury. It is true, this fluid very eaſily penetrates the metallic matter; but it muſt be conſidered, that the electric fluid itſelf is in ſome meaſure entangled in the particles of the quickſilver, and cannot be extricated without motion. As ſoon therefore as the tube is ſhaken, ſome part of the electricity is extricated, and the mercury begins to deſcend The ſubtilty of the medium is ſuch, that no ſooner has it begun to extricate itſelf, than, by the motion of the metal downwards, it iſſues forth in great quantities, ſo as to become viſible, like a blue flame, in the dark. The equilibrium is therefore deſtroyed in an inſtant, as it would be were we to admit air to the top of the barometer; nay, in a more effectual manner. For if a ſmall quantity of air was admitted to the top of a barometer, the mercury would only deſcend in proportion to the quantity of air admitted; but here, no ſooner is a quantity of electric matter admitted, than it procures admiſſion for a vaſt deal more, and conſequently the mercury deſcends with accelerated velocity.—On this principle the aſcent of water in the ſiphon while *in vacuo* is ſo eaſily accounted for, that we need not take up time in explaining it farther.—But why an inverted glaſs tube ſhould remain full of mercury when it has a hole either great or ſmall in the top, is more difficult to be accounted for, and requires this farther circumſtance to be taken into conſideration, viz. that though all ſolid bodies will, by the action of gravity, or by any other impulſe, eaſily approach very near to one another, yet they cannot be brought into abſolute contact without a very conſiderable force, much greater than is ſufficient to overcome their gravity; and thus it appears from ſome experiments, that the links of a chain are by no means in contact with one another, till the chain has a conſiderable weight appended to it. This may be the caſe with the tube in queſtion. The air by its gravity deſcends upon it, and is ready to enter the ſmall hole in the top; but, by a repulſive power from the glaſs, its action is prevented, ſo that the mercury cannot fall.

14 Barometer uſed for prognoſticating the weather.

It was, however, ſome time after the Torricellian experiment had been made, and even after it had been univerſally agreed that the ſuſpenſion of the mercury was owing to the weight of the atmoſphere, before it was diſcovered that this preſſure of the air was different at different times though the tube was kept in the ſame place. But the variations of altitude in the mercurial column were too obvious to remain long unobſerved; and accordingly philoſophers ſoon became careful enough to mark them. When this was done, it was impoſſible to avoid obſerving alſo, that the changes in the height of the mercury were accompanied, or very quickly ſucceeded, by changes in the weather. Hence the inſtrument obtained the name of the *weather-glaſs*, and was generally made uſe of with a view to the foreknowledge of the weather. In this character, its principal phenomena are as follow.

15 Its phenomena as a weather-glaſs by Mr Patrick.

1. The riſing of the mercury preſages, in general, fair weather; and its falling, foul weather, as rain, ſnow, high winds, and ſtorms.

2. In very hot weather, the falling of the mercury foreſhows thunder.

3. In winter, the riſing preſages froſt; and in froſty weather, if the mercury falls three or four diviſions, there will *certainly* follow a thaw. But in a continued froſt, if the mercury riſes, it will *certainly* ſnow.

4. When foul weather happens ſoon after the falling of the mercury, expect but little of it; and, on the contrary, expect but little fair weather when it proves fair ſhortly after the mercury has riſen.

5. In foul weather, when the mercury riſes much and high, and ſo continues for two or three days before the foul whether is quite over, then expect a continuance of fair weather to follow.

6. In fair weather, when the mercury falls much and low, and thus continues for two or three days before the rain comes; then expect a great deal of wet, and probably high winds.

7. The unſettled motion of the mercury denotes uncertain and changeable weather.

8. You are not ſo ſtrictly to obſerve the words engraved on the plates (though in general it will agree with them), as the mercury's *riſing* and *falling*. For if it ſtands at *much rain* and then riſes up to *changeable*, it preſages fair weather; though not to continue ſo long as if the mercury had riſen higher: and ſo, on the contrary, if the mercury ſtood at *fair*, and falls to *changeable*, it preſages foul weather; though not ſo much of it as if it had ſunk lower.

16 Remarks by M. Rowning.

Theſe are the obſervations of Mr Patrick, on which Mr Rowning makes the following remark. "From theſe obſervations it appears, That it is not ſo much the height of the mercury in the tube that indicates the weather, as the motion of it up and down: wherefore, in order to paſs a right judgment of what weather is to be expected, we ought to know whether the mercury is actually riſing or falling; to which end the following rules are of uſe.

" 1. If the ſurface of the mercury is convex, ſtanding higher in the middle of the tube than at the ſides, it is generally a ſign that the mercury is then riſing.

" 2. If the ſurface is concave, it is then ſinking; and,

" 3. If it is plain, the mercury is ſtationary, or rather, if it is a little covex: for mercury being put into a glaſs tube, eſpecially a ſmall one, will naturally have its ſurface a little convex, becauſe the particles of mercury attract one another more forcibly than they are attracted by glaſs. Further,

" 4. If the glaſs is ſmall, ſhake the tube; and if the air is grown heavier, the mercury will riſe about half the tent of an inch higher than it ſtood before; if it is grown lighter it will ſink as much. This proceeds from the mercury's ſticking to the ſides of the tube, which prevents the free motion of it till it is diſengaged by the ſhock: and therefore, when an obſervation is to be made with ſuch a tube, it ought always to be ſhaken firſt; for ſometimes the mercury will not vary of its own accord, till the weather it ought to have indicated is preſent."

17 Theſe phenomena peculiar to the temperate and frigid zones.

Here we muſt obſerve, that the abovementioned phenomena are peculiar to places lying at a conſiderable diſtance from the equator; for, in the torrid zone, the mercury in the barometer ſeldom either riſes or falls much. In Jamaica, it is obſerved by Sir William Beeſton*, that the mercury in the morning conſtantly ſtood at one degree below *changeable*, and at noon ſunk to one degree above *rain*; ſo that the whole ſcale of variation there was only $\frac{3}{10}$ of an inch. At St Helena, too, where Dr Halley made his obſervations, he found the mercury to remain wholly ſtationary whatever weather happened. Of theſe phenomena, their cauſes, and why the barometer indicates an approaching change of weather, the Doctor gives us the following account.

18 Phenomena of the barometer ſolved by Dr Halley.

" 1. In calm weather, when the air is inclined to rain, the mercury is commonly low.

" 2. In ſerene, good, and ſettled weather, the mercury is generally high.

" 3. Upon very great winds, though they be not accompanied with rain, the mercury ſinks loweſt of all, with relation to the point of the compaſs the wind blows upon.

" 4. *Cæterus paribus*, the greateſt heights of the mercury are found upon eaſterly, or north-eaſterly, winds.

" 5. In calm froſty weather, the mercury generally ſtands high.

" 7. After very great ſtorms of wind, when the mercury has been very low, it generally riſes again very faſt.

" 7. The more northerly places have greater alterations of the barometer than the more ſoutherly.

" 8. Within the tropics, and near them, thoſe accounts we have had from others, and my own obſervations at St Helena, make very little or no variation of the height of the mercury in all weathers.

" Hence I conceive, that the principal cauſe of the riſe and fall of the mercury is from the variable winds which are found in the temperate zone, and whoſe great inconſtancy in England is notorious.

" A ſecond cauſe is, the uncertain exhalation and precipitation of the vapours lodging in the air, whereby it comes to be at one time much more crowded than at another, and conſequently heavier; but this latter depends in a great meaſure upon the former. Now, from theſe principles I ſhall endeavour to explicate the ſeveral phenomena of the barometer, taking them in the ſame order I have laid them down. Thus,

" 1. The mercury's being low inclines it to rain,

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* *Philoſ. Tranſact.* N° 220.

becauſe the air being light, the vapours are no longer ſupported thereby, being become ſpecifically heavier than the medium wherein they floated; ſo that they deſcend towards the earth, and, in their fall, meeting with other aqueous particles, they incorporate together, and form little drops of rain: but the mercury's being at one time lower than another, is the effect of two contrary winds blowing from the place where the barometer ſtands; whereby the air of that place is carried both ways from it, and conſequently the incumbent cylinder of air is diminiſhed, and accordingly the mercury ſinks: As, for inſtance, if in the German ocean it ſhould blow a gale of weſterly wind, and, at the ſame time, an eaſterly wind in the Iriſh Sea; or, if in France it ſhould blow a northerly wind, and in Scotland a ſoutherly; it muſt be granted, that that part of the atmoſphere impendant over England would thereby be exhauſted and attenuated, and the mercury would ſubſide, and the vapours which before floated in theſe parts of the air of equal gravity with themſelves would ſink to the earth.

" 2. The greater height of the barometer is occaſioned by two contrary winds blowing towards the place of obſervation, whereby the air of other places is brought thither and accumulated; ſo that the incumbent cylinder of air being increaſed both in height and weight, the mercury preſſed thereby muſt needs ſtand high, as long as the wind continues ſo to blow; and then the air being ſpecifically heavier, the vapours are better kept ſuſpended, ſo that they have no inclination to precipitate and fall down in drops, which is the reaſon of the ſerene good weather which attends the greater heights of the mercury.

" 3. The mercury ſinks the loweſt of all by the very rapid motion of the air in ſtorms of wind. For the tract or region of the earth's ſurface, wherein the winds rage, not extending all round the globe, that ſtagnant air which is left behind, as likewiſe that on the ſides, cannot come in ſo faſt as to ſupply the evacuation made by ſo ſwift a current; ſo that the air muſt neceſſarily be attenuated when and where the ſaid winds continue to blow, and that more or leſs according to their violence: add to which, that the horizontal motion of the air being ſo quick as it is, may in all probability take off ſome part of the perpendicular preſſure thereof; and the great agitation of its particles is the reaſon why the vapours are diſſipated, and do not condenſe into drops ſo as to form rain, otherwiſe the natural conſequence of the air's rarefaction.

" 4. The mercury ſtands higheſt upon the eaſterly and north-eaſterly wind; becauſe in the great Atlantic ocean, on this ſide the 35th degree of north latitude, the winds are almoſt all weſterly or ſouth-weſterly; ſo that whenever here the wind comes up at eaſt and north-eaſt, it is ſure to be checked by a contrary gale as ſoon as it reaches the ocean; wherefore, according to our ſecond remark, the air muſt needs be heaped over this iſland, and conſequently the mercury muſt ſtand high as often as theſe winds blow. This holds true in this country; but it is not a general rule for others, where the winds are under different circumſtances: and I have ſometimes ſeen the mercury here as low as 29 inches upon an eaſterly wind; but then it blew exceedingly hard, and ſo comes to be accounted for by what was obſerved in the third remark.

" 5. In calm froſty weather the mercury generally ſtands high; becauſe (as I conceive) it ſeldom freezes but when the wind comes out of the northern and north-eaſtern quarters, or at leaſt unleſs thoſe winds blow at no great diſtance off. For the north part of Germany, Denmark, Sweden, Norway, and all that tract from whence north-eaſtern wind comes, are ſubject to almoſt continual froſt all the winter: and thereby the lower air is very much condenſed, and in that ſtate is brought hitherward by thoſe winds, and being accumulated by the oppoſition of the weſterly wind blowing in the ocean, the mercury muſt needs be preſſed to a more than ordinary height; and as a concurring cauſe, the ſhrinking of the lower parts of the air into leſſer room by cold, muſt needs cauſe a deſcent of the upper parts of the atmoſphere, to reduce the cavity made by this contraction to an equilibrium.

" 6. After great ſtorms, when the mercury has been very low, it generally riſes again very faſt: I once obſerved it to riſe one inch and an half in leſs than ſix hours after a long continued ſtorm of ſouth-weſt wind. The reaſon is, becauſe the air being very much rarefied by the great evacuations which ſuch continued ſtorms make thereof, the neighbouring air runs in the more ſwiftly to bring it to an equilibrium; as we ſee water runs the faſter for having a greater declivity.

" 7. The variations are greater in the more northerly places, as at Stockholm greater than at Paris (compared by M. Paſchal); becauſe the more northerly parts have uſually greater ſtorms of wind than the more ſoutherly, whereby the mercury ſhould ſink lower in that extreme; and then the northerly winds bringing in the more denſe and ponderous air from the neighbourhood of the pole, and that again being checked by a ſoutherly wind at no great diſtance, and ſo heaped, muſt of neceſſity make the mercury in ſuch caſe ſtand higher in the other extreme.

" 8. Laſtly, this remark, that there is little or no variation near the equinoctial, does above all others confirm the hypotheſis of the variable winds being the cauſe of theſe variations of the height of the mercury; for in the places above named there is always an eaſy gale of wind blowing nearly upon the ſame point, viz. E. N. E. at Barbadoes, and E. S. E. at St Helena; ſo that there being no contrary currents of air to exhauſt or accumulate it, the atmoſphere continues much in the ſame ſtate: however, upon hurricanes, the moſt violent of ſtorms, the mercury has been obſerved very low; but this is but once in two or three years, and it ſoon recovers its ſettled ſtate, about 29½ inches."

19 Objections by Mr Chambers.

This theory we find controverted in Chambers's Cyclopædia, udder the word BAROMETER. The principal objections are, "That if the wind was the ſole agent in raiſing or depreſſing the mercury, the alterations of its height in the barometer would be only relative or topical; there would ſtill be the ſame quantity ſupported at ſeveral places taken collectively: thus what a tube at London loſt, another at Paris, Piſa, or Zurich, &c. would gain. But the contrary is found to be the caſe; for, from all the obſervations hitherto made, the barometers in ſeveral diſtant parts of the globe riſe and fall together. This is a very ſurpriſing fact; and deſerves to be well examined. Again, ſetting aſide all other objections, it is impoſſible, on Dr Halley's hypotheſis, to explain the mercury's fall before, and riſe after, rain. For ſuppoſe two contrary winds ſweeping the air from over London: We know that few if any of the winds reach above a mile high; all therefore they can do will be to cut off a certain part of the column of air over London: if the conſequence of this be the fall of the mercury, yet there is no apparent reaſon for the rains following it. The vapours indeed may be let lower; but it will only be till they come into an air of the ſame ſpecific gravity with themſelves, and there they ſtick as before. Laſtly it is impoſſible according to the laws of fluids, that the air above any place could be exhauſted by the blowing of two contrary winds from it: for, ſuppoſe a north-eaſt and ſouth-weſt wind both blow from London at the ſame time, there will be two others at the ſame time blowing towards it from oppoſite points, viz. a N. W. and S. E. one, which will every moment reſtore the equilibrium, ſo that it can never be loſt in any conſiderable degree at leaſt."

20
Hypotheſis of Mr Leibnitz.

Mr Leibnitz accounted for the ſinking of the mercury before rain upon another principle, viz. That as a body ſpecifically lighter than a fluid, while it is ſuſpended by it, adds more weight to that fluid than when, by being reduced in its bulk, it becomes ſpecifically heavier, and deſcends; ſo the vapour, after it is reduced into the form of clouds, and deſcends, adds leſs weight to the air than before; and therefore the mercury falls.

21
Refuted

To which it is anſwered, 1. That when a body deſcends in a fluid, its motion in a very little time becomes uniform, or nearly ſo, a farther acceleration of it being prevented by the reſiſtance of the fluid; and then, by the third law of nature, it forces the fluid downwards with a force equal to that whereby it tends to be farther accelerated, that is, with a force equal to its whole weight. 2. The mercury by its deſcent foretells rain a much longer time before it comes, than the vapour after it is condenſed into clouds can be ſuppoſed to take up in falling. 3. Suppoſing that as many vapours as fall in rain during a whole year were at once to be condenſed into clouds, and even quite ceaſe to gravitate upon the air, its gravity would ſcare be diminiſhed thereby ſo much as is equivalent to the deſcent of two inches of mercury in the barometer. Beſides, in many places between the tropics, the rains fall at certain ſeaſons in very great quantities, and yet the barometer ſhows there very little or no alteration in the weight of the atmoſphere.

22
Inſufficient hypotheſis of Mr Chambers,

Mr Chambers gives an hypotheſis ſomewhat ſimilar to that of Leibnitz: but as it is liable to the objections juſt now mentioned, eſpecially the laſt, we forbear to give any particular account of it; and ſhall attempt, upon other principles, to give a ſatisfactory ſolution of this phenomenon.

23
Another theory.

The neceſſary preliminaries to our hypotheſis are, 1. That vapour is formed by an intimate union between the element of fire and that of water, by which the fire or heat is ſo totally enveloped, and its action ſo entirely ſuſpended by the watery particles, that it not only loſes its properties of giving light and of burning, but becomes incapable of affecting the moſt ſenſible thermometer; in which caſe, it is ſaid by Dr Black, the author of this theory, to be in a latent ſtate. For the proofs of this, ſee the articles EVAPORATION, COLD, CONGELATION, &c. 2. If the atmoſphere is affected by any unuſual degree of heat, it thence becomes incapable of ſupporting ſo long a column of mercury as before, for which reaſon that in the barometer ſinks. This appears from the obſervations of Sir William Beeſton already mentioned; and likewiſe from thoſe of De Luc, which ſhall be afterwards taken notice of.

Theſe axioms being eſtabliſhed, it thence follows, that as vapour is formed by an union of fire with water, or if we pleaſe to call it an *elective* attraction between them, or ſolution of the water in the fire, it is impoſſible that the vapour can be condenſed until this union, attraction, or ſolution, be at an end. The beginning of the condenſation of the vapour then, or the firſt ſymptoms of an approaching rain, muſt be the ſeparation of the fire which lies hid in the vapour. This may be at firſt ſlow and partial, or it may be ſudden and violent: in the firſt caſe, the rain will come on ſlowly, and after a conſiderable interval; and in the other, it will be very quick, and in great quantity. But Dr Black hath proved, that when fire quits its latent ſtate, however long it may have lain dormant and inſenſible, it always aſſumes its proper qualities again, and affects the thermometer as though it had never been abſorbed. The conſequence of this muſt be, that in proportion as the latent heat is diſcharged from the vapour, it muſt ſenſibly affect thoſe parts of the atmoſphere into which it is diſcharged; and in proportion to the heat communicated to theſe, they will become ſpecifically lighter, and the mercury ſink of courſe. Neither are we to imagine that the quantity of heat diſcharged by the vapour is inconſiderable; for Dr Black hath ſhown, that when any quantity of water, a pound for inſtance, is condenſed from the vapour of a common ſtill, as much heat is communicated to the head and refrigeratory as would have been ſufficient to heat the pound of water red hot, could it have borne that degree of ſenſible heat.

The cauſes by which this ſeparation between the fire and water is, or may be, effected, come to be conſidered under the articles RAIN, CONDENSATION, VAPOUR, &c. Here we have only to obſerve, that as the ſeparation may be gradual and ſlow, the barometer may indicate rain for a conſiderable time before it happens: or if the ſenſible heat communicated from the vapour to the atmoſphere ſhall be abſorbed by the colder parts, or by any unknown means carried off, or prevented from affecting the ſpecific gravity of the air, the barometer will not be affected; and yet the water being deprived of the heat neceſſary to ſuſtain it, muſt deſcend in rain; and thus it is found that the indications of the barometer do not always hold true. Hence alſo it appears, that tho' the ſpecific gravity of the air is diminiſhed, unleſs that diminution proceeds from a diſcharge of the latent heat contained in the vapours, no rain will follow; and thus the ſinking of the barometer may prognoſticate wind as well as rain, or ſometimes nothing at all.

The difficulty, however, on this hypotheſis, is to account for the barometer being ſtationary in all weathers between the tropics; whereas it ought to move up and down there as well as here, only more ſuddenly, as the changes of weather there are more ſudden than here. But it muſt be conſidered, that in theſe climates, during the day-time, the action of the ſun's rays is ſo violent, that what is gained by the diſcharge of latent heat from the vapour, is loſt by the interpoſition of the clouds betwixt the ſun and earth, or by the great evaporation which is conſtantly going on; and in the night, the cold of the atmoſphere is ſo much increaſed, that it abſorbs the heat as faſt as the vapour diſcharges it, ſo that no ſenſible effect can be produced; for in warm climates, though the day is exceſſively hot, the night is obſerved to be vaſtly colder in proportion than it is with us. This, however, does not prevent the barometer from being affected by other cauſes, as well as with us; for Dr Halley obſerves, that in the time of hurricanes it ſinks very low. The cauſe of this is moſt probably a great commotion in the electric fluid, by which the air is internally agitated, and its power of gravitation in part ſupended.—A confirmation of the above hypotheſis, however, is taken from the different heights at which the mercury arrives in different climates. The barometer-range, for inſtance, at the latitude of 45° is the greateſt of all; becauſe here the evaporation and condenſation of the vapours are both very conſiderable, at the ſame time that the latent heat diſcharged cannot be abſorbed ſo ſuddenly as in the torrid zone, the difference betwixt the length of the days and nights being greater, and conſequently the nights warmer in ſummer and colder in winter. Farther to the northward the range is leſs, and in the latitude of 60° only two inches, by reaſon of the greater cold and length of the days and nights; whence the quantity of vapour condenſed, or of latent heat expelled, becomes proportionably leſs.

24 Different kinds of barometers deſcribed.

Having thus given an account of the ſeveral phenomena of the barometer conſidered as a weather-glaſs, and likewiſe endeavoured to account for them in the moſt ſatisfactory manner, we now proceed to give a particular deſcription of the barometers moſt commonly made uſe of, with various ſchemes for their improvement.

Plate XCII.

Fig. 1. repreſents the common barometer, ſuch as was invented by Torricelli, and ſuch as we have already given a general deſcription of. A B repreſents a tube of glaſs, a quarter of an inch in diameter, and 34 inches long, hermetically ſealed at A. This tube being ſuppoſed to be filled with mercury, is then inverted into the baſon CD; upon which the mercury in the tube falls down to GH, ſomewhat above 28 inches, while that in the baſon riſes to CF. The loweſt ſtation of the mercury in England is found to be 28 inches, and the higheſt 31. From the ſurface of the mercury CF, therefore, 28 inches are to be meaſured on the tube AB, which ſuppoſe to reach to the point K. This point, therefore, is the loweſt of the ſcale of variation, and in the common barometers is marked *ſtormy*. In like manner, the higheſt point of the ſcale of variation I, is placed 31 inches above EF; and is marked *very dry* on one ſide for the ſummer, and *very hard froſt* on the other for the winter. The next half inch below is marked *ſet fair* on the one ſide, and *ſet froſt* on the other. At 30 inches from CF is marked the word *fair* on one ſide, and *froſt* on the other. Half an inch below that, is wrote the word *changeable*, which anſwers both for ſummer and winter. At 29 inches is *rain* on the one ſide, and *ſnow* on the other, and at 28½ are the words *much rain* on the one ſide, and *much ſnow* on the other. Each of theſe large diviſions is uſually ſubdivided into ten; and there is a ſmall ſliding index fitted to the inſtrument, by which the aſcent or deſcent of the mercury to any number of diviſions is pointed out. Each of theſe tenths is ſometimes divided into *ten* more, or *hundredths* of an inch, by means of a ſliding ſlip of braſs with a *vernier* ſcale on it, which ſhall be hereafter deſcribed and explained. This kind of barometer is the moſt common, and perhaps the moſt uſeful and accurate, of any that has yet been invented, from the following circumſtance, that the natural ſimplicity of its conſtruction, in preference to others hereafter deſcribed, does not admit of any kind of reſiſtance to the free motion of the column of mercury in the tube. The ſcale of variation being only three inches, and it being naturally wiſhed to diſcover more minute variations than can thus be perceived, ſeveral improvements have been thought of.

The improvement moſt generally adopted is the diagonal barometer repreſented fig. 2. in which the ſcale of variation, inſtead of three inches, may be made as many feet, by bending the tube ſo as to make the upper part of it the diagonal of a parallelogram of which the ſhorteſt ſide is the three-inch ſcale of variation of the common barometer. This, however, has a very great inconvenience: for not only is the friction of the mercury upon the glaſs ſo much increaſed that the height doth not vary with every ſlight change of air; but the column of mercury is apt to break in the tube, and part of it to be left behind, upon any conſiderable deſcent.

Fig. 3. is the rectangular barometer; where AC repreſents a pretty wide cylinder of glaſs, from which proceeds the tube CDF bent into a right angle at D. Suppoſe now the cylinder AC to be four times larger than the tube CD, ſo that every inch of the cylinder from C to A ſhould be equal in capacity to four inches of the tube CD. The whole being then filled with mercury, and inverted, the mercury will ſubſide from A to B, at the ſame time that it cannot run out at the open orifice F, becauſe the air preſſes in that way. If any alteration then happens in the weight of the air, ſuppoſe ſuch as would be ſufficient to raiſe the mercury an inch from B towards A, it is evident that this could not be done without the mercury in the horizontal leg retiring four inches from E towards D; and thus the ſcale of variation counted on the horizontal leg would be 12 inches. But the inconveniences of friction are much greater here than in the diagonal barometer; and beſides, by the leaſt accident the mercury is apt to be driven out at the open orifice F.

The pendant barometer (fig. 4.) conſiſts of a ſingle tube, ſuſpended by a ſtring faſtened to the end A. This tube is of a conical or tapering figure, the end A being ſomewhat leſs than the end B. It is hermetically ſealed at A, and filled with mercury: then will the mercury ſink to its common ſtation, and admit of a length of altitude CD, equal to that in the common barometers. But from the conical bore of the tube, the mercury will deſcend as the air grows lighter, till it reaches its loweſt altitude, when the mercury will ſtand from the lower part of the tube B to E, ſo that BE will be equal to 28 inches: conſequently the mercury will, in ſuch a tube, move from A to E, or 32 inches, if the tube be five feet, or 60 inches; and therefore

BAROMETER

Plate XCII

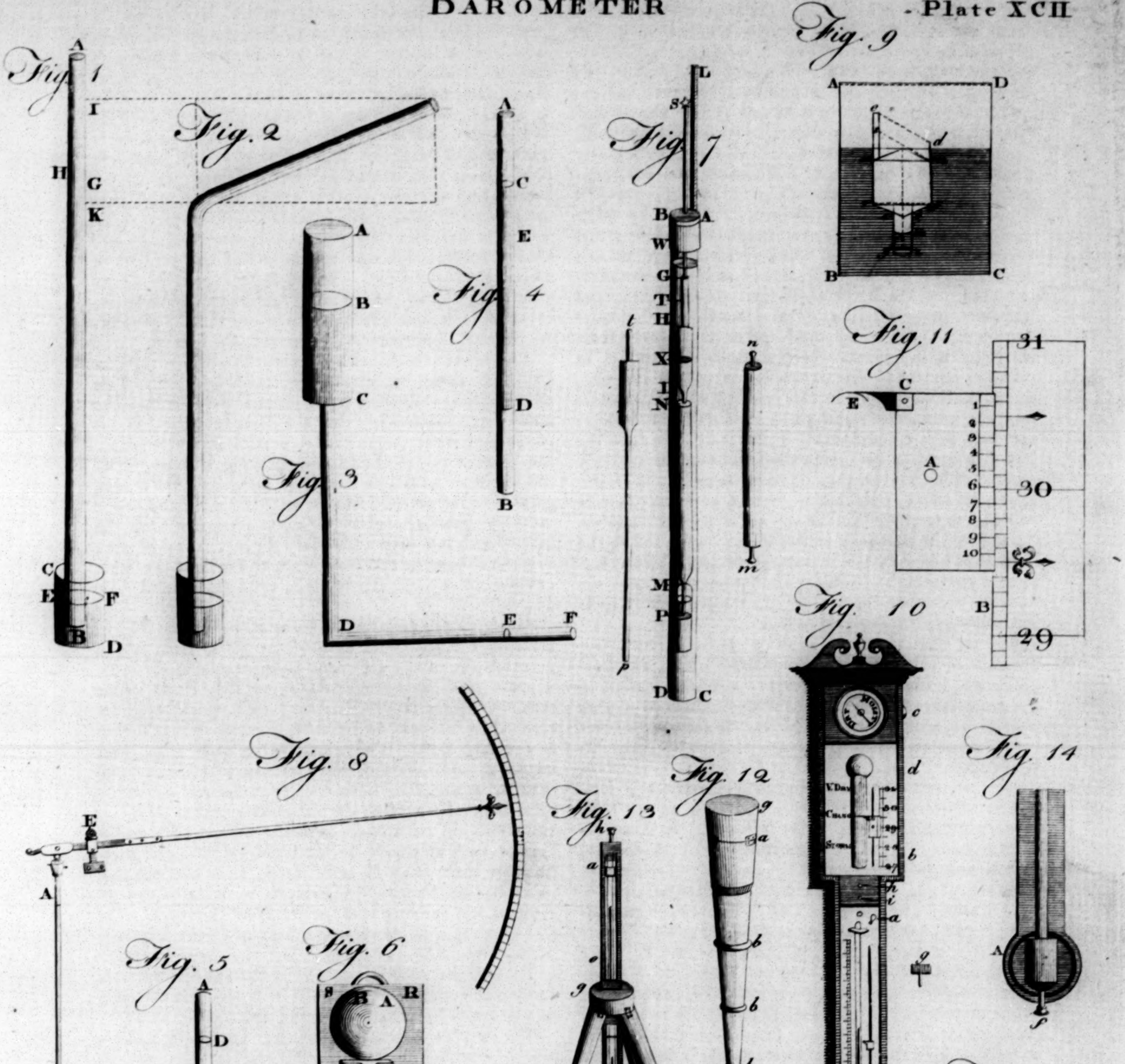
Fig. 1
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H
G
K
C
E
F
B
D
Fig. 2
Fig. 3
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B
C
D
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Fig. 4
A
C
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Fig. 7
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Fig. 9
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Fig. 11
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Fig. 8
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Fig. 5
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Fig. 6
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Fig. 13
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Fig. 12
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Fig. 10
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Fig. 14
A
f
Fig. 15
BASALTES

Scot Philad.a

BRITISH
MUSEUM

the ſcale AE is here above ten times greater than in the common barometer: but the fault of this barometer is, that the tube being of a very ſmall bore, the friction will be conſiderable, and prevent its moving freely; and if the tube is made of a wider bore, the mercury will be apt to fall out.

Fig. 5. is an invention of Mr Rowning, by which the ſcale of variation may be increaſed to any length, or even become infinite. ABC is a compound tube hermetically ſealed at A, and open at C, empty from A to D, filled with mercury from thence to B, and from thence to E with water. Let GBH be a horizontal line; then it is plain from the nature of the ſiphon, that all the compound fluid contained in the part from H to G, will be always *in æquilibrio* with itſelf, be the weight of the air what it will, becauſe the preſſure at H and G muſt be equal. Whence it is evident, that the column of mercury DH is *in æquilibrio* with the column of water GE, and a column of air taken conjointly, and will therefore vary with the ſum of the variations of theſe. That the variation in this barometer may be infinite, will appear from the following computation. Let the proportion between the bores of the tube AF and FC be ſuch, that when HD, the difference of the legs wherein the mercury is contained, is augmented one inch, GE, the difference of the legs wherein the water is contained, ſhall be diminiſhed 14: then, as much as the preſſure of the mercury is augmented, that of the water will be diminiſhed, and ſo the preſſure of both taken together will remain as it was; and conſequently, after it has begun to riſe, it will have the ſame tendency to riſe on, without ever coming to an equilibrium with the air.

Fig. 6. repreſents Dr Hook's wheel-barometer. Here ACDG is a glaſs tube, having a large round head at A, and turned up at the lower end F. Upon the ſurface of the mercury in the bent leg is an iron ball G, with a ſtring going over a pulley CD. To the other end of the ſtring is faſtened a ſmaller ball H, which as the mercury riſes in the leg FG, turns the index KL from N towards M, on the graduated circle MNOP; as it riſes in the other leg, the index is carried the contrary way by the deſcent of the heavier ball G, along with the mercury. The friction of this machine, however, unleſs it is made with very great accuracy, renders it uſeleſs.

Fig. 7. is another barometer, invented by Mr Rowning, in which alſo the ſcale may be infinite. ABCD is a cylindrical veſſel, filled with a fluid to the height W, in which is immerged the barometer SP conſiſting of the following parts: The principal one is the glaſs tube TP (repreſented ſeparately at *tp*), whoſe upper end T is hermetically ſealed: this end does not appear to the eye, being received into the lower end of a tin pipe GH, which in its other end G receives a cylindric rod or tube ST, and thus fixes it to the tube TP. This rod ST may be taken off, in order to put in its ſtead a larger or a leſſer as occaſion requires. S is a ſtar at the top of the rod ST; and ſerves as an index by pointing to the graduated ſcale LA, which is fixed to the cover of the veſſel ABCD. MN is a large cylindrical tube made of tin (repreſented ſeparately at *mn*), which receives in its cavity the ſmaller part of the tube TP, and is well cemented to it at both ends, that none of the fluid may get in. The tube TP, with this apparatus, being filled with mercury, and plunged into the baſon MP, which hangs by two or more wires upon the lower end of the tube MN, muſt be ſo poiſed as to float in the liquor contained in the veſſel ABCD; and then the whole machine riſes when the atmoſphere becomes lighter, and *vice verſa*. Let it now be ſuppoſed, that the fluid made uſe of is water; that the given variation in the weight of the atmoſphere is ſuch, that by preſſing upon the ſurface of the water at W, the ſurface of the mercury at X may be raiſed an inch higher (meaſuring from its ſurface at P) than before; and that the breadth of the cavity of the tube at X, and of the baſon at P, are ſuch, that by this aſcent of the mercury, there may be a cubic inch of it in the cavity X more than before, and conſequently in the baſon a cubic inch leſs. Now, upon this ſuppoſition, there will be a cubic inch of water in the baſon more than there was before; becauſe the water will ſucceed the mercury, to fill up its place. Upon this account the whole machine will be rendered heavier than before by the weight of a cubic inch of water, and therefore will ſink, according to the laws of hydroſtatics, till a cubic inch of that part of the rod WS, which was above the ſurface of the water at W, comes under it. Then, if we ſuppoſe this rod ſo ſmall, that a cubic inch of it ſhall be 14 inches in length, the whole machine will ſink 14 inches lower into the fluid than before; and conſequently the ſurface of the mercury in the baſon will be preſſed, more than it was before, by a column of water 14 inches high. But the preſſure of 14 inches of water is equivalent to one of mercury; this additional preſſure will make the mercury aſcend at X as much as the ſuppoſed variation in the weight of the air did at firſt. This aſcent will give room for a ſecond cubic inch of water to enter the baſon; the machine will therefore be again rendered ſo much heavier, and will ſubſide 14 inches farther, and ſo on *in infinitum*. If the rod was ſo ſmall that more than fourteen inches of it were required to make a cubic inch, the variation of this machine would be negative with reſpect to the common barometer; and inſtead of coming nearer to an equilibrium with the air by its aſcent or deſcent, it would continually recede farther from it: but if leſs than 14 inches of rod were required to make a cubic inch, the ſcale of variation would be finite, and might be made in any proportion to the common one. Neither this nor the other infinite barometer have ever been tried, ſo that how far they would anſwer the purpoſes of a barometer is as yet unknown.

Fig. 8. repreſents another contrivance for enlarging the ſcale of the barometer to any ſize.—AB is the tube of a common barometer open at B and ſealed at A, ſuſpended at the end of the lever which moves on the fulcrum E.—CD is a fixed glaſs tube, which ſerves in place of the ciſtern. This laſt tube muſt be ſo wide as to allow the tube AB to play up and down within it.—AB being filled with mercury, is nearly counterbalanced by the long end of the lever. When the atmoſphere becomes lighter, the mercury deſcends in the long tube, and the ſurface of the mercury riſing in the ciſtern puſhes up the tube AB, which at the ſame time becoming lighter, the lever preponderates, and points out the moſt minute variations. Here too the

the friction occaſions inconveniences; but this may be in ſome meaſure remedied by a ſmall ſhake of the apparatus at at each inſpection.

In the Philoſophical Tranſactions, Mr Caſwell gives the following account of a barometer, which is recommended by Mr Chambers as the moſt exact hitherto invented. "Let ABCD (Fig. 9.) repreſent a bucket of water, in which is the barometer *erezoſm*, which conſiſts of a body *erſm*, and a tube *ezyo*: the body and tube are both concave cylinders communicating with one another, and made of tin: the bottom of the tube *zy*, has a lead weight to ſink it ſo that the top of the body may juſt ſwim even with the ſurface of the water by the addition of ſome grain weights on the top. The water, when the inſtrument is forced with its mouth downwards, gets up into the tube to the height *yu*. There is added on the top a ſmall concave cylinder, which I call the *pipe*, to diſtinguiſh it from the bottom ſmall cylinder which I call the *tube*. This pipe is to ſuſtain the inſtrument from ſinking to the bottom: *md* is a wire; *ms*, *de*, are two threads oblique to the ſurface of the water, which threads perform the office of diagonals; for that while the inſtrument ſinks more or leſs by the attraction of the gravity of the air, there, where the ſurface of the water cuts the thread, is formed a ſmall bubble: which bubble aſcends up the thread, as the mercury in the common barometer aſcends."

The dimenſions of this inſtrument given there are, 21 inches for the circumference of the body, the altitude 4, each baſe having a convexity of $6\frac{1}{2}$ inches. The inner circumference of the tube is 5.14 inches, and its length $4\frac{1}{2}$; ſo that the whole body and tube will contain almoſt $2\frac{1}{2}$ quarts. The circumference of the pipe, that the machine may not go to the bottom on every ſmall alteration of the gravity of the air, is 2.14 inches; according to which dimenſions, he calculates that it will require 44 grains to ſink the body to the bottom, allowing it only four inches to deſcend; at the ſame time that it is evident, that the fewer grains that are required to ſink it to this depth, the more nice the barometer will be. He alſo calculates, that when the mercury in the common barometer is $30\frac{1}{2}$ inches high, the body with a weight of 44 grains on its top will be kept *in æquilibrio* with the water; but when the mercury ſtands at 28 inches, only 19 grains can be ſupported: and laſtly, by computing the lengths of the diagonal threads, &c. he finds, that his inſtrument is 1200 times more exact than the common barometer. The following are his obſervations on the uſe of it.

25
Mr Caſwell's obſervations with his barometer.

"1. While the mercury of the common barometer is often known to be ſtationary 24 hours together, the bubble of the new barometer is rarely found to ſtand ſtill one minute.

"2. Suppoſe the air's gravity increaſing, and accordingly the bubble aſcending; during the time that it aſcends 20 inches, it will have many ſhort deſcents of the quantity of half an inch, one, two, three, or more inches; each of which being over, it will aſcend again. Theſe retroceſſions are frequent, and of all varieties in quantity and duration; ſo that there is no judging of the general courſe of the bubble by a ſingle inſpection, though you ſee it moving, but by waiting a little time.

"3. A ſmall blaſt of wind will make the bubble deſcend; a blaſt that cannot be heard in a chamber of the town will ſenſibly force the bubble downward. The blaſts of wind ſenſible abroad, cauſe many of the abovementioned retroceſſions or accelerations in the general courſe; as I found by carrying my barometer to a place where the wind was perceptible.

"4. Clouds make the bubble deſcend. A ſmall cloud approaching the zenith, works more than a great cloud near the horizon. In cloudy weather, the bubble deſcending, a break of the clouds (or clear place) approaching to the zenith, has made the bubble to aſcend: and after that break had paſſed the zenith a conſiderable ſpace, the bubble again deſcended.

"5. All clouds (except one) hitherto by me obſerved, have made the bubble to deſcend. But the other day, the wind being north, and the courſe of the bubble deſcending, I ſaw to the windward a large thick cloud near the horizon, and the bubble ſtill deſcended: but as the cloud drew near the zenith, it turned the way of the bubble, making it to aſcend; and the bubble continued aſcending till the cloud was all paſſed, after which it reſumed its former deſcent. It was a cloud that yielded a cold ſhower of ſmall hail."

26
Marine barometer by Mr Hook.

Theſe are the moſt remarkable contrivances for the improvement of the common barometer: and indeed we muſt agree with Mr Chambers, that the laſt, on account of its being ſo exceedingly ſenſible, and likewiſe eaſy of conſtruction and portable, ſeems to deſerve attention much more than the others, which are always the more unexact, and the leſs eaſily moved, according to the enlargement of their ſcale; whereas this is ſeemingly ſubject to no ſuch inconvenience. It is evident, however, that none of theſe could be uſed at ſea, on account of the unſteady motion of the ſhip: for which reaſon Dr Hook thought of conſtructing a barometer upon other principles.

27
Recommended by Dr Halley.

His contrivance was no other than two thermometers. The one was the common ſpirit-of-wine thermometer, which is affected only by the warmth of the air: the other, which acts by the expanſion of a bubble of air included, is affected not only by the external warmth, but by the various weight of the atmoſphere. Therefore, keeping the ſpirit thermometer as a ſtandard, the exceſs of the aſcent or deſcent of the other above it would point out the increaſe or decreaſe of the ſpecific gravity of the atmoſphere. This inſtrument is recommended by Dr Halley, who ſpeaks of it as follows. "It has been obſerved by ſome, that, in long keeping this inſtrument, the air included either finds a means to eſcape, or depoſits ſome vapours mixed with it, or elſe for ſome other cauſe becomes leſs elaſtic, whereby in proceſs of time it gives the height of the mercury ſomewhat greater than it ought: but this, if it ſhould happen in ſome of them, hinders not the uſefulneſs thereof, for that it may at any time very eaſily be corrected by experiment, and the riſing and falling thereof are the things chiefly remarkable in it, the juſt height being barely a curioſity.

"I had one of theſe barometers with me in my late ſouthern voyage, and it never failed to prognoſticate and give early notice of all the bad weather we had, ſo that I depended thereon, and made proviſion accordingly; and from my own experience I conclude, that a more uſeful contrivance hath not for this long time been offered for the benefit of navigation."

28
Chamber barometer by Mr William Jones.

Fig. 10. repreſents a kind of *Chamber Barometer*, or a complete inſtrument for obſerving in a fixed place, ſuch as a room, &c. the changes in the atmoſphere. It is conſtructed by Mr W. Jones optician, London; and conſiſts of barometer *d*, thermometer *aa*, and hygrometer *c*, all in one mahogany frame. One advantage of this inſtrument is, that either the thermometer or hygrometer may be taken from the frame, and occaſionally made uſe of in another place if required. The thermometer is ſeparated by only unſcrewing two ſcrews *a*, *a*; and the hygrometer, by unſcrewing a braſs pin at the back of the frame, not ſeen in this figure. The index of the hygrometer is at any time ſet, by only moving with your finger the braſs wheel ſeen at *c*; the two ſliding indexes of the barometer and thermometer are moved by a rack-work motion, ſet in action by the key *g* placed in the holes *h* and *i*. The diviſions of the barometer plate *b* are in *tenths* of an inch, from 28 to 31 inches; theſe again ſubdivided into *hundredths* by means of the *vernier ſcale* placed oppoſitely on a ſliding ſlip of braſs ſimilar to the common barometers, moſt of which are now made with this *vernier*. On this vernier are *ten equal parts*, or diviſions; (ſee A, fig. 11. which for the ſake of perſpicuity is drawn larger). All of theſe together are equal juſt to eleven of thoſe on the ſcale of inches; that is, to eleven tenths. By this artifice the height of the mercury at E is evident by inſpection only, to the one hundredth part of an inch. To underſtand this, nothing more is neceſſary than to conſider, that *one tenth part of a tenth of an inch* is the *one hundredth part of an inch*. Now every tenth of an inch in the ſcale B is divided into ten equal parts by the ſlip or *vernier* A: for ſince ten diviſions on that exceed ten on the ſcale by one diviſion, that is, by one tenth of an inch; therefore one diviſion on the vernier will exceed one diviſion on the ſcale by *one-tenth part*; and two diviſions on the *vernier* will exceed two on the ſcale by *two tenths*, and ſo on: Therefore every diviſion on the *vernier* will exceed the ſame number of diviſions on the ſcale *by ſo many tenths of a tenth*, or *by ſo many hundredth parts of an inch*. Therefore the ten equal diviſions of an inch on the ſcale B, muſt be looked upon as ſo many *ten hundredth parts of an inch*, and numbered thus, 10. 20. 30. 40, &c. parts of an inch; then the *vernier* gives the unit to each ten, thus: Set the index C very nicely to the top of the ſurface of the mercury E; and if at the ſame time the beginning of the diviſions at C coincide with a line of diviſion in the ſcale B, then it ſhows the altitude of the mercury in *inches* and *tenths of an inch* exactly. But ſuppoſe the index line C of the *vernier* falls *between* two diviſions or tenths on the ſcale B, then there will be a coincidence of lines in both at that number of the vernier, which ſhows how many tenth parts of that tenth the index of the vernier has paſſed the laſt decimal diviſion of the ſcale. Thus, for example, ſuppoſe the index of the vernier were to point ſomewhere between the ſixth and ſeventh tenth above 30 on the ſcale: then if, by looking down the *vernier*, you obſerve the coincidence at number 8, it ſhows that the altitude of the mercury is 30 inches and 68 parts of a hundredth of another inch; or ſimply thus, 30.68 inches.

29
Method of uſing the vernier ſcale.

The ſcrew at fig. 10. ſerves to preſs the mercury quite up into the tube, when required to be much moved or carried about, thereby rendering the barometer of the kind called *portable*. To the lower extremity of the tube (ſee fig. 14.) is cemented a wooden reſervoir A, with a kind of leathern bag at bottom, the whole containing the mercury, but not quite full: and though the external air cannot get into the bag to ſuſpend the mercury in the tube, by preſſing on its ſurface, as in the common one; yet it has the ſame effect by preſſing on the outſide of the bag; which being flexible, yields to the preſſure, and keeps the mercury ſuſpended in the tube to its proper height. Through the under part of the frame paſſes the ſcrew *f*, with a flat round plate at its end; by turning of this ſcrew, the bag may be ſo compreſſed as to force the mercury up to the top of the tube, which keeps it ſteady, and hinders the tube from breaking by the mercury daſhing againſt the top when carried about, which it is otherwiſe apt to do.

30
Marine barometer by Mr Nairne.

A new kind of marine barometer hath lately been invented by Mr Nairne. It differs from the common one in having the bore of the tube ſmall for about two feet in its lower part; but above that height it is enlarged to the common ſize. Through the ſmall part of the inſtrument the mercury is prevented from aſcending too haſtily by the motion of the ſhip; and the motion of the mercury in the upper wide part is conſequently leſſened. Much is found to depend on the proper ſuſpenſion of this inſtrument; and Mr Nairne has ſince found, by experiment, the point from which it may be ſuſpended ſo as not to be affected by the motion of the ſhip.

31
By Paſſemente.

Another marine barometer has been invented by one Paſſemente, a French artiſt. It is only a common one having the middle of the tube twiſted into a ſpiral conſiſting of two revolutions. By this contrivance, the impulſes which the mercury receives from the motions of the ſhip are deſtroyed by being tranſmitted in contrary directions.

32
Barometer applied to the menſuration of altitudes.

We muſt now ſpeak of the barometer in its ſecond character, namely, as an inſtrument for meaſuring acceſſible altitudes. This method was firſt propoſed by M. Paſcal; and ſucceeding philoſophers have been at no ſmall pains to aſcertain the proportion between the ſinking of the mercury and the height to which it is carried. For this purpoſe, however, a new improvement in the barometer became neceſſary, viz. the making of it eaſily portable from one place to another, without danger of its being broken by the motion of the mercury in the tube; which was effected by the contrivance already mentioned.

33
Statical barometer.

Among the number of portable barometers we may perhaps reckon what Mr Boyle called his *Statical* Barometer. It conſiſted of a glaſs bubble, about the ſize of a large orange, and blown very thin, ſo as to weigh only 70 grains. This being counterpoiſed by braſs weights in a pair of ſcales that would turn with the 30th part of a grain, was found to act as a barometer. The reaſon of this was, that the ſurface of the bubble was oppoſed to a vaſtly larger portion of air than that of the braſs weight, and conſequently liable to be affected by the various ſpecific gravity of the atmoſphere: thus, when the air became ſpecifically light, the bubble deſcended, and *vice verſa*; and thus, he ſays, he could have perceived variations of the atmoſphere no greater than would have been ſufficient to raiſe or lower the mercury in the common barometer an eighth part of an inch.

34
Method of meaſuring the changes of the air by the ſound of a wire.

To theſe we may add an account of a new and very ſingular barometer mentioned by M. Lazowſki in his tour through Switzerland. "A Curé, ſhortſighted, who nevertheleſs amuſed himſelf with firing at a mark, thought of ſtretching a wire in ſuch a manner as to draw the mark to him, in order to ſee how he had aimed. He obſerved, that the wire ſometimes ſounded as if it had been oſcillatory; and that this happened when a change was about to enſue in the atmoſphere; ſo that he came to predict with conſiderable accuracy when there was to be rain or fine weather. On making further experiments, it was obſerved, that this wire was more exact, and its ſounds more diſtinct, when extended in the plane of the meridian than in other poſitions. The ſounds were more or leſs ſoft, and more or leſs continued, according to the changes of weather that were to follow; though the matter was not reduced to any accuracy, and probably is not capable of much. Fine weather, however, was ſaid to be announced by the ſounds of counter tenor, and rain by thoſe of baſs. M. Volta was ſaid to have mounted 15 chords at Pavia, in order to bring this method to ſome perfection; but there are as yet no accounts of his ſucceſs.

35
Difficulties in meaſuring heights by the barometer.

The portable barometer, as already obſerved, has long been in uſe for the menſuration of acceſſible altitudes; and, in ſmall heights, was found to be more exact than a trigonometrical calculation, the mercury deſcending at the rate of about one inch for 800 feet of height to which it was carried: but, in great heights, the moſt unaccountable differences were found between the calculation of the moſt accurate obſervers; ſo that the ſame mountain would ſometimes have been made thouſands of feet higher by one perſon than another; nay, by the ſame perſon at different times. All theſe anomalies M. de Luc of Geneva undertook to account for, and to remove; and in this undertaking he perſiſted with incredible patience for 20 years. The reſult of his labour is as follows.

36
Removed by M. De Luc.

The firſt cauſe of irregularity obſerved was a fault in the barometer itſelf. M. de Luc found, that two barometers, though perfectly alike in their appearance, did not correſpond in their action. This was owing to air contained in the tube. The air was expelled by boiling the mercury in them; after which, the motions of both became perfectly conſonant. That the tubes may bear boiling, they muſt not be very thick, the thickneſs of the glaſs not above half a line, and the diameter of the bore ought to be from two and an half to three lines. The operation is performed in the following manner; A chafing-diſh with burning coals is placed on a table; the tube hermetically ſealed at one end, is inverted, and filled with mercury within two inches of the top; the tube is gradually brought near the fire, moving it obliquely up and down, that the whole length of it may be heated; and advancing it nearer and nearer, till it is actually in the flame, the globules of air begin to move viſibly towards the top. The boiling at laſt commences; and it is eaſy to make it take place from one end to the other, by cauſing the ſeveral parts of the tube ſucceſſively paſs with rapidity through the flame. By this operation the mercury is freed from all aerial particles, particularly thoſe which line the inſide of the tube, and which cannot eaſily be got clear of by any other method. When this laſt ſtratum of air is diſcharged, the tube may be afterwards emptied, and filled even with cold mercury, when it will be found nearly as free of air as before. The mercury in the tube thus prepared by a determinate quantity of heat, will riſe higher than thoſe in the common ſort, and the barometers will more nearly correſpond with each other; whereas there will be a difference of ſix or eight lines in the aſcent of mercury in the common barometers. Inſtruments of this kind riſe uniformly in a heated room, whilſt thoſe of the common kind deſcend in different proportions. On cooling the room, the former deſcend uniformly, while the latter deſcend unequally, by reaſon of the unequal proportions of air in them.

37
Mercury how boiled in the tubes with the effects.

38
Variation of the height of the mercury by heat.

The next cauſe of variation was a difference of temperature. To diſcover the effects of heat on the mercury, ſeveral barometers were choſen that for a long time had been perfectly conſonant in their motions. One of theſe was placed in an apartment by itſelf, to mark the change in the external air, if any ſhould happen. The reſt were ſituated in another apartment, along with three thermometers, graduated according to the ſcale of M. de Reamur, and exactly correſpondent with one another. The point at which the mercury ſtood when the experiment began, was carefully noted, and alſo the preciſe height of the thermometers. The latter apartment then was gradually heated; and with ſo much uniformity, that the thermometers continued ſtill to agree. When the heat had been augmented as much as poſſible, the altitudes both of the barometers and thermometers were again accurately marked, to aſcertain the differences that correſponded to one another. This experiment was repeated ſeveral times with next to no variation; and from the barometer in the firſt apartment it appeared, that no ſenſible alteration had taken place in the external air. Hence M. de Luc found, that an increaſe of heat ſufficient to raiſe the thermometer from the point of melting ice to that of boiling water, augments the height of the mercury in the barometer preciſely ſix lines; and therefore, dividing the diſtance between theſe two points on the thermometer into 96 equal parts, there will be $\frac{1}{16}$th of a line to add to, or ſubtract from, the height of the mercury in the barometer, for every degree of variation of the thermometer ſo graduated. A ſcale of this kind, continued above boiling or below freezing water, accompanies his portable barometer and thermometer.—So accurate, he ſays, did long practice make him in barometrical obſervations, that he could diſtinguiſh a variation of $\frac{1}{31}$ of a line in the height of the mercury. He allows of no inclination of the tube, or other means to augment the ſcale, as all theſe methods diminiſh the accuracy of the inſtrument. Two obſervations are always required to meaſure the altitude of a mountain: one with a barometer left on the plain, and another on the ſummit; and both muſt be accompanied with a thermometer.

39 M. De Luc's portable barometer.

His portable barometer conſiſts of two tubes, one of 34 French inches in length; and from the top, for this length, perfectly ſtraight; but below this, it is bent round, ſo that the lower end turns up for a ſhort ſpace parallel to the ſtraight part. On this open end is fixed a cock, and on the upper ſide of this cock is placed another tube, of the ſame diameter with the former, eight inches in length, open at both ends, and communicating with the long tube, through the cock. When the barometer is carried from one place to another, it is inverted very ſlowly, to hinder any air getting in; the quickſilver retires into the long tube on which the key of the cock is turned; and to preſerve the cock from too great preſſure of the mercury, the barometer is conveyed about in this inverted poſture. When an obſervation is to be made, the cock is firſt opened; the tube is then turned upright, very ſlowly, to prevent, as much as poſſible, all the vibration of the mercury, which diſturbs the obſervation; and, according to the weight of the atmoſphere, the mercury falls in the longer branch, and riſes up through the cock, into the ſhorter.

The whole of the cock is made of ivory, except the key. The extremities of the tubes are wrapped round with the membrane employed by the gold-beaters, done over with fiſh-glue, in order to fix them tight, the one in the lower, and the other in the upper, end of the perpendicular canal of the cock. The part of the key that moves within the cock is of cork, and the outward part or the handle is of ivory. The cork is faſtened firmly to the ivory by means of a broad thin plate of ſteel, which cuts both the ivory and cork, lengthwiſe, through the centre, and reaches inward to the hole of the key. This plate alſo counteracts the flexibility of the cork and makes it obey the motion of the handle, notwithſtanding it is very conſiderably compreſſed by the ivory, to render it tight. That this compreſſion may not abridge the diameter of the hole of the key, it is lined with a thin hollow ivory cylinder, of the ſame diameter with the tubes.

On the upper end of the ſhorter tube is fixed, in the intervals of obſervation, a kind of funnel, with a ſmall hole in it, which is ſhut with an ivory ſtopple. The uſe of it is to keep the tube clean; to replace the mercury that may have made its way through the cock in conſequence of any dilatation; and likewiſe to replace the mercury taken out of the ſhorter tube; after ſhutting the cock, on finiſhing an obſervation; becauſe, when the mercury is left expoſed to the air, it contracts a dark pellicle on its ſurface, that ſullies both itſelf and the tube. The ſhorter tube ſhould be wiped from time to time, by a little bruſh of ſponge fixed on the end of a wire.

The barometer, thus conſtructed, is placed in a long box of fir, the two ends of which are lined on the inſide with cuſhions of cotton covered with leather. This box may be carried on a man's back, like a quiver, either walking or riding; and ſhould have a cover of wax-cloth, to defend it againſt rain. It ſhould be kept at ſome diſtance from the body of the man, and be protected from the ſun by an umbrella, when near the the place of obſervation, to prevent its being affected by any undue degree of heat. The barometer ſhould, farther, be attended with a plummet, to determine the perpendicular poſition of it; and a tripod, to ſupport it firm in that poſition at the time of obſervation.

The ſcale of the barometer begins on the long tube, at a point on a level with the upper end of the ſhort one; and riſes, in the natural order of the numbers, to 21 inches. Below the above point, the ſcale is transferred to the ſhort tube; and deſcends on it, in the natural order of the numbers, to 7 inches. The whole length of the ſcale is 28 French inches; and ſince, as the mercury falls in the one tube, it muſt riſe in the other, the total altitude will always be found by adding that part of the ſcale, which the mercury occupies in the long tube, to that part of it which the mercury does not occupy in the ſhort one. In eſtimating, however, the total fall or riſe on the long tube, every ſpace muſt be reckoned twice; becauſe, of barometers of this conſtruction, half the real variation only appears in one of the branches.

Near the middle of the greater tube is placed the thermometer abovementioned, for aſcertaining the corrections to be made on the altitude of the mercury in conſequence of any change in the temperature of the air. It is placed about the middle of the barometer, that it may partake as much as poſſible of its mean heat. The ball is nearly of the ſame diameter with the tube of the barometer, that the dilatations or condenſations of the fluids they contain may more exactly correſpond. The ſcale is divided into 96 parts; between the points of boiling water and melting ice, and the term of 0 is placed one eighth part of this interval above the lower point; ſo that there are 12 degrees below, and 84 above it. The reaſon for placing 0 here is, that as 27 French inches are about the mean height of the barometer, ſo the 12th degree above freezing is nearly the mean altitude of the thermometer. Hence, by taking theſe two points, the one for the mean altitude, and the other for the mean heat, there will be fewer corrections neceſſary to reduce all obſervations to the ſame ſtate, than if any higher or lower points had been fixed upon.

If then the barometer remains at 27 inches, and the thermometer at 0. there are no corrections whatever to be made. But if, while the barometer continues at 27 inches, the thermometer ſhall riſe any number of degrees above 0, ſo many ſixteenths of a line muſt be ſubtracted from the 27 inches, to obtain the true height of the barometer produced by the weight of the atmoſphere, and to reduce this obſervation to the ſtate of the common temperature. If, on the other hand, the thermometer ſhall fall any number of degrees below 0, while the barometer ſtill ſtands at 27 inches, ſo many ſixteenths muſt be added to that height, to obtain the true altitude.

Nothing is more ſimple than theſe corrections, when the barometer is at or near 27 inches of height. If, however, it fall ſeveral inches below this point, as the portable barometer very frequently muſt, the dilatations will no longer keep pace with the degrees of heat, after the rate of $\frac{1}{16}$ of a line for every degree of the thermometer; becauſe the columns of mercury being ſhortened, the quantity of fluid to be dilated will be diminiſhed. The truth is, the quantity of the dilatations for the ſame degree of heat is juſt as much diminiſhed as the column is ſhortened. If, then, it ſhall ſtill be found convenient to reckon the dilatations by ſixteenths of a line, theſe ſixteenths muſt be counted on a ſcale, of which the degrees ſhall be as much longer than the degrees of the firſt ſcale, as the ſhortened column of mercury is leſs than 27 inches, the height to which the length of the degrees of the firſt ſcale was adapted. For inſtance, let the mercury deſcend to 13½ inches, half the mean column, and let the thermometer aſcend 10 degrees above the mean heat; 10 ſixteenths ſhould be deduced from the mean column, for this temperature, according to the rule; but 10 half-ſixteenths only, or 5 whole ſixteenths, muſt be ſubtracted from the column of 13½ inches, becauſe the ſum of its dilatations will be half that of the former, the quantities of fluid being to one another in that proportion.

It would cauſe conſiderable embarraſſment if the ſixteenths of correction were always to be ſubdivided into leſs fractions, proportional to every half inch of deſcent of the barometer; and the ſame end is obtained in a very eaſy manner, by reckoning the corrections on different ſcales of the ſame length, but of which the degrees are longer according as the columns of the barometer are ſhorter. For example, the degrees of correction on the ſcale applicable to the column of 13½ inches, will be double in length what the ſame degrees are for the column of 27 inches; and of courſe the number of corrections will be reduced likewiſe one half, which we have ſeen by the rule they ought to be.

The author conſtructed, on a piece of vellum, ſcales with theſe properties, for no leſs than 23 columns of mercury, being all thoſe between 18 inches and 29 incluſive, counting from half inch to half inch; within which extremes, every practical caſe will be comprehended. He wrapped this vellum on a ſmall hollow cylinder, including a ſpring, like a ſpring-curtain, and fixed it on the right ſide of the thermometer. The vellum is made to paſs from right to left, behind the tube of the thermometer, and to graze along its ſurface. The obſerver, to find the corrections to be made, pulls out the vellum till the ſcale correſponding to the obſerved altitude of the barometer comes to touch the thermometer, and on that ſcale he counts them. The vellum is then let go, and the ſcrew gently furls it up.

40
His operations on the mountain of Saleve.

The author having now, as he imagined, completely finiſhed the inſtruments neceſſary for the accurate menſuration of heights; proceeded to eſtabliſh, by experiment, the altitudes correſponding to the different deſcents of the mercury. Much had been written, and many rules had been given, on this ſubject, by different eminent philoſophers, ſince the days of Paſcal, who firſt broached it: but theſe diſagreed ſo much with one another, and preſented ſo little good reaſon why any one of them ſhould be preferred, that no concluſion could with confidence be deduced from them. It became requiſite, therefore, to lay them all aſide, and to endeavour to diſcover by practice what could not be aſcertained by theory. Saleve, a mountain near Geneva, was choſen for the ſcene of theſe operations. This mountain is near 3000 French feet high. The height of it was twice meaſured by levelling, and the reſult of the menſurations differed only 10½ inches; though there intervened ſix months between them, and the total altitude was ſo conſiderable. On this mountain were choſen no leſs than 15 different ſtations, riſing after the rate of 200 feet, one above another, as nearly as the ground would admit. At theſe ſtations, it was propoſed to make ſuch a number of obſervations as might be a good foundation either for eſtabliſhing a new rule of proportion between the heights of places and the deſcents of the mercury, or for preferring ſome one of thoſe formerly diſcovered.

41
Strange anomalies of the barometer at different times of the day.

Little progreſs was made in this plan, when a phenomenon, altogether unexpected, preſented itſelf. The barometer being obſerved, at one of the ſtations, twice in one day, was found to ſtand higher in the latter obſervation than in the former. This alteration gave little ſurpriſe, becauſe it was naturally imputed to a change of the weight of the atmoſphere, which would affect the barometer on the plain in the ſame manner. But it produced a degree of aſtoniſhment, when on examining the ſtate of the latter, it was found, inſtead of correſponding with the motions of the former, to have held an oppoſite courſe, and to have fallen while the other roſe. This difference could not proceed from any inaccuracy in the obſervations, which had been taken with all imaginable care; and it was ſo conſiderable as to deſtroy all hopes of ſucceſs, ſhould the cauſe not be detected and compenſated.

The experiment was repeated ſeveral times, at intervals, that no material circumſtance might eſcape notice. An obſerver on the mountain, and another on the plain, took their reſpective ſtations at the riſing of the ſun, and continued to mark an obſervation, every quarter of an hour, till it ſet. It was found, that the lower barometer gradually deſcended for the firſt three quarters of the day; after which it reaſcended, till in the evening it ſtood at nearly the ſame height as in the morning. While the higher barometer aſcended for the firſt three fourths of the day; and then deſcended, ſo as to regain likewiſe, about ſun-ſet, the altitude of the morning.

42
Accounted for.

The following theory ſeems to account in a ſatisfactory manner for this phenomenon. When the ſun riſes above the horizon of any place, his beams penetrate the whole of the ſection of the atmoſphere of which that horizon is the baſe. They fall, however, very obliquely on the greater part of it, communicate little heat to it, and conſequently produce little dilatation of its air. As the ſun advances, the rays become more direct, and the heat and rarefaction of courſe increaſe. But the greateſt heat of the day is not felt even when the rays are moſt direct, and the ſun is in the meridian. It increaſes while the place receives more rays than it loſes, which it will do for a conſiderable time after mid-day; in like manner as the tide attains not its higheſt altitude till the moon has advanced a conſiderable way to the weſt of the meridian. The heat of the atmoſphere is greateſt at the ſurface of the earth, and ſeems not to aſcend to any great diſtance above it. The dilatations, for this reaſon, of the air, produced by the ſun, will be found chiefly, if not ſolely, near the earth. A motion muſt take place, in all directions, of the adjacent air, to allow the heated air to expand itſelf. The heated columns extending themſelves vertically, will become longer, and at the ſame time ſpecifically lighter, in conſequence of the rarefaction of their inferior parts. The motion of air, till it riſes into wind, is not rapid: theſe lengthened columns, therefore, will take ſome time to diſſipate their ſummits among the adjacent leſs rarefied columns that are not ſo high; at leaſt, they will not do this as faſt as their length is increaſed by the rarefaction of their baſes.

The reader, we preſume, anticipates the application of this theory to the ſolution of the phenomenon in queſtion. The barometer on the plain begins to fall a little after morning, becauſe the column of air that ſupports it becomes ſpecifically lighter on account of the rarefaction ariſing from the heat of the ſun. It continues to fall for the firſt three quarters of the day; becauſe, during that time, the heat, and conſequently the rarefaction, are gradually increaſing. It riſes again, after this period: becauſe the cold, and of courſe the condenſation, coming on, the ſpecific gravity is augmented by the ruſhing in of the adjacent air. The equilibrium is reſtored, and the mercury returns to the altitude of the morning.

The barometer on the eminence riſes after morning, and continues to do ſo for three-fourths of the day, for two reaſons. The denſity of the columns of air is greateſt near the earth, and decreaſes as the diſtance from it increaſes. The higher, for this reaſon, we aſcend in the atmoſphere, we meet with air ſpecifically lighter. But by the rarefaction of the baſe of the column that ſupports the mercury of the barometer on the eminence, the denſer parts of that column are raiſed higher than naturally they would be if left to the operation of their own gravity. On this account, the higher barometer is preſſed with a weight, nearly as great as it would ſuſtain, were it brought down, in the atmoſphere, to the natural place of that denſer air now raiſed above it by the prolongation of the baſe of the column. The other reaſon is, that as the rarefaction does not take place at any great diſtance from the earth, little change is produced in the ſpecific gravity of the portion of the column that preſſes on the higher barometer, and the ſummit of that column diſſipates itſelf more ſlowly than it increaſes. Thus, we ſee how this barometer muſt aſcend during the firſt three fourths of the day, and purſue a courſe the reverſe of that on the plain. The condenſations returning after this time, the denſer air ſubſides, the equilibrium takes place, and the mercury deſcends to its firſt poſition.

43
Render another pair of thermometers neceſſary.

This phenomenon prompted the idea of a ſecond pair of thermometers, to meaſure the mean heat of the column of air intercepted between the barometers. Theſe thermometers are extremely delicate and ſenſible. The tubes are the fineſt capillary, the glaſs very thin, and the diameters of the balls only three lines. The balls are inſulated, or detached from the ſcales, which are fixed to the tubes only, by ligatures of fine braſs-wire covered with ſilk. The air, by this contrivance, has free communication with the balls on all ſides; and, if the direct rays of the ſun be intercepted at ſome diſtance by a bit of paper, or even the leaf of a tree, the thermometers will quickly mark the true temperature of the air.

44
Method of computing the altitudes.

The reader, perhaps, will aſk here, Could not this end have been gained by the firſt pair of thermometers? But we muſt requeſt him to ſuſpend his judgment, till we have explained the theory of computing the altitudes from the deſcents of the mercury. He will then find the ſcales of theſe thermometers ſo different, that neither of them could, without much inconveniency, ſerve the purpoſe of the other.

The altitudes are computed by logarithms. A table of logarithms contains two ſeries of numbers, running parallel to one another. The firſt has its terms in geometrical progreſſion, and the ſecond its terms in arithmetical. The natural numbers 1, 2, 3, 4, &c. form the firſt ſeries; which, though in arithmetical progreſſion when ſtanding detached, are in geometrical in regard of the ſecond ſeries; whoſe terms are in arithmetical progreſſion, and are called *logarithms*, becauſe they expreſs the diſtance of their correſpondent terms of the geometrical progreſſion from the beginning of the ſeries.

To apply this table to the preſent purpoſe: let us ſuppoſe the whole atmoſphere divided into concentric ſpherical ſections, whoſe common centre is that of the earth. Suppoſe alſo all theſe ſections of equal thickneſs, namely, 12.497 toiſes, which is found to be the thickneſs of the loweſt ſection, and balances a line of mercury, when the barometer ſtands at 348 lines or 29 inches. Add, then, all theſe ſections together; and we ſhall have the total altitude of the atmoſphere expreſſed in an arithmetical progreſſion, whoſe common difference is 12.497 toiſes. Conſequently, in this view, the heights are proportioned to the logarithms.

It remains only to find the deſcents of the mercury, which meaſures the weights of the reſpective ſections, in geometrical proportion, in order to juſtify the application of the logarithmic table to the computation of the altitudes. Now, it is eaſy to prove, in a very ſatisfactory manner, that the mean denſities of theſe ſections, which are in proportion of their weights, muſt be in geometrical progreſſion, when the altitudes are in arithmetical; conſequently, it is with great propriety and convenience that the logarithms are employed in the computation of the altitudes correſponding to the deſcents of the mercury. For, to find the vertical diſtance between two barometers, at different heights, no more is neceſſary than to look, in a table of logarithms, for the numbers that expreſs in lines, or ſixteenths of a line, the altitudes of the two columns of mercury, and take the logarithms of theſe numbers, whoſe difference will give this diſtance accurately, in thouſandth parts of a toiſe. Multiply the toiſes by 6, which will furniſh the altitudes in French feet.

The author made about 500 different obſervations at the ſeveral ſtations on the mountain of Saleve, which both ſuggeſted and verified the computation by logarithms. Many, however, of theſe obſervations, produced concluſions that deviated conſiderably from the reſults of the actual menſuration, on account of the different temperatures in which they were taken. It was the deſign of the ſecond pair of thermometers to point out the corrections of theſe deviations. In ſettling the ſcales neceſſary for this end, the firſt object was, to mark the temperature of all the obſervations where the logarithms gave the altitudes exactly, or nearly equal to what they were found to be by levelling. This temperature correſponded to 16¾ on the ſcale of Reaumur, and to 70 on that of Fahrenheit, and as it was fixed the term 0. The next ſtep was, to determine the corrections of the heights that became neceſſary, accord-

Barometer.

ing as the ſtate of the air was warmer or colder than the fixed point. With this view, all the remaining obſervations were collected, and compared with the different temperatures in which they were taken; and from an attentive examination of theſe circumſtances, it was diſcovered, that for every 215 feet of height furniſhed by the logarithms, one foot of correction muſt be added or ſubtracted, for every degree of the thermometer, according as it ſtood above or below the term 0.

The ſcale of Reaumur did not conveniently expreſs this correction of 1 to 215. The author wiſhed to adopt the ratio of 1 to 1000, in forming a new ſcale for that purpoſe; but the diviſions would have been too ſmall. He employed, therefore, that of 1 to 500: becauſe, by doubling the degrees of the higher thermometer above or below 0; or, which amounted nearly to the ſame thing, by doubling the mean heat of the column of air in taking the ſum of the degrees of both thermometers, there reſulted the ratio of 1 to 1000. The new ſcale, then, was divided by the following proportion: As 215, the laſt term of the ratio found by Reaumur's ſcale, is to 500, the laſt term of the ratio to be applied on the new ſcale; ſo is 80, the parts between the fixed points of the firſt ſcale, to 186, the number of parts between the ſame points on the ſecond. And as 80 is to 186; ſo is $16\frac{3}{4}$, the point on Reaumur's ſcale at which the logarithms give the altitudes without correction, to 39, the point at which they give them on the new ſcale. The term 0 is placed at this point, 39 at melting ice, and 147 at that of boiling water. To reduce all obſervations to the ſame temperature by this ſcale, nothing more is neceſſary than to multiply the heights found from the logarithms, by the ſum of the degrees of both thermometers above or below 0, and to divide the product by 1000. The quotient muſt be added to, or ſubtracted from, the logarithmic height, according as the temperature is poſitive or negative.

45 Specimen of this method of menſuration.

As a ſpecimen of the author's method, we ſhall now preſent our readers with the reſult of his operations at the 15 ſtations on Saleve. In one column are marked the heights found by levelling, and oppoſite to them the ſame heights found by the barometer; to the latter are prefixed the number of obſervations of which they are the mean.

Stations.	Heights by levelling.		Numbers of obſervations.	Heights by barometer.
	feet.	inches.		feet.
1	216	2	12	$230\frac{3}{4}$
2	428	10	13	$435\frac{1}{12}$
3	586	0	13	$591\frac{11}{12}$
4	728	8	21	$732\frac{1}{2}$
5	917	0	24	$919\frac{11}{12}$
6	1218	8	27	$1221\frac{7}{12}$
7	1420	0	23	$1418\frac{11}{12}$
8	1800	0	17	$1798\frac{8}{12}$
9	1965	3	17	$1962\frac{1}{2}$
10	2211	0	17	2210
11	2333	0	17	$2331\frac{6}{12}$
12	2582	4	16	$2583\frac{11}{12}$
13	2700	0	15	$2703\frac{6}{12}$
14	2742	0	10	$2741\frac{1}{3}$
15	2926	0	11	$2924\frac{10}{12}$

From this table we preſume the reader will be inclined to entertain the moſt favourable opinion of the abilities and induſtry of Mr de Luc. Notwithſtanding the amazing pains, however, which he has taken to remove every inaccuracy in the barometer, it did not remain entirely free from error; nor in many inſtances have the obſervations made by different perſons exactly correſponded. Conſiderable improvements have been ſuggeſted by Col. Roy and Sir George Shuckburgh, &c. (ſee *Phil.Tranſ.* vol. 67. and 68.); and put in execution, with improvements, by Mr Ramſden, and other ingenious inſtrument-makers in London. The following is a deſcription of a very portable one conſtructed by Mr William Jones of Holborn, which, from its principle, comprehends every advantage that M. de Luc's inſtrument poſſeſſes; in many particulars is exempted from the errors to which his is liable; and is not ſubject to be deranged by carriage or other motion.

Barometer.

46 Deſcription of the moſt improved barometer yet invented.

Fig. 12. is a repreſentation of the inſtrument as incloſed in its mahogany caſe by means of three metallic rings *b b b*: This caſe is in the form of an hollow cone divided into three arms or legs from *a* to *c*, and is ſo carved in the inſide as to contain ſteadily the body of the barometer: The arms, when ſeparated, form three firm legs or ſupports for the barometer when making obſervations (ſee fig. 13.): The inſtrument is ſuſpended at the part *g* of the caſe, by a kind of improved gimbals; and therefrom, with its own weight, is ſufficiently ſteady in expoſed weather. In that part of the frame where the barometer tube is ſeen (*a e*), there is a long ſlit or opening made, ſo that the altitude of the mercury may be ſeen againſt the light, and the vernier piece *a* brought down to coincide with the edge of the mercury to the greateſt poſſible exactneſs. When the inſtrument is placed on its ſupport, the ſcrew *f* is to be let down in order that the mercury may ſubſide to its proper height; and alſo a peg at *p* muſt be looſened, to give admiſſion to the action of the external air upon the mercury contained in the box *b*. The adjuſtment or mode of obſerving what is called the *zero*, or 0, diviſion of the column of mercury, is by the mercury being ſeen in the tranſparent part of the box *b*; the inſide of which is a glaſs tube or reſervoir for the mercury, and an edged piece of metal fixed on the external part of the box. The mercury is to be brought into contact with the edge by turning the ſcrew *f* towards the right or left as neceſſary. The vernier piece at *a* that determines the altitude of the column of mercury, is to be brought down by the hand to a near contact, and then accurately adjuſted by turning the ſcrew *h* at top of the inſtrument. This barometer has uſually two different ſorts of ſcales inſerted on it: that on the right at *a e*, is a ſcale of French inches from 19 to 31, meaſured from the ſurface or *zero* of the mercury in the box *b* below, divided into 12th parts or lines, and each line ſubdivided by the *vernier* into ten parts, ſo that the height of the column of mercury may be aſcertained to the 120th part of a French inch. The ſcale which is on the other ſide, or left of obſervation, is of the ſame length; but divided into Engliſh inches, each of which is ſubdivided into 20ths of an inch, and the *vernier* ſubdivides each 20th into 25 parts; ſo that the height of the mercury is hereby aſcertained to the 500dth part of an Engliſh inch (viz. 20×25=500). But this *vernier* is figured *double* for the conveniency of calculation, viz. The firſt 5 diviſions are marked 10, the 20 marked 40, and the 25 marked 50: then each exact diviſion is reckoned as the *two thouſandths* of an inch, which amounts to the ſame; for $\frac{1}{500}$ is the ſame in value as $\frac{2}{1000}$ of an inch. A *thermometer* is always attached to the barometer, and indeed is indiſpenſably neceſſary: it is faſtened to the body at *c*, counterſunk beneath the ſurface of the frame, which makes it leſs liable to be broken: the degrees of the thermometer are marked on two ſcales, one on each ſide, viz. thoſe of Fahrenheit and Reaumur, ſcales generally known; the freezing point of the former being at 32 and the latter at 0. On the right-hand ſide of theſe two ſcales there is a third, called a ſcale of *correction*; it is placed oppoſitely to that of Fahrenheit, with the words *add* and *ſubtract*: it ſerves as a neceſſary correction to the obſerved altitude of the mercury at any given temperature of the air ſhown by the thermometer. There are ſeveral other valuable pieces of mechaniſm about the inſtrument that cannot clearly be repreſented in the figure; but what has already been ſaid, we preſume, is ſufficient for the reader's general informatin. For the manner of making the neceſſary obſervations, and calculating the neceſſary particulars deducible therefrom, a full information may be obtained from M. De Luc, *Recherches ſur les Modifications de l'Atmoſphere*, and the Philoſophical Tranſactions vol. 67. and 68. before cited.

It may be neceſſary to add here, that by very ſmall additional contrivances to this inſtrument, Mr Jones renders it equally uſeful for making obſervations at ſea with any *marine* barometer that has hitherto been invented.

This article may not be improperly concluded by an obſervation of Mr Magellan*, relative to the principal cauſe of error in barometrical meaſurements. This he ſtates to be owing to the inattention of obſervers to the *ſpecific gravity* of the mercury with which their barometers were made. If two barometers were both at 30 inches high, and equally circumſtanced in every other reſpect, excepting only their ſpecific gravity of the quickſilver: ſo that one be filled with the firſt kind I have tried, viz. whoſe ſpecific gravity was = 13,62 and the other = 13,45. In this caſe, and in all probability, many of this kind have often occurred, the error muſt have been no leſs than 327 feet; becauſe the heights of the mercurial columns in each barometer muſt be in the inverſe ratio of their ſpecific gravities: viz. 13,45 : : 1362 : : 30 : 30,379.

Now the logarithm of 30=4771.21
ditto of 30,379=4825.73

the difference is = 54.52

which difference ſhows, that there are 54.52 fathoms between one place and another, or 327 feet; though in reality both places are on the ſame level.

"But if the ſpecific gravity of the mercury, in the two barometers, were as the two above alluded to of Bergman and Fourcroy; viz. one of 14,110, and the other of 13,000, which may happen to be the caſe, as the heavieſt is commonly reputed the pureſt mercury; on this ſuppoſition the error muſt have amounted to 35,576 toiſes, or above 2134 feet and a half; becauſe 13,000 : 14,110 : : 30 : 32,561.

Now the logarithm of 30=4771,21
and that of 32,561=5126,97

the difference is = 355,76; which ſhows that the error ſhould amount to ſo many fathoms, or 2134,5 feet.

BARON, a perſon who holds a barony. The origin and primary import of this term is much conteſted.

Menage derives it from the Latin *baro*, which we find uſed in the pure age of that language for *vir*, a *ſtout* or *valiant man*; whence, according to this author, it was, that thoſe placed next the king in battles were called *barones*, as being the braveſt men in the army; and as princes frequently rewarded the bravery and fidelity of thoſe about them with fees, the word came to be uſed for any noble perſon who holds a fee immediately of the king. Iſidore, and after him Camden, take the word, in its original ſenſe, to ſignify a *mercenary ſoldier*. Meſſieurs of the Port Royal derive it from βαρος, *weight* or *authority*. Cicero uſes the word *baro* for a ſtupid brutal man; and the old Germans make mention of *buffeting a baron*, i. e. a *villain*; as the Italians ſtill uſe the word *barone* to ſignify a *beggar*. M. de Marca derives baron from the German *bar*, *man*, or *freeman*; others derive it from the old Gauliſh, Celtic, and Hebrew languages; but the moſt probable opinion is, that it comes from the Spaniſh *varo*, a *ſtout*, *noble perſon*; whence wives uſed to call their huſbands, and princes their tenants, *barons*. In the Salic law, as well as the laws of the Lombards, the word *baron* ſignifies a *man* in the general; and the old gloſſary of Philomenes tranſlates baron by ανηρ, *man*.

Baron is more particularly uſed, in England, for a lord or peer of the loweſt claſs; or a degree of nobility next below that of a viſcount, and above that of a knight or a baronet. In ancient records the word *baron* included all the nobility of England, becauſe regularly all noblemen were barons, though they had alſo a higher dignity. But it hath ſometimes happened, that, when an ancient baron hath been raiſed to a new degree of peerage, in the courſe of a few generations the two titles have deſcended differently; one perhaps to the male deſcendants, the other to the heirs general; whereby the earldom or other ſuperior title hath ſubſiſted without a barony: and there are alſo modern inſtances, where earls and viſcounts have been created without annexing a barony to their other honors: ſo that now the rule doth not hold univerſally that all peers are barons.

The original and antiquity of barons has occaſioned great inquiries among the Engliſh antiquarians. The moſt probable opinion is ſuppoſed to be, that they were the ſame with the preſent lords of manors; to which the name of *court baron* (which is the lord's court, and incident to every manor) gives ſome countenance. It is ſaid the original name of this dignity in England was *vavaſſour*, which by the Saxons was changed into *thane*, and by the Normans into *baron*. It may be collected from King John's *magna charta*, that originally all lords of manors, or barons, had ſeats in the great council or parliament: but ſuch is the deficiency of public records, that the firſt precept to be found is of no higher date than the 49th year of King Henry III.; which, although it was iſſued

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* *Magellan's edition of Cronſtadt's Mineralogy*, notes on *Mercury*.

ſued out in the king's name, was neither by his authority nor by his direction: for, not only the king himſelf, but his ſon Prince Edward, and moſt of the nobility who ſtood loyal to him, were then priſoners in the hands of the rebellious barons; having been ſo made in the month of May preceding, at the battle of Lewes, and ſo continued until the memorable battle of Eveſham, which happened in Auguſt the year following; when, by the happy eſcape of Prince Edward, he reſcued the king and his adherents out of the hands of Simon Mountfort Earl of Leiceſter. It cannot be doubted but that ſeveral parliaments were held by King Henry III. and King Edward I.; yet no record is to be found giving any account thereof (except the 5th of King Edward I.), until the 22d year of the reign of the laſt mentioned king.

Before the 49th of Hen. III. the ancient parliaments conſiſted of the archbiſhops, biſhops, abbots, earls, and barons. Of theſe barons there were two ſorts: the *greater barons*, or the king's chief tenants, who held of him *in capite* by barony; and the *leſſer barons*, who held of the firſt by military ſervice *in capite*. The former had ſummons to parliament by ſeveral writs; and the latter (*i. e.* all thoſe who were poſſeſſed of thirteen knights fees and a quarter) had a general ſummons from the ſheriff in each county. Thus things continued till the 49th of Henry III. But then, inſtead of keeping to the old form, the prevailing powers thought fit to ſummon, not all, but only thoſe of the greater barons who were of their party; and, inſtead of the leſſer barons who came with large retinues, to ſend their precepts to the ſheriff of each county, to cauſe two knights in every ſhire to be choſen, and one or two burgeſſes for each borough, to repreſent the body of the people reſiding in thoſe counties and boroughs; which gave riſe to the ſeparation into two houſes of parliament. By degrees the title came to be confined to the greater barons, or lords of parliament only; and there were no other barons among the peerage but ſuch as were ſummoned by writ, in reſpect of the tenure of their lands or baronies, till Richard II. firſt made it a mere title of honour, by conferring it on divers perſons by his letters patent. See further LAW, Part III. N° clviii. 12, 13, 14.

When a baron is called up to the houſe of peers by writ of ſummons, the writ is in the king's name, and he is directed to come to the parliament appointed to be held at a certain time and place, and there to treat and adviſe with his majeſty, the prelates, and nobility, about the weighty affairs of the nation. The ceremony of the admiſſion of a baron into the houſe of peers is thus: He is brought into the houſe between two barons, who conduct him up to the Lord Chancellor, his patent or writ of ſummons being carried by a king at arms, who preſents it kneeling to the Lord Chancellor, who reads it, and then congratulates him on his becoming a member of the houſe of peers, and inveſts him with his parliamentary robe. The patent is then delivered to the clerk of the parliament, and the oaths are adminiſtered to the new peer, who is then conducted to his ſeat on the barons bench. Some barons hold their ſeats by tenure. The firſt who was raiſed to this dignity by patent was John de Beauchamp of Holt Caſtle, created Baron of Kidderminſter in Worceſterſhire, to him and his heirs-male, by King Richard II. in the 11th year of his reign. He inveſted him with a mantle and cap. The coronation-robes of a baron are the ſame as an earl's, except that he has only two rows of ſpots on each ſhoulder. In like manner, his parliamentary robes have but two guards of white fur, with rows of gold lace. In other reſpects they are the ſame as other peers. King Charles II. granted a coronet to the barons. It has ſix pearls, ſet at equal diſtances on the chaplet. His cap is the ſame as a viſcount's. His ſtyle is *Right Honourable*; and he is ſtyled by the king or queen, *Right Truſty and Well Beloved*.

Barons by ancient tenure were thoſe who held by certain territories of the king, who ſtill reſerved the tenure in chief to himſelf. We alſo read of *barons by temporal tenure*; who are ſuch as hold honours, caſtles, manors, as heads of their barony, that is by grand ſergeanty; by which tenure they were anciently ſummoned to parliament. But at preſent a baron by tenure is no lord of parliament, till he be called thither by writ.

The barons by tenure after the conqueſt, were divided into *majores* and *minores*, and were ſummoned accordingly to parliament; the *majores* or greater barons, by immediate writ from the king; the *minores*, or leſſer barons, by general writ from the high ſheriff, at the king's command.

Anciently they diſtinguiſhed the greater barons from the leſs, by attributing high, and even ſovereign juriſdiction, to the former, and only inferior juriſdiction over ſmaller matters to the latter.

Barons of the Exchequer, the four judges to whom the adminiſtration of juſtice is committed, in cauſes between the king and his ſubjects relating to matters concerning the revenue. They were formerly barons of the realm, but of late are generally perſons learned in the laws. Their office is alſo to look into the accounts of the king, for which reaſon they have auditors under them. See EXCHEQUER.

Barons of the Cinque-ports are members of the houſe of commons, elected by the five ports, two for each port. See the article CINQUE-PORTS.

Baron and Feme, in the Engliſh law, a term uſed for huſband and wife, in relation to each other: and they are deemed but one perſon; ſo that a wife cannot be witneſs for or againſt her huſband, nor he for or againſt his wife, except in caſes of high treaſon.

Baron and Feme, in heraldry, is when the coats of arms of a man and his wife are borne par pale in the ſame eſcutcheon, the man's being always on the dexter ſide, and the woman's on the ſiniſter; but here the woman is ſuppoſed not an heireſs, for then her coat muſt be borne by the huſband on an eſcutcheon of pretence.

BARON (Robert), a dramatic author, who lived during the reign of Charles I. and the protectorſhip of Oliver Cromwell. He received the earlier parts of his education at Cambridge, after which he became a member of the honourable ſociety of Gray's-Inn. During his reſidence at the univerſity, he wrote a novel called the *Cyprian Academy*, in which he introduced the two firſt of the dramatic pieces mentioned below. The third of them is a much more regular and perfect play, and was probably written when the author had attained a riper age. The names of them are, 1. *Deorum Dona*, a maſque. 2. *Gripus and Hegio*, a paſtoral. 3. *Mirza*, a tragedy. Mr Baron had a great intimacy with the celebrated Mr James Howell, the great traveller, in whoſe collections of Letters* there

* Vol. III. is Let. 418.

is one to this gentleman, who was at that time at Paris. To Mr Howell in particular, and to all the ladies and gentlewomen in England in general, he has dedicated his romance.

Baron (Michael), an excellent comedian of Paris, was the ſon of Michael Baron another comedian, who was a native of Iſſoudun. He wrote ſome poems, and ſeveral theatrical pieces, which are printed together in 2 vols 12mo. He died at Paris in 1729, aged 77.

BARONET, in England, a dignity or degree of honour next beneath a baron, and above a knight; having precedency of all knights excepting thoſe of the garter, and being the only knighthood that is hereditary.

The dignity of baronet is given by patent, and is the loweſt degree of honour that is hereditary. The order was founded by king James I. at the ſuggeſtion of Sir Robert Cotton, in 1611, when 200 baronets were created at once; to which number it was intended they ſhould always be reſtrained: but it is now enlarged at the king's pleaſure, without limitation.

They had ſeveral conſiderable privileges given them, with an *habendam* to them and their heirs male. They were allowed to charge their coat with the arms of Ulſter, which are, in a field argent, a ſiniſter hand, gules; and that upon condition of their defending the province of Ulſter in Ireland againſt the rebels, who then haraſſed it extremely: to which end they were each to raiſe and keep up 30 ſoldiers at their own expence for three years together, or to pay into the exchequer a ſum ſufficient to do it; which, at 8 d. per day per head, was 1095. So that, including fees, the expence of this dignity may be about L. 1200 ſterling. To be qualified for it, one muſt be a gentleman born, and have a clear eſtate of L. 1000 *per annum*.

Baronets take place according to the dates of their patents; by the terms of which no honour is to be erected between barons and baronets. The title *Sir* is granted them by a peculiar clauſe in their patents, tho' they be not dubbed knights: but both a baronet, and his eldeſt ſon, being of full age, may claim knighthood. —The firſt baronet who was created was Sir Nicholas Bacon of Redgrave in Suffolk, whoſe ſucceſſor is therefore ſtiled *Primus Baronetorum Angliæ*.

Baronets of Scotland, called alſo *Baronets of Nova-Scotia*. The order of knights-baronets was alſo deſigned to be eſtabliſhed in Scotland in the year 1621, by King James I. for the plantation and cultivation of the province of Nova-Scotia in America; but it was not actually inſtituted till the year 1625 by his ſon Charles I. when the firſt perſon dignified with this title was Sir Robert Gordon of Gordonſtone, a younger ſon of the Earl of Sutherland. The king granted a certain portion of land in Acadia or New Scotland, to each of them, which they were to hold of Sir William Alexander (afterwards Earl of Stirling), for their encouragement who ſhould hazard their lives for the good and increaſe of that plantation, with precedency to them, and their heirs-male for ever, before all knights called *equites aurati*, and all leſſer barons called *lairds*, and all other gentlemen, except Sir William Alexander his majeſty's lieutenant in Nova Scotia, his heirs, their wives and children: that the title of *Sir* ſhould be prefixed to their Chriſtian name, and *Baronet* added to their ſurname; and that their own and their eldeſt ſons wives ſhould enjoy the title of *Lady*, *Madam*, or *Dame*. —His majeſty was ſo deſirous of adding every mark of dignity to this his favourite order, that, four years after its inſtitution, he iſſued a royal warrant, granting them the privilege of wearing an orange ribbon and a medal; which laſt was preſented to each of them by the king himſelf, according to the words of the warrant. All the privileges of the order, particularly this of wearing the medal, were confirmed at the king's requeſt by the convention of eſtates in the year 1630; and in order to eſtabliſh them on the moſt ſolid foundation, they were again confirmed by an act of the parliament of Scotland in the year 1633. This mark of diſtinction fell to the ground with all the other honours of Scotland during the uſurpation of the long parliament and of Oliver Cromwell. It continued in general, though not total, diſuſe, after the Reſtoration. There have been former meetings of the order to revive the uſe of it, one in the year 1721, and another in 1734. Theſe meetings proved ineffectual, becauſe the proper ſteps towards its revival were not taken; but, under the preſent monarch George III. ſuch meaſures were concerted in the year 1775 as have effectually eſtabliſhed this honourable dignity.

Baronets of Ireland. This order was likewiſe inſtituted by King James I. in the 18th year of his reign, for the ſame purpoſe and with the ſame privileges within the kingdom of Ireland, as he had conferred on the like order in England; for which the Iriſh baronets paid the ſame fees into the treaſury of Ireland. The firſt of that kingdom who was advanced to this hereditary dignity was Sir Francis Blundell, then ſecretary for the affairs of Ireland. Since his time, ſeveral have been created, no number being limited.

BARONI (Leonora), a celebrated ſinger and compoſer, was born at Naples, but ſpent the greateſt part of her life at Rome. She was daughter of Adriana Baroni of Mantua, Baroneſs of Pian-caretta; a lady alſo diſtinguiſhed for her muſical talents, and for her beauty ſirnamed *the fair*. Leonora had leſs beauty than her mother; but excelled her in her profound ſkill in muſic, the fineneſs of her voice, and the charmingneſs of her manner. She is ſaid by Mr Bayle to have been one of the fineſt ſingers in the world. She was, as well as her mother, celebrated by the wits, who ſtrove to excel each other in recording her praiſes; and in 1639 there was publiſhed at Bracciano, a collection of Latin, Greek, Italian, Spaniſh, and French poems made upon her, under this title, *Applauſi Poetici alle Glorie della Signora Leonora Baroni*. Among the Latin poems of Milton are no fewer than three intitled *Ad Leonoram Romæ canentem*, wherein this lady is celebrated for her ſinging, with an alluſion to her mother's exquiſite performance on the lute. A fine eulogium on this accompliſhed woman is contained in a diſcourſe on the Muſic of the Italians, printed with the life of Malherbe, and ſome other treatiſes at Paris, 1772, in 12mo. This diſcourſe was compoſed by Mr Maugars prior of St Peter de Mac, the king's interpreter of the Engliſh language, and beſides ſo famous a performer on the viol, that the king of Spain, and ſeveral other ſovereign princes of Europe deſired to hear him. The character given by this perſon of Leonora Baroni is as follows: "She is endowed with fine parts; ſhe has a very good judgment to diſtinguiſh good from bad muſic; ſhe underſtands it perfectly well; and even compoſes, which makes her abſolute miſtreſs of what ſhe ſings, and gives her the moſt exact pronunciation and expreſſion of the ſenſe of her words. She does not pretend to beauty, neither is ſhe diſagreeable, or a coquet. She ſings with a bold and generous modeſty, and an agreeable gravity; her voice reaches a large compaſs of notes, and is exact, loud, and harmonious; ſhe ſoftens and raiſes it without ſtraining or making grimaces. Her raptures and ſighs are not laſcivious; her looks having nothing impudent, nor does ſhe tranſgreſs a virgin modeſty in her geſtures. In paſſing from one key to another, ſhe ſhows ſometimes the diviſions of the enharmonic and chromatic kind with ſo much art and ſweetneſs, that every body is raviſhed with that fine and difficult method of ſinging. She has no need of any perſon to aſſiſt her with a theorbo or viol, one of which is neceſſary to make her ſinging complete; for ſhe plays perfectly well herſelf on both theſe inſtruments. In ſhort, I have had the good fortune to hear her ſing ſeveral times above 30 different airs, with ſecond and third ſtanzas compoſed by herſelf. I muſt not forget to tell you, that one day ſhe did me the particular favour to ſing with her mother and her ſiſter. Her mother played upon the lute, her ſiſter upon the harp, and herſelf upon the theorbo. This concert, compoſed of three fine voices, and of three different inſtruments, ſo powerfully tranſported my ſenſes, and threw me into ſuch raptures, that I forgot my mortality, and thought myſelf already among the angels enjoying the felicity of the bleſſed."

BARONIUS (Cæſar), a pious and learned cardinal, was born at Sore in 1538. He ſtudied at Rome, and put himſelf under the diſcipline of St Philip de Neri. In 1593, he was made general of the congregation of the Oratory by the reſignation of the founder Philip de Neri. Pope Clement VIII. made him his confeſſor, and created him a cardinal in 1596. He was afterwards made librarian to the Vatican; and died in 1605, at 68 years of age. He wrote ſeveral works, the principal of which is his *Annales Eccleſiaſtici*, from A. D. 1 to 1198, in 12 vols folio; which has been abridged by ſeveral perſons, particularly by Henry Spondæus, Bzovius, and Ludovico Aurelio.

BARONY, Baronia, or *Baronagium*, the lordſhip or fee of a baron, either temporal or ſpiritual: In which ſenſe *barony* amounts to the ſame with what is otherwiſe called *honour*.

A barony may be conſidered as a lordſhip held by ſome ſervice in chief of the king, coinciding with what is otherwiſe called *grand ſergeanty*. Baronies, in their firſt creation, moved from the king himſelf, the chief lord of the whole realm, and could be holden immediately of no other lord. For example, the king enfeoffed a man of a great ſeigneurie in land, to hold to the perſon enfeoffed and his heirs, of the king and his heirs, by baronial ſervice; to wit, by the ſervice of 20, 40, 60 knights, or of ſuch other number of knights, either more or fewer, as the king by his enfeoffment limited or appointed.—In the ages next after the Conqueſt, when a great lord was enfeoffed by the king of a large ſeigneurie, ſuch ſeigneurie was called a *barony*, but more particularly an *honour*; as, the honour of Glouceſterſhire, the honour of Wallingford, the honour of Lancaſter, the honour of Richmond, and the like. There were in England certain honours, which were often called by the Norman or other foreign names; that is to ſay, ſometimes by the Engliſh and ſometimes by the foreign name. This happened when the ſame perſon was lord of an honour in Normandy, or ſome other foreign country, and alſo of an honour in England. For example, William de Forz, de Force, or de Fortibus, was lord of the honour of Albemarle in Normandy; he was alſo lord of two honours in England; to wit, the honour of Holderneſs, and the honour of Skipton in Cravene. Theſe honours in England were ſometimes called by the Norman name, the honour of Albemarle, or the honour of the Earl of Albemarle. In like manner, the Earl of Britannie was lord of the honour of Britannie in France, and alſo of the honour of Richmond in England: the honour of Richmond was ſometimes called by the foreign name, the honour of Britannie, or the honour of the Earl of Britannie. This ſerveth to explain the terms "honour of Albemarle in England," *honor Albemarliæ*, or *comitis Albemarliæ in Anglia*; *honor Britanniæ*, or *comitis Britanniæ in Anglia*, "the honour of Britannie," or "the Earl of Britannie in England." Not that Albemarle or Britannie were in England, but that the ſame perſon reſpectively was lord of each of the ſaid honours abroad, and each of the ſaid honours in England. The baronies belonging to biſhops are by ſome called *regalia*, as being held ſolely on the king's liberality. Theſe do not conſiſt in one barony alone, but in many; for *tot erant baroniæ, quot majora prædia*.

A barony, according to Bracton, is a right indiviſible. Wherefore, if an inheritance be to be divided among coparceners, though ſome capital meſſuages may be divided, yet if the capital meſſuage be the head of a county or barony, it may not be parcelled; and the reaſon is, leſt by this diviſion many of the rights of counties and baronies by degrees come to nothing, to the prejudice of the realm, which is ſaid to be compoſed of counties and baronies.

BARRA, or Bara, iſland of. See Bara.

Barra, in commerce, a long meaſure uſed in Portugal, and ſome parts of Spain, to meaſure woollen cloths, linen cloths, and ſerges. There are three ſorts; the barra of Valencia, 13 of which make $12\frac{7}{8}$ yards Engliſh meaſure; the barra of Caſtile, 7 of which make $6\frac{4}{7}$ yards, and the barra of Arragon, 3 of which make $2\frac{4}{7}$ yards Engliſh.

BARRABA, (deſart of); a tract of land in Siberia, lying between the rivers Irtis and Oby, in the province of Tobolſk. It is uninhabited, but not thro' any deficiency of the ſoil; for that is excellent for tillage, and part of it might alſo be laid out in meadows and paſtures. It is interſperſed with a great number of lakes, which abound with a ſpecies of carp called by the neighbouring people *karawſchen*, and the country produces great numbers of elks, deer, foxes, ermine and ſquirrels. Between the Irtis and Oby are ſome rich copper-mines; particularly on a mountain called *pictowa*, from the *picta* or white firs that grow upon it. Every hundred weight of the ore found her yields 12 pounds of pure copper; and there is no occaſion for digging deep in order to come at it. Moſt of theſe ores, beſides being very rich in copper, yield a great deal of ſilver, which affords ſo much gold as makes rich returns for the trouble and expence of extracting it.

BARRACAN, in commerce, a ſort of ſtuff, not diapered, ſomething like camblets, but of a coarſer grain. It is uſed to make cloaks, ſourtouts, and ſuch other garments, to keep off the rain.—The cities where the moſt barracans are made in France are Valenciennes, Liſle, Abbeville, Amiens, and Roan. Thoſe of Valenciennes are the moſt valued: they are all of wool, both the warp and the woof.

BBRRACIDA, in ichthyology, a ſpecies of pike. See ESOX.

BARRACKS, or BARACKS, places for ſoldiers to lodge in, eſpecially in garriſons.—Barracks, when damp, are greatly prejudicial to the health of the ſoldiers lodged in them; occaſioning dyſenteries, intermitting fevers, coughs, rheumatic pains, &c. For which reaſon, quarter-maſters ought to be careful in examining every barrack offered by the magiſtrates of a place; rejecting all ground-floors in houſes that have either been uninhabited, or have any ſigns of moiſture.

BARRATOR, or BARRETOR, in law, a perſon guilty of barretry. See BARRETRY.

Lambert derives the word *barretor* from the Latin *balatro*, "a vile knave;" but the proper derivation is from the French *barrateur*, *i. e.* "deceiver;" and this agrees with the deſcription of a common barretor in my Lord Cokes' report, *viz.* that he is a common mover and maintainer of ſuits in diſturbance of the peace, and in taking and detaining the poſſeſſion of houſes and lands or goods by falſe inventions, &c. And therefore it was adjudged that the indictment againſt him ought to be in theſe words, *viz.* That he is *communis malefactor, calumniator et ſeminator litium et diſcordiarum inter vicinos ſuos, et pacis regis perturbator*, &c. And there it is ſaid that a common barreter is the moſt dangerous oppreſſor in the law, for he oppreſſeth the innocent by colour of law, which was made to protect them from oppreſſion.

BARRATRY, in law. See BARRETRY.

BARRATRY, in a ſhipmaſter, is his cheating the owners. If goods delivered on ſhip-board are embezzled, all the mariners ought to contribute to the ſatisfaction of the party that loſt his goods, by the maritime law: and the cauſe is to be tried in the admiralty. In a caſe where a ſhip was injured againſt the barratry of the maſter, &c. and the jury found that the ſhip was loſt by the fraud and negligence of the maſter, the court agreed, that the fraud was barratry, though not named in the covenant; but that negligence was not.

BARRAUX, a fortreſs of Dauphiny belonging to France. It ſtands in the valley of Greſivaudan, and was built by a Duke of Savoy in 1597. The French took it in 1598, and have kept it ever ſince. It is ſeated on the river Iſer, in E. Long. 4. 45. N. Lat. 45. 0.

BARRAY, one of the Hebrides, or Weſtern iſles of Scotland, ſituated in W. Long. 6. 30. N. Lat. 56. 55.

BARRE (Louis Francois Joſeph de la), of Tournay, author of ſeveral works printed at Paris. Amongſt others, *Imper. Orientale*, *Recueil des Medailles des empereurs*, "Memoirs for the the hiſtory of France, &c." He died in 1738.

BARREL, in commerce, a round veſſel, extending more in length than in breadth, made of wood, in form of a little tun. It ſerves for holding ſeveral ſorts of merchandize.

BARREL is alſo a meaſure of liquids. The Engliſh barrel, wine-meaſure, contains the eighth part of a tun, the fourth part of a pipe, and one half of a hogſhead; that is to ſay, it contains 31½ gallons: a barrel, beer-meaſure, contains 36 gallons; and, ale-meaſure, 32 gallons. The barrel of beer, vinegar, or liquor, preparing for vinegar, ought to contain 34 gallons, according to the ſtandard of the ale-quart.

BARREL alſo denotes a certain weight of ſeveral merchandizes, which differs according to the ſeveral commodities. A barrel of Eſſex butter weighs 106 pounds; and Suffolk butter, 256 pounds. The barrel of herrings ought to contain 32 gallons wine-meaſure, which amount to about 28 gallons old ſtandard, containing about 1000 herrings. The barrel of ſalmon muſt contain 42 gallons; the barrel of eels the ſame. The barrel of ſoap muſt weigh 256 lb.

BARREL in mechanics, a term given by watchmakers to the cylinder about which the ſpring is wrapped; and by gun-ſmiths to the cylindrical tube of a gun, piſtol, &c. through which the ball is diſcharged.

BARREL, in anatomy, a pretty large cavity behind the tympanum of the ear, about four or five lines deep, and five or ſix wide.

Fire BARRELS. See FIRE-*Ship*.

Thundering BARRELS, in the military art, are filled with bombs, grenades, and other fire-works to be rolled down a breach.

BARRENNESS, the ſame with ſterility. See STERILITY.

BARRETRY, in law, is the offence of frequently exciting and ſtirring up ſuits and quarrels between his Majeſty's ſubjects, either at law or otherwiſe. The puniſhment for this offence, in a common perſon, is by fine and impriſonment: but if the offender (as is too frequently the caſe) belongs to the profeſſion of the law, a barretor who is thus able as well as willing to do miſchief ought alſo to be diſabled from practiſing for the future. And indeed it is enacted by ſtatute 12 Geo. I. c. 29. that if any one, who hath been convicted of forgery, perjury, ſubornation of perjury, or common barretry, ſhall practiſe as an attorney, ſolicitor, or agent, in any ſuit; the court, upon complaint, ſhall examine it in a ſummary way; and, if proved, ſhall direct the offender to be tranſported for ſeven years. Hereunto alſo may be referred another offence, of equal malignity and audaciouſneſs; that of ſuing another in the name of a fictitious plaintiff, either one not in being at all, or one who is ignorant of the ſuit. This offence, if committed in any of the king's ſuperior courts, is left, as a high contempt, to be puniſhed at their diſcretion: but in courts of a lower degree, where the crime is equally pernicious, but the authority of the judges not equally extenſive, it is directed by ſtatute 8 Eliz. c. 2. to be puniſhed by ſix months impriſonment, and treble damages to the party injured.

BARRICADE, or BARRICADO, a military term for a fence formed in haſte with veſſels, baſkets of earth, trees, palliſades, or the like, to preſerve an army from the ſhot or aſſault of the enemy.—The moſt uſual materials for barricades conſiſt of pales or ſtakes, croſſed with batoons, and ſhod with iron at the feet, uſually ſet up in paſſages or breaches.

Barricade, in naval architecture, a ſtrong wooden rail, ſupported by ſtanchions, extending acroſs the foremoſt part of the quarter-deck. In a veſſel of war, the vacant ſpaces between the ſtanchions are commonly filled with rope-mats, cork, or pieces of old cable; and the upper part, which contains a double rope-netting above the rail, is ſtuffed with full hammocks to intercept the motion, and prevent the execution of ſmall-ſhot in time of battle.

BARRIER, in fortification, a kind of fence made at a paſſage, retrenchment, &c. to ſtop up the entry thereof. It is compoſed of great ſtakes, about four or five feet high, placed at the diſtance of eight or ten feet from one another, with tranſums, or overthwart rafters, to ſtop either horſe and foot, that would enter or ruſh in with violence: in the middle is a moveable bar of wood, that opens or ſhuts at pleaſure. A barrier is commonly ſet up in a void ſpace, between the citadel and the town, in half moons, &c.

Barriers, ſignifies that which the French call *jeu des barres*, i. e. *palæſtra*; a martial exerciſe of men armed and fighting together with ſhort ſwords, within certain bars or rails which ſeparated them from the ſpectators: it is now generally diſuſed.

BARRING A VEIN, in farriery, an operation performed upon the veins of a horſe's legs, and other parts of his body, with intent to ſtop the courſe, and leſſen the quantity, of the malignant humours that prevail there.

BARRINGTON. See SHUTE.

BARRINGTONIA, in botany; a genus of the polyandria order, belonging to the monadelphia claſs of plants, the characters of which are: one female, the calyx dephyllous above; with a drupa, which it crowns; and the ſeed is a quadrilocular nut. There is but one ſpecies known, the ſpecioſa, a native of China and Otaheite.

BARRISTER, in England, is a counſellor learned in the law, admitted to plead at the bar, and there to take upon him the protection and defence of clients. They are termed *juriſconſulti*; and in other countries called *licentiati in jure*: and anciently barriſters at law were called *apprentices* of the law, in Latin *apprenticii juris nobiliores*. The time before they ought to be called to the bar, by the ancient orders, was eight years, now reduced to five; and the exerciſes done by them (if they were not called *ex gratia*) were twelve grand moots performed in the inns of Chancery in the time of the grand readings, and 24 petty moots in the term times, before the readers of the reſpective inns: and a barriſter newly called is to attend the ſix (or four) next long vacations the exerciſe of the houſe, viz. in Lent and Summer, and is thereupon for thoſe three (or two) years ſtyled a *vacation barriſter*. Alſo they are called *utter barriſters*, i. e. pleaders *ouſter* the bar, to diſtinguiſh them from benchers, or thoſe that have been readers, who are ſometimes admitted to plead within the bar, as the king, queen, or prince's counſel are.

BARRITUS is a word of German original, adopted by the Romans to ſignify the general ſhout uſually given by the ſoldiers of their armies on their firſt encounter after the *claſſicum* or alarm. This cuſtom, however, of ſetting up a general ſhout was not peculiar to the Romans, but prevailed amongſt the Trojans according to Homer, amongſt the Germans, the Gauls, Macedonians, and Perſians. See CLASSICUM.

BARROS (John), a celebrated Portugueſe hiſtorian, born at Viſco, in 1497. He was educated at the court of king Emanuel, among the princes of the blood, and made a great progreſs in Greek and Latin. The Infant John, to whom he attached himſelf, and became preceptor, having ſucceeded the king his father in 1521, Barros obtained a place in this prince's houſehold; and in 1522, was made governor of St George del Mina, on the coaſt of Guinea. Three years after, the king having recalled him to court, made him treaſurer of the Indies, and this poſt inſpired him with the thought of writing this hiſtory; for which purpoſe he retired to Pompas, where he died, in 1570. His hiſtory of Aſia and the Indies is divided into decades; the firſt of which he publiſhed in 1552, the ſecond in 1553, and the third in 1563; but the fourth decade was not publiſhed till the year 1615, when it appeared by order of King Philip III. who had the manuſcript purchaſed of the heirs of John Barros. Several authors have continued it, ſo that we have at preſent 12 decades. He left many other works; ſome of which have been printed, and others remain in manuſcript.

BARROW (Iſaac), an eminent mathematician and divine, of the laſt century, was the ſon of Mr Thomas Barrow a linen draper in London, where he was born, in 1630. He was at firſt placed at the charter-houſe ſchool, for two or three years; where his behaviour afforded but little hopes of ſucceſs in the profeſſion of a ſcholar, he being fond of fighting, and promoting it among his ſchool-fellows: but being removed from thence, his diſpoſition took a happier turn; and having ſoon made a great progreſs in learning, he was admitted a penſioner of Peter Houſe in Cambridge. He now applied himſelf with great diligence to the ſtudy of all parts of literature, eſpecially to that of natural philoſophy. He afterwards turned his thoughts to the profeſſion of phyſic, and made a conſiderable progreſs in anatomy, botany, and chemiſtry; after this he ſtudied chronology, aſtronomy, and geometry. He then travelled into France and Italy, and in a voyage from Leghorn to Smyrna, gave a proof of his bravery; for the ſhip being attacked by an Algerine pirate, he ſtaid upon deck, and with the greateſt intrepidity fought, till the pirate, perceiving the ſtout reſiſtance the ſhip made, ſheered off and left her (A).

At Smyrna he met with a moſt kind reception from Mr

(A) There is another anecdote told of him, which not only ſhowed his intrepidity, but an uncommon goodneſs of diſpoſition, in circumſtances where an ordinary ſhare of it would have been probaly extinguiſhed. He was once in a gentleman's houſe in the country, where the neceſſary was at the end of a long garden, and conſequently at a great diſtance from the room where he lodged: as he was going to it before day, for he

Mr Bretton, the Engliſh conſul, upon whoſe death he afterwards wrote a Latin elegy. From thence he proceeded to Conſtantinople, where he received the like civilities from Sir Thomas Bendiſh the Engliſh ambaſſador, and Sir Jonathon Dawes, with whom he afterwards preſerved an intimate friendſhip. At Conſtantinople he read over the works of St Chryſoſtom, once biſhop of that ſee, whom he preferred to all the other fathers. When he had been in Turkey ſomewhat more than a year, he returned to Venice. From thence he came home in 1659, through Germany and Holland; and was epiſcopally ordained by biſhop Brownrig. In 1660, he was choſen to the Greek profeſſorſhip at Cambridge. When he entered upon this province, he intended to have read upon the tragedies of Sophocles; but he altered his intention, and made choice of Ariſtotle's rhetoric. Theſe lectures having been lent to a friend who never returned them, are irrecoverably loſt. July the 16th 1662, he was elected profeſſor of geometry in Greſham college, by the recommendation of Dr Wilkins, maſter of Trinity-college, and afterwards biſhop of Cheſter. Upon the 20th of May 1663 he was elected a fellow of the Royal Society, in the firſt choice made by the council after their charter. The ſame year the executors of Mr Lucas having, according to his appointment, founded a mathematical lecture at Cambridge, they fixed upon Mr Barrow for the firſt profeſſor; and though his two profeſſorſhips were not inconſiſtent with each other, he choſe to reſign that of Greſham college, which he did May the 20th 1664. In 1609 he reſigned his mathematical chair to his learned friend Mr Iſaac Newton, being now determined to give up the ſtudy of mathematics for that of divinity. Upon quitting his profeſſorſhip, he was only a fellow of Trinity college, till his uncle gave him a ſmall ſinecure in Wales, and Dr Seth Ward biſhop of Saliſbury conferred upon him a prebend in his church. In the year 1670 he was created doctor in divinity by mandate; and, upon the promotion of Dr Pearſon maſter of Trinity college to the ſee of Cheſter, he was appointed to ſucceed him by the king's patent bearing date the 13th of February 1672. When the king advanced him to this dignity, he was pleaſed to ſay, "he had given it to the beſt ſcholar in England." His majeſty did not ſpeak from report, but from his own knowledge: the doctor being then his chaplain, he uſed often to converſe with him, and in his humourous way, to call him an "unfair preacher," becauſe he exhauſted every ſubject, and left no room for others to come after him. In 1675 he was choſen vice-chancellor to the univerſity.—The doctor's works are very numerous, and ſuch as do honour to the Engliſh nation. They are, 1. Euclid's Elements. 2. Euclid's Data. 3. Optical Lectures, read in the public ſchool of Cambridge. 4. Thirteen Geometrical Lectures. 5. The Works of Archimedes, the four Books of Appolonius's Conic Sections, and Theodoſius's Spherics explained in a new Method. 6. A Lecture, in which Archimedes's Theorems of the Sphere and Cylinder are inveſtigated and briefly demonſtrated. 7. Mathematical Lectures, read in the public ſchools of the univerſity of Cambridge: the above were all printed in Latin; and as to his Engliſh works, they are printed together in four volumes folio.—"The name of Dr Barrow (ſays the reverend and learned Mr Granger) will ever be illuſtrious for a ſtrength of mind and a compaſs of knowledge that did honour to his country. He was unrivalled in mathematical learning, and eſpecially in the ſublime geometry; in which he has been excelled only by one man, and that man was his pupil the great Sir Iſaac Newton. The ſame genius that ſeemed to be born only to bring hidden truths to light, to riſe to the heights or deſcend to the depths of ſcience, would ſometimes amuſe itſelf in the flowery paths of poetry, and he compoſed verſes both in Greek and Latin. He at length gave himſelf up entirely to divinity; and particularly to the moſt uſeful part of it, that which has a tendency to make men wiſer and better. He has, in his excellent ſermons on the Creed, ſolved every difficulty and removed every obſtacle that oppoſed itſelf to our faith, and made divine revelation as clear as the demonſtrations in his own Euclid. In his ſermons he knew not how to leave off writing till he had exhauſted his ſubject; and his admirable Diſcourſe on the Duty and Reward of Bounty to the poor, took him up three hours and an half in preaching. This excellent perſon, who was a bright example of Chriſtian virtue, as well as a prodigy of learning, died on the 4th of May 1677, in the 47th year of his age;" and was interred in Weſtminſter Abbey, where a monument, adorned with his buſt, was ſoon after erected, by the contribution of his friends.

BARROWS, in ancient topography, artificial hillocs or mounts, met with in many parts of the world, intended as repoſitories for the dead, and formed either of ſtones heaped up, or of earth. For the former, more generally known by the name of *cairns*, ſee CAIRNS.—Of the latter Dr Plott takes notice of two ſorts in Oxfordſhire: one placed on the military ways; the other in the fields, meadows, or woods; the firſt ſort doubtleſs of Roman erection, the other more probably erected by the Britons or Danes. We have an examination of the Barrows in Cornwall by Dr Williams, in the Phil. Tranſ. N° 458. from whoſe obſervations we find that they are compoſed of foreign or adventitious earth; that is, ſuch as does not riſe on the place, but is fetched from ſome diſtance.—Monuments

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he was a very early riſer, a fierce maſtiff, who uſed to be chained up all day, and let looſe at night for the ſecurity of the houſe, perceiving a ſtrange perſon in the garden at that unſeaſonable time, ſet upon him with great fury. The Doctor catched him by the throat, threw him, and lay upon him; and whilſt he kept him down, conſidered what he ſhould do in that exigence: once he had a mind to kill him; but he altered this reſolution, upon recollecting that this would be unjuſt, ſince the dog did only his duty, and he himſelf was in fault for rambling out of his room before it was light. At length he called out ſo loud, that he was heard by ſome of the houſe, who came preſently out, and freed the Doctor and the dog from the danger they were both in.

of this kind are alſo very frequent in Scotland. On digging into the barrows, urns have been found in ſome of them, made of calcined earth, and containing burnt bones and aſhes; in others, ſtone cheſts containing bones entire; in others, bones neither lodged in cheſts nor depoſited in urns. Theſe tumuli are round, not greatly elevated, and generally at their baſis ſurrounded with a foſs. They are of different ſizes; in proportion, it is ſuppoſed, to the greatneſs, rank, and power, of the deceaſed perſon. The links or ſands of Skail, in Sandwich, one of the Orkneys, abound in round barrows. Some are formed of earth alone, others of ſtone covered with earth. In the former was found a coffin, made of ſix flat ſtones. They are too ſhort to receive a body at full length: the ſkeletons found in them lie with the knees preſſed to the breaſt, and the legs doubled along the thighs. A bag, made of ruſhes, has been found at the feet of ſome of theſe ſkeletons, containing the bones, moſt probably, of another of the family. In one were to be ſeen multitudes of ſmall beetles; and as ſimilar inſects have been diſcovered in the bag which incloſed the ſacred *Ibis*, we may ſuppoſe that the Egyptians, and the nation to whom theſe *tumuli* did belong, might have had the ſame ſuperſtition reſpecting them. On ſome of the corpſes interred in this iſland, the mode of burning was obſerved. The aſhes, depoſited in an urn which was covered on the top with a flat ſtone, have been found in the cell of one of the barrows. This coffin or cell was placed on the ground, then covered with a heap of ſtones, and that again caſed with earth and ſods. Both barrow and contents evince them to be of a different age from the former. Theſe tumuli were in the nature of family vaults: in them have been found two tiers of coffins. It is probable, that on the death of any one of the family, the tumulus was opened, and the body interred near its kindred bones.

Ancient Greece and Latium concurred in the ſame practice with the natives of this iſland. Patroclus among the Greeks, and Hector among the Trojans, received but the ſame funeral honours with the Caledonian heroes; and the aſhes of Dercennus the Laurentine monarch had the ſame ſimple protection. The urn and pall of the Trojan warrior might perhaps be more ſuperb than thoſe of a Britiſh leader: the riſing monument of each had the common materials from our mother earth.

> The ſnowy bones his friends and brothers place,
> With tears collected, in a golden vaſe.
> The golden vaſe in purple palls they roll'd
> Of ſofteſt texture and inwrought with gold.
> Laſt o'er the urn the ſacred earth they ſpread,
> And rais'd a tomb, memorial of the dead.
>
> *Pope's Homer's Iliad*, xxiv. 1003.

Or, as it is more ſtrongly expreſſed by the ſame elegant tranſlator, in the account of the funeral of Patroclus;

> High in the midſt they heap the ſwelling bed
> Of riſing earth, memorial of the dead. *Ib.* xxiii. 319.

The Grecian barrows, however, do not ſeem to have been all equally ſimple. The barrow of Alyattes, father of Crœſus king of Lydia, is deſcribed by Herodotus as a moſt ſuperb monument inferior only to the works of the Egyptians and Babylonians. It was a vaſt mound of earth heaped on a baſement of large ſtones by three claſſes of the people; one of which was compoſed of girls, who were proſtitutes. Alyattes died, after a long reign, in the year 562 before the Chriſtian æra. Above a century intervened, but the hiſtorian relates, that to his time five ſtones (*ȣροι termini* or *ſtelæ*) on which letters were engraved, had remained on the top, recording what each claſs had performed; and from the meaſurement it had appeared, that the greater portion was done by the girls. Strabo likewiſe has mentioned it as a huge mound raiſed on a lofty baſement by the multitude of the city. The circumference was ſix ſtadia or three quarters of a mile; the height two plethra or two hundred feet; and the width thirteen plethra. It was cuſtomary among the Greeks to place on barrows either the image of ſome animal or *ſtelæ*, commonly round pillars with inſcriptions. The famous barrow of the Athenians in the plain of Marathon, deſcribed by Pauſanias, is an inſtance of the latter uſage. An ancient monument in Italy by the Appian way, called without reaſon the ſepulchre of the Curiatii, has the ſame number of *termini* as remained on the barrow of Alyattes: the baſement, which is ſquare, ſupporting five round pyramids—Of the barrow of Alyattes the apparent magnitude is deſcribed by travellers as now much diminiſhed, and the bottom rendered wider and leſs diſtinct than before, by the gradual increaſe of the ſoil below. It ſtands in the midſt of others by the lake Gygæus; where the burying-place of the Lydian princes was ſituated. The barrows are of various ſizes, the ſmaller made perhaps for children of the younger branches of the royal family. Four or five are diſtinguiſhed by their ſuperior magnitude, and are viſible as hills at a great diſtance. That of Alyattes is greatly ſupereminent. The lake it is likely furniſhed the ſoil. All of them are covered with green turf; and all retain their conical form without any ſinking in of the top.

Barrows, or ſimilar tumuli, are alſo found in great numbers in America. Theſe are of different ſizes, according to Mr Jefferſon's * account; ſome of them conſtructed of earth, and ſome of looſe ſtones. That they were repoſitories of the dead has been obvious to all; but on what particular occaſion conſtructed, was matter of doubt. Some have thought they covered the bones of thoſe who have fallen in battles fought on the ſpot of interment. Some aſcribed them to the cuſtom ſaid to prevail among the Indians, of collecting at certain periods the bones of all their dead, whereſoever depoſited at the time of death. Others again ſuppoſed them the general ſepulchres for towns, conjectured to have been on or near theſe grounds; and this opinion was ſupported by the quality of the lands in which they are found (thoſe conſtructed of earth being generally in the ſofteſt and moſt fertile meadow-grounds on river ſides), and by a tradition ſaid to be handed down from the aboriginal Indians, that when they ſettled in a town, the firſt perſon who died was placed erect, and earth put about him, ſo as to cover and ſupport him; that when another died, a narrow paſſage was dug to the firſt, the ſecond reclined againſt him, and the cover of earth replaced, and ſo on. "There being one of theſe barrows in my neighbourhood (ſays Mr Jefferſon), I wiſhed to ſatisfy myſelf whether any, and which of theſe opinions were juſt. For this purpoſe I determined to open and examine it thoroughly. It was ſituated on the low grounds of the Rivanna, about two miles above its principal fork, and oppoſite to ſome hills, on which had been an Indian town. It was of a ſpheroidical form, of about 40 feet diameter at the baſe, and had been of about 12 feet altitude, though now reduced by the plough to ſeven and a half, having been under cultivation about a dozen years. Before this it was covered with trees of twelve inches diameter, and round the baſe was an excavation of five feet depth and width, from whence the earth had been taken of which the hillock was formed. I firſt dug ſuperficially in ſeveral parts of it, and came to collections of human bones, at different depths, from ſix inches to three feet below the ſurface. Theſe were laying in the utmoſt confuſion, ſome vertical, ſome oblique, ſome horizontal, and directed to every point of the compaſs, entangled, and held together in cluſters by the earth. Bones of the moſt diſtant parts were found together; as, for inſtance, the ſmall bones of the foot in the hollow of a ſkull, many ſkulls would ſometimes be in contact, lying on the face, on the ſide, on the back, top or bottom, ſo as on the whole to give the idea of bones emptied promiſcuouſly from a bag or baſket, and covered over with earth, without any attention to their order. The bones of which the greateſt numbers remained, were ſkulls, jaw-bones, teeth, the bones of the arms, thighs, legs, feet, and hands. A few ribs remained, ſome vertebræ of the neck and ſpine, without their proceſſes, and one inſtance only of the bone which ſerves as a baſe to the vertebral column. The ſkulls were ſo tender, that they generally fell to pieces on being touched. The other bones were ſtronger. There were ſome teeth which were judged to be ſmaller than thoſe of an adult; a ſkull which, on a ſlight veiw, appeared to be that of an infant, but it fell to pieces on being taken out, ſo as to prevent ſatisfactory examination; a rib, and a fragment of the under-jaw of a perſon about half grown; another rib of an infant; and part of the jaw of a child, which had not yet cut its teeth. This laſt furniſhing the moſt deciſive proof of the burial of children here, I was particular in my attention to it. It was part of the right half of the under jaw. The proceſſes by which it was articulated to the temporal bones were entire; and the bone itſelf firm to where it had been broken off, which, as nearly as I could judge, was about the place of the eye-tooth. Its upper edge, wherein would have been the ſockets of the teeth, was perfectly ſmooth. Meaſuring it with that of an adult, by placing their hinder proceſſes together, its broken end extended to the penultimate grinder of the adult. This bone was white, all the others of a ſand colour. The bones of infants being ſoft, they probably decay ſooner, which might be the cauſe ſo few were found here. I proceeded then to make a perpendicular cut through the body of the barrow, that I might examine its internal ſtructure. This paſſed about three feet from its centre, was opened to the former ſurface of the earth, and was wide enough for a man to walk through and examine its ſides. At the bottom, that is, on the level of the circumjacent plain, I found bones: above theſe a few ſtones, brought from a cliff a quarter of a mile off, and from the river one-eigth of a mile off; then a large interval of earth, then a ſtratum of bones, and ſo on. At one end of the ſection were four ſtrata of bones plainly diſtinguiſhable; at the other, three; the ſtrata in one part not ranging with thoſe in another. The bones neareſt the ſurface were leaſt decayed. No holes were diſcovered in any of them, as if made with bullets, arrows, or other weapons. I conjectured that in this barrow might have been a thouſand ſkeletons. Every one will readily ſeize the circumſtances above related, which militate againſt the opinion that it covered the bones only of perſons fallen in battle; and againſt the tradition alſo which would make it the common ſepulchre of a town, in which the bodies were placed upright, and touching each other. Appearances certainly indicate that it has derived both origin and growth from the accuſtomary collection of bones, and depoſition of them together; that the firſt collection had been depoſited on the commmon ſurface of the earth; a few ſtones put over it, and then a covering of earth; that the ſecond had been laid on this, had covered more or leſs of it in proportion to the number of bones, and was then alſo covered with earth, and ſo on. The following are the particular circumſtances which give it this aſpect. 1. The number of bones. 2. Their confuſed poſition. 3. Their being in different ſtrata. 4. The ſtrata in one part having no correſpondence with thoſe in another. 5. The different ſtates of decay in theſe ſtrata, which ſeem to indicate a difference in the time of inhumation. 6. The exiſtence of infant bones among them. But on whatever occaſion they may have been made, they are of conſiderable notoriety among the Indians: for a party paſſing, about thirty years ago, through the part of the country where this barrow is, went through the woods directly to it, without any inſtructions or enquiry; and having ſtaid about it ſome time, with expreſſions which were conſtrued to be thoſe of ſorrow, they returned to the high road, which they had left about half a dozen miles to pay this viſit, and purſued their journey. There is another barrow, much reſembling this in the low grounds of the South branch of Shenandoah, where it is croſſed by the road leading from the Rock-fiſh gap to Staunton. Both of theſe have, within theſe dozen years, been cleared of their trees and put under cultivation, are much reduced in their height, and ſpread in width, by the plough, and will probably diſappear in time. There is another on a hill in the blue ridge of mountains, a few miles north of Wood's gap, which is made up of ſmall ſtones thrown together. This has been opened and found to contain human bones as the others do. There are alſo many others in other parts of the country."

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* *Notes on the State of Virginia*, p. 156.

BARROW, in the ſalt-works, are wicker-caſes, almoſt in the ſhape of a ſugar-loaf, wherein the ſalt is put to drain.

BURRULET, in heraldry, the fourth part of the bar, or the one half of the cloſet: an uſual bearing in coat armour.

BARRULY, in heraldry, is when the field is divided bar-ways, that is, acroſs from ſide to ſide, into ſeveral parts.

BARRY (Girald), commonly called *Giraldus Cambrenſis*, i. e. *Girald of Wales*, an hiſtorian and eccleſiaſtic in the reigns of Henry II. and Richard I. was born at the caſtle of Mainarper, near Pembroke, A. D. 1146. By his mother he was deſcended from the princes of South Wales; and his father, William Barry, was one of the chief men of that principality. Being a younger brother, and intended for the church, he was ſent to St David's, and educated in the family of his uncle, who was biſhop of that ſee. He acknowledges, in his hiſtory of his own life and actions, that in his early youth he was too playful; but being ſeverely reproached for it by his preceptors, he became a very hard ſtudent, and greatly excelled all his ſchool-fellows in learning. When he was about 20 years of age, he was ſent, A. D. 1166, for his further improvement, to the univerſity of Paris; where he continued three years, and became, according to his own account, a moſt excellent rhetorician; which rendered him very famous. On his return into Britain, he entered into holy orders, and obtained ſeveral benefices both in England and Wales. Obſerving, with much concern, that his countrymen, the Welch, were very backward in paying the tithes of wool and cheeſe, which he was afraid would involve them in eternal damnation, he applied to Richard archbiſhop of Canterbury, and was appointed his legate in Wales for rectifying that diſorder, and for other purpoſes. He executed this commiſſion with great ſpirit; excommunicating all, without diſtinction, who refuſed to ſave their ſouls by ſurrendering the tithes of their cheeſe and wool. Not ſatisfied with enriching, he alſo attempted to reform, the clergy, and dilated the archdeacon of Brechin to the archbiſhop, for the unpardonable crime of matrimony; and the poor old man, refuſing to put away his wife, was deprived of his archdeaconry; which was beſtowed upon our zealous legate. In diſcharging the duties of this new office, he acted with great vigour, which involved him in many quarrels; but, if we may believe himſelf, he was always in the right, and always victorious. His uncle, the biſhop of St David's, dying A. D. 1176, he was elected his ſucceſſor by the chapter: but this election having been made without the permiſſion, and contrary to the inclination of Henry II. our author prudently declined to inſiſt upon it, and went again to Paris to proſecute his ſtudies, particularly in the civil and canon law, and theology. He ſpeaks with great raptures of the prodigious fame he acquired by his eloquent declamations in the ſchools, and of the crowded audiences who attended them, who were at a loſs to know whether the ſweetneſs of his voice, the beauty of his language, or the irreſiſtible force of his arguments, were moſt to be admired. Having ſpent about four years at Paris, he returned to St David's; where he found every thing in confuſion; and the biſhop being expelled by the people, he was appointed adminiſtrator by the archbiſhop of Canterbury, and governed the dioceſe in that capacity to A. D. 1184, when the biſhop was reſtored. About the ſame time he was called to court by Henry II. appointed one of his chaplains, and ſent into Ireland A. D. 1185, with prince John. By this prince he was offered the united biſhoprics of Fernes and Leighlin; but declined them, and employed his time in collecting materials for his Topography, of Ireland, and his Hiſtory of the conqueſt of that iſland. Having finiſhed his Topography, which conſiſted of three books, he publiſhed it at Oxford, A. D. 1187, in the following manner, in three days. On the firſt day he read the firſt book to a great concourſe of people, and afterwards entertained all the poor of the town; on the ſecond day he read the ſecond book, and entertained all the doctors and chief ſcholars; and, on the third day, he read the third book, and entertained the younger ſcholars, ſoldiers, and burgeſſes. "A moſt glorious ſpectacle! (ſays he) which revived the ancient times of the poets, and of which no example had been ſeen in England." He attended Baldwin archbiſhop of Canterbury, in his progreſs through Wales, A. D. 1186, in preaching a croiſade for the recovery of the Holy Land; in which, he tells us, he was far more ſucceſsful than the primate; and particularly, that the people were prodigiouſly affected with his Latin ſermons, which they did not underſtand, melting into tears, and coming in crowds to take the croſs. Although Henry II. as our author aſſures us, entertained the higheſt opinion of his virtues and abilities; yet he never would advance him to any higher dignity in the church, on account of his relation to the princes and great men of Wales. But on the acceſſion of Richard I. (A. D. 1189), his proſpects of preferment became better: for he was ſent for by that Prince into Wales to preſerve the peace of that country, and was even joined in commiſſion with William Longchamp, biſhop of Ely, as one of the regents of the kingdom. He did not, however, improve this favourable opportunity; refuſing the biſhopric of Bangor in A. D. 1190, and that of Landaff the year after, having fixed his heart on the ſee of St David's, the biſhop of which was very old and infirm. In A. D. 1192, the ſtate of public affairs, and the courſe of intereſt at court, became ſo unfavourable to our author's views, that he determined to retire. At firſt he reſolved to return to Paris to proſecute his ſtudies; but meeting with ſome difficulties in this, he went to Lincoln, where William de Monte read lectures in theology with great applauſe. Here he ſpent about ſix years in the ſtudy of divinity, and in compoſing ſeveral works. The ſee of St David's, which had long been the great object of his ambition, became vacant, A. D. 1198, and brought him again upon the ſtage. He was unanimouſly elected by the chapter; but met with ſo powerful an adverſary in Hubert archbiſhop of Canterbury (who oppoſed his promotion with great violence) that it involved him in a litigation which laſted five years, coſt him three journeys to Rome, at a great expence, and in which he was at laſt defeated, A. D. 1203. Soon after this he retired from the world, and ſpent the laſt 17 years of his life in a ſtudious privacy, compoſing many books, of which we have a very correct catalogue in the Biographia Britannica. That Girald of Wales was a man of uncommon activity, genius, and learning, is undeniable; but theſe and his other good qualities were much tarniſhed by his inſufferable vanity, which muſt have been very offenſive to his contemporaries, as it is highly diſguſting to his readers.

BARRY, in heraldry, is when an eſcutcheon is divided bar-ways, that is, acroſs from ſide to ſide, into an even number of partitions, conſiſting of two or more tinctures, interchangeably diſpoſed: it is to be expreſſed in the blazon by the word *barry*, and the number of pieces muſt be ſpecified; but if the diviſions be odd, the field muſt be firſt named, and the number of bars expreſſed.

Barry-Bendy is when an eſcutcheon is divided evenly, bar and bend-ways, by lines drawn tranſverſe and diagonal, interchangeably varying the tinctures of which it conſiſts.

Barry-Pily is when a coat is divided by ſeveral lines drawn obliquely from ſide to ſide, where they form acute angles.

BARSA (anc. geog.) an iſland on the coaſt of France, in the Engliſh channel, Itinerary: *Baſepool* according to ſome; but according to others, *Bardſey*.

BARSALLI, a kingdom of Africa, bordering on the river Gambia, inhabited by a tribe of negroes called *Jaloffs*. The government of this kingdom is a moſt deſpotic monarchy; all people being obliged to proſtrate themſelves on the earth when any of the royal family makes his appearance. In time of war, every ſoldier has his ſhare of the booty, and the king but a certain proportion, which is moderate, conſidering that if he pleaſed he might keep the whole. The kingdom is divided into a number of provinces, over which governors called *bumeys* are appointed by the king. Theſe bumeys are abſulute within their juriſdictions; but they ſeldom carry their prerogative ſo far as to incur the diſlike of the people, which would quickly prove fatal to them. The Mahometan religion is profeſſed by the king and his court, though little regard is paid to that part of the impoſtors creed which forbids the uſe of wine; for the king cannot live without brandy, nor is he ever more devout than when he is drunk. When his majeſty is in want of brandy, or other neceſſaries, he ſends to beg of the governor of James-fort that he will diſpatch a boat with the merchandize he has occaſion for; and to purchaſe this he plunders the neighbouring towns, and ſeizes a certain number of his ſubjects, whom he ſells for ſlaves to the Europeans in exchange for their commodities. This is his method of ſupplying himſelf if he happens to be at peace with his neighbours; for which reaſon the people are never ſo happy as when at war; and hence they purſue war with great vigour, and continue it with obſtinacy.—The general dreſs of the people is a kind of looſe callicoe ſurplice, that hangs down below the knee; which they ſometimes plait about the waiſt in a very agreeable manner. They wear a great number of gold trinkets in their hair, ears, noſes, and round their necks, arms, and legs; but the women eſpecially are fond of theſe ornaments. The king of Barſalli, whom Moore ſaw in 1732, had a prodigious number of women: but when he went abroad he was ſeldom attended by more than two, who ſeemed to be dreſſed out in the whole finery and jewels of the ſeraglio. He had likewiſe a number of brethren; but it was ſeldom that he deigned to ſpeak to them: if he ever did them that honour, they were forced to treat him with the ſame reſpect as other ſubjects, and fall proſtrate on the earth the moment they came into his preſence, notwithſtanding they were the preſumptive heirs of the crown. It is indeed uſual for the king's children to diſpute the right of ſucceſſion with his brethren, and the longeſt ſword generally carries away the prize.

BARSANTI (Franciſco), an eminent muſical performer and compoſer, was born at Lucca about the year 1690. He ſtudied the civil law in the univerſity of Padua; but, after a ſhort ſtay there, choſe muſic for his profeſſion. Accordingly he put himſelf under the tuition of ſome of the ableſt maſters in Italy; and having attained to a conſiderable degree of proficiency in the ſcience of practical compoſition, took a reſolution to ſettle in England, and came thither with Geminiani, who was alſo a Lucceſe, in the year 1714. He was a good performer on the hautboy, and alſo on the flute; in the former capacity he found employment in the opera band, and in the latter derived conſiderable advantages by teaching. He publiſhed with a dedication to the earl of Burlington, ſix ſolos for a flute with a thorough-baſs, and afterwards ſix ſolos for a German flute and a baſs. He alſo made into ſonatas, for two violins and a baſs, the firſt ſix ſolos of Geminiani. He continued many years a performer at the opera-houſe: at length, reflecting that there was a proſpect of advantage for one of his profeſſion in Scotland, he went thither; and, with greater truth than the ſame is aſſerted of David Rizzo, may be ſaid to have meliorated the muſic of that country, by collecting and making baſſes to a great number of the moſt popular Scots tunes. About the year 1750, Barſanti returned to England; but, being advanced in years, he was glad to be taken into the opera band as a performer on the tenor violin; and in the ſummer ſeaſon into that of Vauxhall. At this time he publiſhed 12 concertos for violins; and, ſhortly after, Sei Antifone, in which he endeavoured to imitate the ſtyle of Paleſtrina, and the old compoſers of motets: but from theſe publications ſo little profit reſulted, that, towards the end of his life, the induſtry and œconomy of an excellent wife, whom he had married in Scotland, and the ſtudies and labours of a daughter, whom he had qualified for the profeſſion of a ſinger, but who is now an actreſs at Covent-Garden, were his chief ſupport.

BARTAS (William de Saluſte du), a French poet, who lived in the 16th century. He was employed by Henry IV. of France, in England, Denmark, and Scotland; and commanded a troop of horſe in Gaſcony, under the marechal de Martignan. He was a Calviniſt; and died in 1590, aged 46. He wrote a great number of poems; the moſt famous of which are, 1. The Week, or the Creation of the World, in ſeven books, 2. The Poem of Judith; and, 3. The Battle of Ivry, gained by Henry IV. in 1590. Du Bartas wrote in a bombaſt ſtyle.

BARTAR, or TRUCK, is the exchanging of one commodity for another. The word comes from the Spaniſh *barator*, to deceive or circumvent in bargaining, perhaps becauſe thoſe who deal this way uſually endeavour to over-reach one another.

To tranſact properly, the price of one of the commodities, and an equivalent quantity of the other, muſt be found either by practice, or by the rule of three.

Queſt. 1. How many pounds of cotton, at 9d. per lb. muſt be given in bartar for 13C. 3Q. 14lb. of pepper, at 2l. 16s. per C.?

Firſt. Find the price or value of the commodity whoſe quantity is given as follows:

	C.	*Q.*	*lb.*		*L.*	*s.*
	13	3	14	at	2	16.
	26					
2l.	10	8				
16s.	1	8				
2 Q.		14				
1 Q.		7				
14lb.						
	L. 38	17				

Secondly, Find how much cotton, at 9d. *per* lb. 38l. 17s. will purchaſe as under:

d. *lb.* *L.* *s*
If 9 : 1 :: 38 17
20
———
777
12
———
9)9324(
——— *C.* *Q.*
Anſ. 1036 *lb.* = 9 1

If the above queſtion be wrought decimally, the operation may ſtand as follows:

C. *L.* *C.*
If 1 : 2.8 :: 13.875
2.8
———
111000
27750
——— *lb.* *C.* *Q.*
.0375)38.8500(1036 = 9 1 *Anſ.*
37.5...
———
1350
1125
———
2250
2250
———

The value or price of the goods received and delivered in bartar being always equal, it is obvious that the product of the quantities received and delivered, multiplied in their reſpective rates, will be equal.

Hence ariſes a rule which may be uſed with advantage in working ſeveral queſtions; namely, Multiply the given quantity and rate of the one commodity, and the product divided by the rate of the other commodity quotes the quantity ſought; or divided by the quantity quotes the rate.

Queſt. 2. How many yards of linen, at 4s. per yard, ſhould I have in bartar for 120 yards of velvet, at 15s. 6d.?

Yds. *Sixp.* *Sixp.* *Yds.*
120 × 31 = 3720, and 8)3720(459 *Anſ.*

BARTH, or Bart (John), a brave fiſherman of Dunkirk, who roſe to the rank of an admiral; and is celebrated for his ſignal valour and naval exploits, in the annals of France. He died in 1702, aged 51.

BARTHIUS (Gaſpar), a very learned and copious writer, born at Cuſtrin in Brandenburgh, the 22d of June 1576. Mr Baillet has inſerted him in his *Enfans Celebres;* where he tells us, that at 12 years of age he tranſlated David's Pſalms into Latin verſe of every meaſure, and publiſhed ſeveral Latin Poems. Upon the death of his father (who was profeſſor of civil law at Francfort, counſellor to the elector of Bandenburg, and his chancellor at Cuſtrin), he was ſent to Gotha, then to Eiſenach, and afterwards, according to cuſtom, went through all the different univerſities in Germany. When he had finiſhed his ſtudies, he began his travels; he viſited Italy, France, Spain, England, and Holland, improving himſelf by the converſation and works of the learned in every country. He ſtudied the modern as well as ancient languages, and his tranſlations from the Spaniſh and French ſhow that he was not content with a ſuperficial knowledge. Upon his return to Germany, he took up his reſidence at Leipſic, where he led a retired life, his paſſion for ſtudy having made him renounce all ſort of employment. He wrote a vaſt number of books; the princpal of which are, 1. His *Adverſaria*, a large volume in folio; the ſecond and third volumes of which he left in manuſcript. 2. A Tranſlation of Æneas Gazæus. 3. A lage volume of Notes upon Claudian, in 4to. 4. Three large volumes upon Statius, &c. He died at Leipſic, in 1658, aged 71.

BARTHOLINUS (Caſpar), a learned phyſician and anatomiſt in the 17th century, was born at Malmoe, a town in the province of Schonen, which then belonged to Denmark. At three years of age he had ſuch a quick capacity, that in 14 days he learned to read; and in his 13th year he compoſed Greek and Latin orations, and pronounced them in public. When he was about 18 he went to the univerſity at Copenhagen, and afterwards ſtudied at Roſtock and Wirtemberg. He next ſet out upon his travels; during which he neglected no opportunity of improving himſelf at the different univerſities to which he came, and every where receiving marks of reſpect. He was in 1613 choſen profeſſor of phyſic in that univerſity, which he enjoyed 11 years; when, falling into a dangerous illneſs, he made a vow, that if it it ſhould pleaſe God to reſtore him, he would ſolely apply himſelf to the ſtudy of divinity. He recovered, and kept his word; and ſoon after obtained the profeſſorſhip of divinity, and the canonry of Roſchild. He died on the 13th of July 1629, after having written ſeveral ſmall works, chiefly on metaphyſics, logic, and rhetoric,

Bartholinus (Thomas), a celebrated phyſician, ſon of the former, was born at Copenhagen, in 1616. After ſtudying ſome years in his own country, he in 1637 went to Leyden, where he ſtudied phyſic during three years. He then travelled into France; and reſided two years at Paris and Montpelier, in order to improve himſelf under the famous phyſicians of thoſe univerſities. Afterwards going to Italy, he continued three years at Padua; and at length went to Baſil, where he obtained the degree of doctor of philoſophy. Soon after, he returned to Copenhagen; where in 1647 he was appointed profeſſor of the mathematics; and next year was nominated to the anatomical chair, an employment better ſuited to his genius and inclination; which he diſcharged with great aſſiduity for 13 years, and diſtinguiſhed himſelf by making ſeveral diſcoveries with reſpect to the lacteal veins and lymphatic veſſels. His cloſe application, however, having rendered his conſtitution very infirm, he, in 1661, reſigned his chair; but the king of Denmark allowed him the title of *honorary profeſſor*. He now retired to a little eſtate he had purchaſed at Hageſted, near Copenhagen, where he hoped to have ſpent the remainder of his days in peace and tranquillity; but his houſe being burnt in 1650, his library, with all his books and manuſcripts was deſtroyed. In conſideration of this loſs the king appointed him his phyſician, with a handſome ſalary, and exempted his land from all taxes; the univerſity of Copenhagen alſo appointed him their librarian; and, in 1675, the king did him the honour to give him a ſeat in the grand council of Denmark. He wrote, 1. *Anatomia Caſpari Bartholini Parentis novis Obſervationibus primum locupletata*, 8vo. 2. *De Monſtris in Natura & Medecina*, 4to. 3. *De Armillis Veterum, præſertim Danorum Schedion*, 8vo. ; and ſeveral other works. This great man died on the 4th of December, 1680.

St BARTHOLOMEW's DAY, a feſtival of the Chriſtian church, celebrated on the 24th of Auguſt. St Bartholomew was one of the twelve Apoſtles ; and is eſteemed to be the ſame as Nathanael, one of the firſt diſciples that came to Chriſt.

It is thought this apoſtle travelled as far as India, to propagate the goſpel ; for Euſebius relates, that a famous philoſopher and Chriſtian, named *Pantænus*, deſiring to imitate the apoſtolical zeal in propagating the faith, and travelling for that purpoſe as far as India, found there, among thoſe who yet retained the knowledge of Chriſt, the goſpel of St Matthew, written, as the tradition aſſerts, by St Bartholomew, one of the twelve apoſtles, when he preached the goſpel in that country. From thence he returned to the more northern and weſtern parts of Aſia, and preached to the people of Hierapolis; then in Lycaonia ; and laſtly at Albania, a city upon the Caſpian Sea ; where his endeavours to reclaim the people from idolatry were crowned with martyrdom, he being (according to ſome writers) flea'd alive, and crucified with his head downwards.—There is mention made of a Goſpel of St Bartholomew, in the preface to Origen's Homilies on St Luke, and in the preface to St Jerome's commentary on St Matthew : but it is generally looked upon as ſpurious, and is placed by pope Gelaſius among the apocryphal books.

BARTHOLOMEW (St), one of the Caribbee iſlands belonging to the French, who ſent a colony thither in 1648. It is about 24 miles in compaſs, and has a good haven. W. Long. 62. 15. N. Lat. 18. 6.

BARTHOLOMITES, a religious order founded at Genoa in the year 1307; but the monks leading very irregular lives, the order was ſuppreſſed by pope Innocent X. in 1650, and their effects were confiſcated. In the church of the monaſtery of this order at Genoa is preſerved the image which it is pretended Chriſt ſent to king Abgarus. See ABGARUS.

BARTOLOCCI (Julius), a learned monk, and profeſſor of Hebrew at Rome, was born at Celeno, in 1613 ; and diſtinguiſhed himſelf by writing an excellent Hebrew and Latin catalogue of the Hebrew writers and writings, in 4 vols folio, a continuation of which was performed by Imbonati his diſciple. He died in 1687.

BARTOLOMEO (Franciſco), a celebrated painter, born at Savignano, a village 10 miles from Florence, in the year 1462, was the diſciple of Coſimo Roſſelli, but was much more beholden to the works of Leonardi da Vinci for his extraordinary ſkill in painting. He was well verſed in the fundamentals of deſign. Raphael, after quitting the ſchool of Perugino, applied to this maſter ; and under him ſtudied the rules of perſpective, with the art of managing and uniting his colours. In the year 1500, he turned Dominican friar ; and ſome time after was ſent by his ſuperiors to the convent of St Martin, in Florence. He painted both portraits and hiſtories ; but his ſcrupulous conſcience would hardly ever ſuffer him to draw naked figures, though nobody underſtood them better. He died in 1517, aged 48.

BARTON, a town of Lincolnſhire, ſeated on the river Humber, where there is a conſiderable ferry to paſs over into Yorkſhire. W. Long. 0. 10. N. Lat. 53. 40.

BARTSIA, PAINTED CUP : A genus of the angioſpermia order, belonging to the didynamia claſs of plants ; and in the natural method ranking under the 40th order, *Perſonatæ*. The calyx is bilbous, emarginated and coloured ; the corolla leſs coloured than the calyx, with its upper lip longer than the under one. The viſcoſa or marſhy, called alſo *yellow marſh eyebright*, was found by Mr Lightfoot in bogs and marſhy places about Loch-Goyl, near Loch-Long in the diſtrict of Cowal in Argyleſhire. The plant is about ten or twelve inches high, with an erect ſtalk downy and unbranched : the leaves are ſeſſile, ſpear-ſhaped, and a little viſcous; the flowers are yellow, and the plant dries black. It is likewiſe found in marſhy places in Cornwall in England. The Alpina, or mountain eyebright cow-wheat, hath heart-ſhaped leaves placed oppoſite, and bluntly ſerrated, with purple bloſſoms in leafy ſpikes. It is likewiſe a native of Britain, and is found near rivulets in hilly countries. Sheep and goats eat it. There are two other ſpecies.

BARUCH (the prophecy of), one of the apocryphal books, ſubjoined to the canon of the Old Teſtament. Baruch was the ſon of Neriah, who was the diſciple and amanuenſis of the prophet Jeremiah. It has been reckoned part of Jeremiah's prophecy, and is often cited by the ancient fathers as ſuch. Joſephus tells us, Baruch was deſcended of a noble family ; and it is ſaid in the book itſelf, that he wrote this prophecy at Babylon ; but at what time is uncertain. It is difficult to determine in what language this prophecy was originally written. There are extant three copies of it ; one in Greek, the other two in Syriac ; but which of theſe, or whether any one of them, be the original, is uncertain.

BARULES, in church-hiſtory, certain heretics, who held, that the Son of God had only a phantom of a body ; that ſouls were created before the world, and that they lived all at one time.

BARUTH, an ancient town of Turkey in Syria, with a Chriſtian church of the Neſtorian perſuaſion. It is ſituated in a fine fertile ſoil, but is inconſiderable now to what it was formerly. E. Long. 34. 20. N. Lat. 33. 30.

BARUTH, an Indian meaſure, containing 17 gantans; It ought to weigh about three pounds and an half Engliſh avoirdupois.

BARYTONUM, in the Greek grammar, denotes a verb, which having no accent marked on the laſt ſyllable, a grave accent is to be underſtood. In Italian muſic, *barytona* anſwers to our common pitch of baſs.

BAS CHEVALIER. See BACHELOR.

BAS-Relief. See BASSO-*Relievo*.

BAS (James Philip le) a modern French engraver, by whom we have ſome excellent prints. His great force ſeems to lie in landſcapes and ſmall figures, which he executed in a ſuperior manner. His ſtyle of engraving is extremely neat ; but yet he proves the freedom of the etching, and harmonizes the whole with the graver and dry point. We have alſo a variety of pretty vignettes by this artiſt. He flouriſhed about the middle of the preſent century; but we have no account of the time of his birth or death.

1 Name, derivation, &c.

BASALTES, (from *baſal*, "iron," or βασανιζω, *diligenter examino)*, in natural hiſtory, an heavy, hard ſtone, chiefly black or green, conſiſting of priſmatic cryſtals, the number of whoſe ſides is uncertain. The Engliſh miners call it *cockle*; the German *ſchoerl*. Its ſpecific gravity is to that of water as 3000 or upwards to 1000. It frequently contains iron; and conſiſts either of particles of an indeterminate figure, or of a ſparry, ſtriated, or fibrous texture. It has a flinty hardneſs, is inſoluble by acids, and is fuſible by fire. The following is an analyſis of ſome baſaltes by Mr Bergman; and as the reſemblance of it to lava will be frequently mentioned in the ſucceeding part of this article, we ſhall here contraſt this analyſis with that of lava by the ſame author.

2 Comparative analyſis of baſaltes and lavas.

Baſaltes, 100 parts contains		Lava, 100 parts contains	
Siliceous earth	50	Siliceous earth	49
Argillaceous	15	Argillaceous	35
Calcareous	8	Calcareous	4
Magneſia	2	Iron	12
Iron	25		

The moſt remarkable property of this ſubſtance is its figure, being never found in ſtrata, like other marbles, but always ſtanding up in the form of regular angular columns, compoſed of a number of joints, one placed upon, and nicely fitted to another, as if formed by the hands of a ſkilful workman. See Plate XCII. fig. 15.

3 Baſalt where found.

Baſaltes was originally found in columns in Ethiopia, and fragments of it in the river Tmolus, and ſome other places. We now have it frequently, both in columns and ſmall pieces, in Spain, Ruſſia, Poland, near Dreſden, and in Sileſia; but the nobleſt ſtore in the world ſeems to be that called the Giant's Cauſeway in Ireland, and Staffa, one of the weſtern iſles of Scotland*. Great quantities of baſaltes are likewiſe found in the neighbourhood of Mount Ætna in Sicily, of Hecla in Iceland, and of the volcano in the iſland of Bourbon. Theſe are the only three active volcanoes in whoſe neighbourhood it is to be met with; but it is alſo found in the extinguiſhed volcanoes in Italy, though not in the neighbourhood of Veſuvius.

*See *Giant's Cauſeway* and *Staffa*.

4 Of the Giant's Cauſeway in Ireland.

In Ireland the baſaltes riſes far up the country, runs into the ſea, croſſes at the bottom, and riſes again on the oppoſite land. In Staffa the whole end of the iſland is ſupported by natural ranges of pillars, moſtly above 50 feet high, ſtanding in natural colonnades, according as the bays and points of land have formed themſelves, upon a firm baſis of ſolid unformed rock. Above theſe, the ſtratum, which reaches to the ſoil or ſurface of the iſland, varies in thickneſs, as the iſland itſelf is formed into hills or valleys, each hill, which hangs over the valleys below, forming an ample pediment. Some of theſe, above 60 feet in thickneſs from the baſe to the point, are formed by the ſloping of the hill on each ſide, almoſt into the ſhape of thoſe uſed in architecture.

The pillars of the Giant's Caſeway have been very particularly deſcribed and examined. The moſt accurate account of them is to be met with in a work intitled, "Letters concerning the northern coaſt of the county of Antrim;" from which the following particulars relative to the preſent ſubject are extracted.

5 Particular account of the pillars.

"1. The pillars of the Caſeway are ſmall, not very much exceeding 1 foot in breadth and 30 in length; ſharply defined, neat in their articulation, with concave or convex terminations to each point. In many of the capes and hills they are of a larger ſize; more imperfect and irregular in their figure and articulation, having often flat terminations to their joints. At Fairhead they are of a gigantic magnitude, ſometimes exceeding 5 feet in breadth and 100 in length; oftentimes apparently deſtitute of joints altogether. Thro' many parts of the country, this ſpecies of ſtone is entirely rude and unformed, ſeparating in looſe blocks; in which ſtate it reſembles the ſtone known in Sweden by the name of *trappe*.

Pl. XCIII. fig. 1.

"2. The pillars of the Giant's Cauſeway ſtand on the level of the beach; from whence they may be traced through all degrees of elevation to the ſummit of the higheſt grounds in the neighbourhood.

"3. At the Cauſeway, and in moſt other places, they ſtand perpendicular to the horizon. In ſome of the capes, and particularly near Uſhet harbour, in the Iſle of Baghery, they lie in an oblique poſition. At Doon point in the ſame iſland, and along the Balintoy ſhore, they form variety of regular curves.

"4. The ſtone is black, cloſe, and uniform; the varieties of colour are blue, reddiſh, and grey; and of all kinds of grain, from extreme fineneſs to the coarſe granulated appearance of a ſtone which reſembles imperfect granite, abounding in cryſtals of ſchorl chiefly black, though ſometimes of various colours.

"5. Though the ſtone of the Giant's Cauſeway be in general compact and homogeneous; yet it is remarkable, that the upper joint of each pillar, where it can be aſcertained with any certainty, is always rudely formed and cellular. The groſs pillars alſo in the capes and mountains frequently abound in theſe air-holes through all their parts, which ſometimes contain fine clay, and other apparently foreign bodies: and the irregular baſaltes beginning where the pillars ceaſe, or lying over them, is in general extremely honey-combed; containing in its cells cryſtals of zeolite, little morſels of fine brown clay, ſometimes very pure ſteatite, and in in a few inſtances bits of agate."

6 Account of thoſe in Staffa.

Sir Joſeph Banks obſerves, that the bending pillars of Staffa differ conſiderably from thoſe of the Giant's Cauſeway. In Staffa, they lie down on their ſides, each forming the ſegment of a circle; and in one place, a ſmall maſs of them very much reſembles the ribs of a ſhip. Thoſe of the Giant's Cauſeway which he ſaw, ran along the face of a high cliff, bent ſtrangely in the middle, as if unable, at their firſt formation, while in a ſoft ſtate, to ſupport the maſs of incumbent earth.

7 Rocks of the Cyclops deſcribed.

The rocks of the Cyclops, in the neighbourhood of Ætna, exhibit very magnificent baſaltic pillars. A general view of them is given on Plate XCII. fig. 2. where *a*, *b*, *c*, are the three principal rocks; *e* is the extremity of an iſland, one half of which is compoſed of lava, on a baſe of baſaltes, of no uncommon nature; above which there is a cruſt of pozzolana, combined with a certain white calcareous matter, which is pretty hard and compact; and which, as it is compoſed by the action

tion of the air, appears like a piece of knotty, porous, wood. The rock, at ſome former period, became ſo hard as to ſplit; and the clefts were then filled up with a very hard and porous matter like ſcoriæ. This matter afterwards acquiring new hardneſs, alſo ſplit, leaving large interſtices, which in their turn have been filled up with a ſpecies of compound yellow matter. The iſland was formerly inhabited; and there ſtill remains a flight of ſteps leading from the ſhore to the ruins of ſome houſes which appear to have been hewn in the rock.

The rock *b* has the ſtraighteſt and moſt regular columns of any. It is repreſented diſtinctly in Plate XCIV. fig. 1. and likewiſe a general view of *c* and *d*, with the foot of Ætna leading to Catanea. Theſe baſaltic columns, at firſt view, ſeem to reſemble thoſe of the Giant's Cauſeway, and others commonly met with: but on a nearer inſpection, we find a remarkable difference; being aſſembled in groups of five or ſix about one, which ſerves as their common centre. They are of various ſizes and forms; ſome ſquare, others hexagonal, heptagonal, or octogonal. One half of this rock is compoſed of perpendicular columns; the other of another ſpecies of baſaltes diſpoſed in inclined, and almoſt rectilinear, layers. Theſe are in contact with the columns, and are as cloſely connected with them as they are with one another. The layers are longer at the baſe than towards the top of the rock. It is further to be remarked, that moſt of theſe layers are ſubdivided as they riſe upwards; ſo that towards theſe upper extremities, one layer preſents to the eye ſometimes one, ſometimes two, and ſometimes three, diviſions. The fragments of baſaltes taken off from theſe layers are of a rhomboidal figure, becauſe the layers break obliquely.

Theſe layers, though inclined towards the baſe, become almoſt perpendicular towards the upper part of the rock, where they appear united in a point, and overtop moſt of the viſible and elevated parts of the priſmatic columns. Theſe columns terminate in ſuch a manner as to form a kind of ſtair-caſe. They appear even to riſe under a ſpecies of clay with which they are covered at one extremity, till they reunite themſelves with the point which is formed by the moſt elevated parts of the layers of baſaltes beſide them.

This extraneous matter with which theſe columns are covered, and of which the ſummit of this pyramid conſiſts, appears to be of the ſame ſpecies with the former, compoſing the upper part of the iſland already deſcribed.

The baſaltes of that iſland has one particularity, *viz.* that it is full of ſmall cryſtals of about the ſize of peas. Theſe appear no leſs beautiful than rock-cryſtal; but they are much ſofter, and yield even to the action of the air. We ſee here large fragments of baſaltes which were formerly full of cryſtals, but deſtroyed by time. They are now not unlike a ſponge, from the great number of holes which appear all over their ſurface. Thoſe pieces of baſaltes which contain moſt of theſe cryſtals are not ſo hard as thoſe which contain fewer of them.

8 **Baſaltes on the promontory of the Caſtel d'Iaci deſcribed.**

The promontory of Caſtel d'Iaci, which terminates the baſis of Ætna, is almoſt entirely compoſed of baſaltes, but of a kind very different from the former. It conſiſts of a great number of cylinders from the diameter of ſix inches to that of twenty feet. Some of theſe are ſolid, others hollow like cannon; ſome extended in layers, others ſimilar to carrots of tobacco conſiſting of a number of pieces ſqueezed together. Some of theſe cylinders are ſtraight, others curved into a variety of forms. Some look like globes incloſed in the rocks; and in the fractures of theſe globes we perceive the ſtrata of which they are compoſed.

Fig. 2. repreſents the baſaltes at the foot of this promontory on the ſouth ſide. The little mounts into which it appears to be collected, are ſometimes only one French foot in diameter, ſometimes ſix. They are compoſed of ſmall priſms or needles, or of cubic trapezoids, and conſiſt of a matter diſtinguiſhed by the name of *dirty lava*. It is made of up of pozzolana, conſolidated by a certain liquid, which while it has communicated ſolidity to the pozzolana, has at the ſame time ſuffered that ſubſtance to ſhrink conſiderably, in ſuch a manner as to leave large chinks between the pieces of baſaltes, which are thus formed by the operation of the liquid on the pozzolana. It appears alſo to have inſinuated itſelf into the clay with which the promontory is covered; which has become hard in its turn, and which has alſo ſplit into chinks that appear to contain a kind of hard matter.

9 **Baſaltes uſed in different ancient works.**

Theſe deſcriptions and figures will ſerve to give an idea of the appearance of the baſaltes, which is now generally accounted a kind of marble. Wallerius conſiders it as a ſpecies of the corneous or horn rock; and Cronſtedt enumerates it among thoſe ſubſtances which he calls *garnet earths*. The largeſt block of this ſtone that ever was ſeen, was placed, according to Pliny, by Veſpaſian in the temple of peace. It repreſented the figure of Nilus, with 16 children playing about it, denoting as many cubits of the riſe of the river. The ſtatue of Memnon, in the temple of Serapis at Thebes, which ſounded at the riſing of the ſun, was alſo made of the ſame material, if we may believe this author. Moſt of the Egyptian figures are likewiſe made of baſaltes. Some of the ancients call it *Lapis Lydius*, from Lydia, where it ſeems it was formerly found in greateſt abundance. The moderns denominate it the *touch-ſtone*, as being uſed for the trial of gold and ſilver.

10 **Subſtances mixed with baſaltes.**

Various ſubſtances are found intermixed with baſaltes; of which Mr Hamilton, in the letters above-mentioned, enumerates the following. 1. Extenſive layers of red ochre, varying in all degrees from a dull ferruginous colour to a bright red, anſwering very well for coarſe painting. 2. Veins of iron ore, ſometimes very rich, commonly of a very brown or reddiſh caſt, at other times of a blue colour. 3. Steatites, generally of a greeniſh ſoapy appearance, more rarely of a pure white, and raiſing an imperfect ſaponaceous froth when agitated with water. 4. Zeolite, of a bright and pure white colour; in maſſes, varying in weight from a grain to a pound; generally diſpoſed in cavities of the cellular baſaltes; often affecting a cryſtallization, in which the fibres proceed as rays from a centre; and in ſome inſtances have a beautiful ſpangled appearance, reſembling that of thiſtle-down. The moſt remarkable property of this ſubſtance is, that with any of the mineral acids, but eſpecially with that of nitre, it forms a gelatinous mixture in the courſe of a few hours. 5. Peperino ſtone, a friable matrix of indurated clay and iron, ſtudded with little bits of zeolite or other ſubſtances; and which is often of a reddiſh burnt colour. 6. Pumice ſtone of a black colour, containing iron not entirely dephlogiſticated, but ſtill acting on the magnetical needle.

11
Of the nature of baſaltes.

Theſe ſubſtances are met with among the baſaltes of the Giant's Cauſeway in Ireland. In other places its attendants may perhaps vary according to circumſtances. The baſaltes itſelf has been conſidered by ſome as a cryſtallization from water; but others ſtrenuouſly maintain that it is only a ſpecies of lava, and in defence of theſe opinions very conſiderable diſputes have been carried on. The following is a ſtate of the arguments on both ſides from Mr Hamilton's treatiſe already mentioned.

12
Mr Hamilton's ſtate of the arguments concerning it.

In ſupport of the volcanic origin of the baſaltes it has been argued,

1. That it agrees almoſt entirely with lava in its elementary principles, in its grain, the ſpecies of the foreign bodies it includes, and all the diverſities of its texture.

2. The iron of the baſaltes is found to be in a metallic ſtate, capable of acting on the magnetical needle, which is alſo the caſe with that found in compact lava.

3. The baſaltes is fuſible *per ſe*; a property which it has in common with lavas.

4. The baſaltes is a foreign ſubſtance ſuperinduced on the original limeſtone-ſoil of the country, in a ſtate of ſoftneſs capable of allowing the flints to penetrate conſiderably within its lower ſurface.

5. Thoſe extenſive beds of red ochre which abound among our baſaltes are ſuppoſed to be an iron earth reduced to this ſtate by the powerful action of heat; for ſuch a change may be produced on iron in our common furnaces, provided there be a ſufficient afflux of freſh air; and the baſaltes itſelf, in ſuch circumſtances, is eaſily reducible to an impure ochre. This is alſo found to take place in the living volcanoes, particularly within their craters; and is therefore ſuppoſed to afford a preſumptive argument of the action of fire in the neighbourhood of baſaltes.

6. Though zeolite is not yet proved to be the actual production of a volcano, yet its preſence is always ſuppoſed to give countenance to this hypotheſis; becauſe zeolite is found in countries where the action of ſubterraneous fire is ſtill viſible, and where there is reaſon to believe that the whole ſoil has been ravaged by that principle. Thus it abounds in Iceland, where the flames of Hecla yet continue to blaze; and in the iſle of Bourbon, where there is ſtill a volcano in force. It is therefore ſuppoſed to ariſe from the decompoſition of the products of a volcano, where the fires have been long extinct.

7. Cryſtals of ſchorl appear in great plenty among many kinds of our baſaltes; and theſe, though not abſolutely limited to volcanic countries, yet being found in great abundance among the Italian lavas, in circumſtances exactly correſponding to thoſe of our baſaltes, are thought to ſupply a good probable argument in the preſent caſe.

8. The peperino ſtone is thought to be undoubtedly of a volcanic origin. It has frequently the burnt and ſpongy appearance of many of the volcanic products; and that of the Giant's Cauſeway agrees exactly with the peperino of Iceland and Bourbon.

9. Puzzolane earth is met with among the baſaltes of France; and there is very little reaſon to doubt that our baſaltes, if pulveriſed, would agree with it in every reſpect; that is, it would produce a fine ſharp powder, containing the ſame elementary parts, and probably agreeing with it in its valuable uſes as a cement. This earth is alſo found in the Canary iſlands, which are thought to have other marks of fire; it is met with in all volcaniſed parts of Italy, and is never found excepting where there are other evident marks of fire.

10. Pumice ſtone is univerſally allowed to be produced by fire, and indeed bears the reſemblance of a cinder ſo obviouſly, that one muſt be inſtantly convinced of its original. This is alſo found among the baſaltes of Ireland.

11. There are three living volcanoes, within whoſe neighbourhood the baſaltes and moſt of its uſual attendant foſſils have been obſerved, viz. Ætna in Sicily, Hecla in Iceland, and the iſland of Bourbon on the coaſt of Africa. To which it may be added, that it is found throughout all the volcaniſed parts of Italy, though not any where immediately in the neighbourhood of Veſuvius. Sir William Hamilton, however, informs us, that in the year 1779 he "picked up ſome fragments of large and regular cryſtals of cloſe-grained lava or baſalt; the diameter of which, when the priſms are complete, might have been eight or nine inches." He obſerves, that Veſuvius does not exhibit any lavas regularly cryſtallized, and forming what are called *Giants Cauſeways*, except a lava that ran into the ſea, near Torre del Græco, in the year 1631, which has a ſmall degree of ſuch an appearance. As the fragments of baſaltes which he found on this mountain, however, had been evidently thrown out of the crater in their proper form, he puts the queſtion, "May not lavas be more ready to cryſtallize within the bowels of a volcano than after their emiſſion? And may not many of the Giants Cauſeways already diſcovered be the nuclei of volcanic mountains, whoſe lighter and leſs ſolid parts may have been worn away by the hand of time? Mr Faujais de St Fond gives an example of baſalt columns placed deep within the crater of an extinguiſhed volcano.

13
Of the baſaltes thrown out by Veſuvius

12. It is well aſcertained by experience, that there are vaſt beds of pyrites diſperſed through the interior parts of the earth at all depths; and it is alſo a certain fact, that this compound ſubſtance may be decompounded by the accidental affuſion of water, in ſuch a manner as to become hot, and at laſt to burn with great fury. This accenſion of pyrites is by many ſuppoſed to be the true origin of the volcanic fire; and an argument for this is, that the preſent volcanoes do pour forth great quantities of the component parts of pyrites, particularly ſulphur, iron, and clay. Now, among the ſuperinduced ſubſtances of the county of Antrim, and the ſame may probably be ſaid of every other baſaltic country, it is certain that the quantity of iron and clay diffuſed through almoſt every ſpecies of foſſil, amounts to more than one half of the whole material; ſo that two of the principal elements of the pyrites are ſtill found there, reduced in many inſtances to

BASALTES *Fig 1*

Plate XCIII

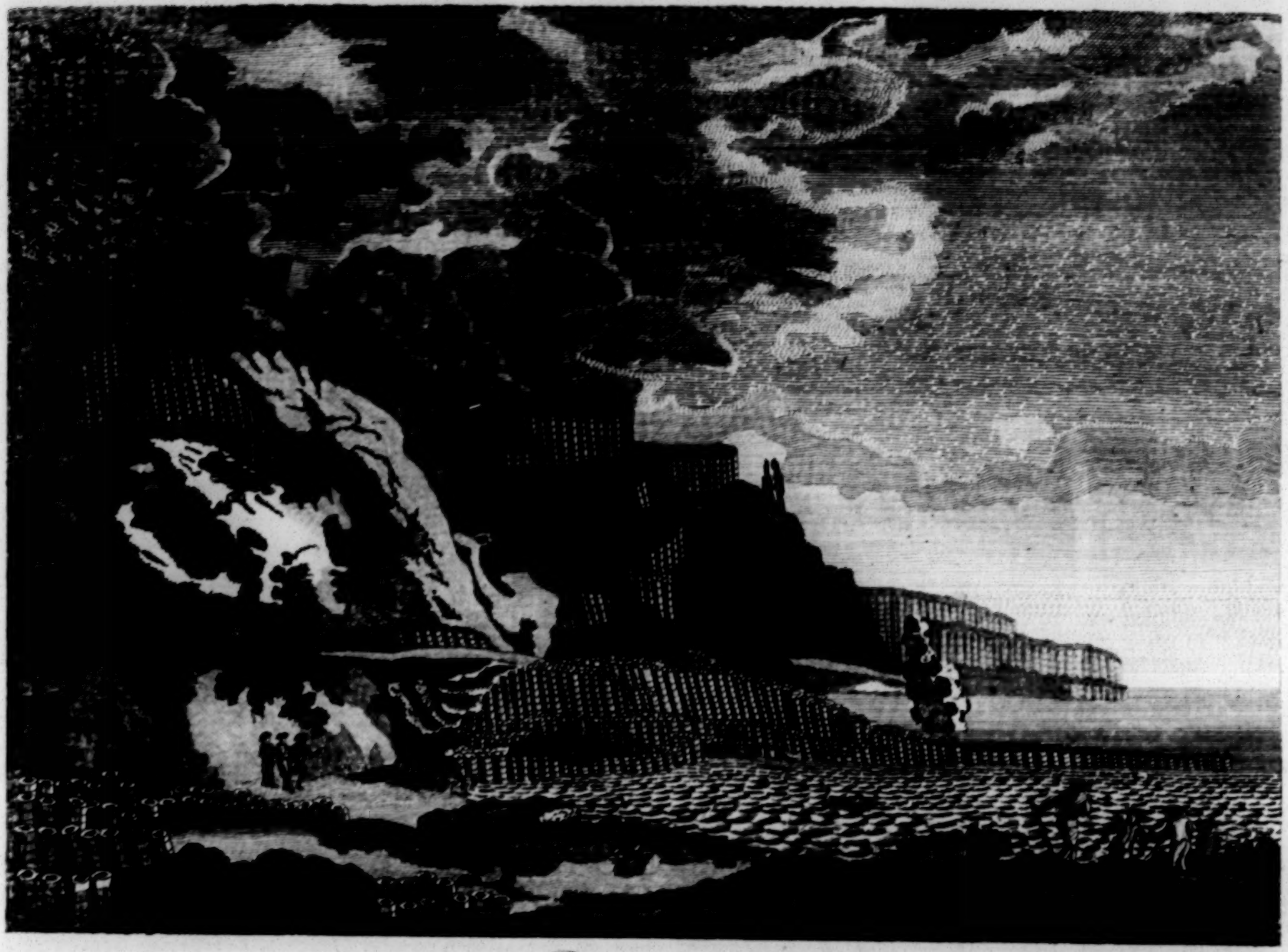
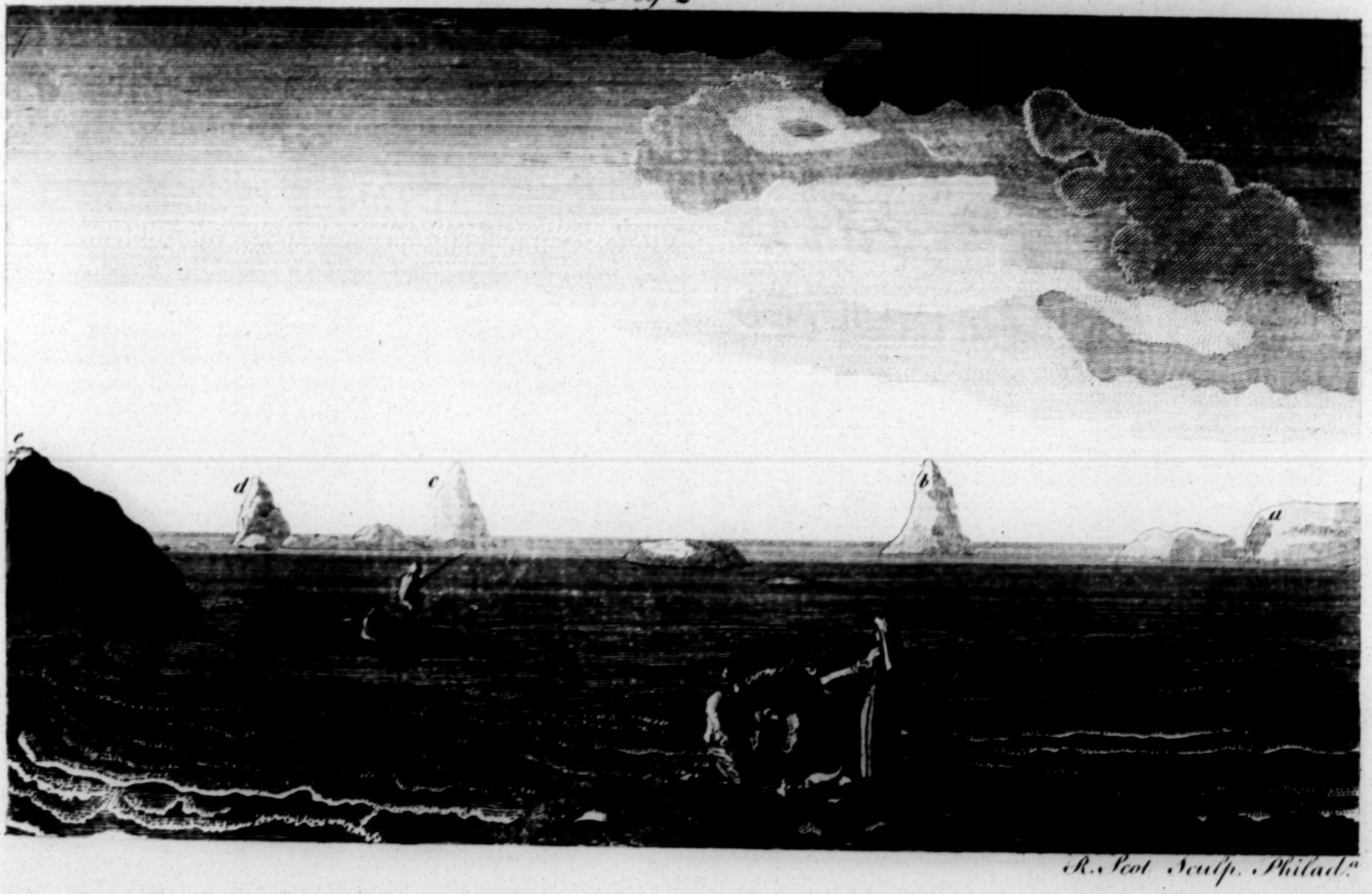


Fig 2



R. Scot Sculp. Philad.ª

BRITISH MUSEUM

to a ſlag or ſcoria. The third principle, viz. the ſulphur, cannot be expected to remain; becauſe ſulphur is totally conſumed by combuſtion; and what might perhaps eſcape and be ſublimed would no doubt have ſince periſhed by decompoſition, in conſequence of being expoſed to the air.

14 Glaſs ſometimes appears in the form of priſmatic chryſtals.

13. Another argument, which to Sir William Hamilton appears very convincing, is, that glaſs ſometimes takes on the appearances of priſms, or cryſtallizes in cooling. He received ſome ſpecimens of this kind from Mr Parker of Fleet-ſtreet, who informed him that a quantity of his glaſs had been rendered unſerviceable by taking ſuch a form. Some of theſe were in laminæ which may be eaſily ſeparated, and others reſemble baſaltic columns in miniature, having regular faces. "Many of the rocks of lava in the iſland of Ponza (ſays he) are, with reſpect to their configurations, ſtrikingly like the ſpecimens of Mr Parker's glaſs abovementioned; none being very regularly formed baſaltes, but all having a tendency towards it. Mr Parker could not account for the accident that occaſioned his glaſs to take the baſaltic form; but I have remarked, both in Naples and Sicily, that ſuch lavas as have run into the ſea are either formed into regular baſaltes, or have a great tendency towards ſuch a form. 15 Lavas which run into the ſea have a tendency to run into baſaltes. The lavas of Mount Ætna, which ran into the ſea near Jacic, are perfect baſaltes; and a lava that ran into the ſea from Veſuvius, near Torre del Græco in 1631, has an evident tendency to the baſaltic form."

16 Arguments in oppoſition to the volcanic theory.

In oppoſition to theſe arguments it is urged, that in many of the countries where baſaltes moſt abound, there are none of the characteriſtics of volcanic mountains. They aſſert, therefore, that the baſaltes is a foſſil, very extenſively ſpread over the ſurface of the earth; and that, where it is found in the neighbourhood of volcanic mountains, we ought to ſuppoſe theſe to be accidently raiſed on a baſaltic ſoil rather than to have created it. But the advocates for the volcanic ſyſtem are not much embarraſſed with this argument. 17 Anſwered. According to them, the baſaltes has been formed under the earth itſelf, and within the bowels of theſe very mountains; where it could never have been expoſed to view until, by length of time or ſome violent ſhock of nature, the incumbent maſs muſt have undergone a very conſiderable alteration, ſuch as ſhould go near to deſtroy every exterior volcanic feature. In ſupport of this it may alſo be obſerved, that the promontories of Antrim do bear evident marks of ſome very violent convulſion, which has left them in their preſent ſituation; and that the iſland of Ragherry, and ſome of the weſtern iſles of Scotland, do really appear like the ſurviving fragments of a country, great part of which might have been buried in the ocean. It is further added, that though the exterior volcanic character be in great meaſure loſt in the baſaltic countries yet this negative evidence can be of little weight, when we conſider, that the few inſtances where the features have been preſerved afford a ſufficient anſwer to this objection. Thus the Montagne de le Coupe in France ſtill bears the marks of its having been formerly a volcano: and this mountain is obſerved to ſtand on a baſe of baſaltic pillars, not diſpoſed in the tumultuary heap into which they muſt have been thrown by the furious action of a volcanic eruption, tearing up the natural ſoil of the country; but arranged in all the regularity of a Giant's Cauſeway, ſuch as might be ſuppoſed to reſult from the cryſtallization of a bed of melted lava, where reſt and a gradual refrigeration contributed to render the phenomenon as perfect as poſſible.

18 Mr Ferber's argument from the cryſtals found in black lava.

To theſe arguments ſtated by Mr Hamilton we ſhall add another from Mr Ferber; viz. That at the time he went from Rome to Oſtia they were paving the road with a ſpecies of black lava. In ſome of the broken pieces he obſerved little empty holes, of the bigneſs of a walnut, incruſtated all around their ſides by white or amethyſtine ſemipellucid, pointed, or truncated pyramidal cryſtallizations, entirely reſembling the agate nodules or geodes, which are commonly filled with quartz cryſtallizations. There was no crack or fiſſure in the ambient compact lava; the cryſtal ſherls were pretty hard, and might rather be called *quartz*. Some fine browniſh duſt lay in the reſt of the holes, as impalpable and light as aſhes. He tells us alſo, that in the greateſt part of the Paduan, Veroneſe, and Vicentine lavas, we meet with an infinite quantity of white polygonal ſherl cryſtallizations, whoſe figure is as regular, and ſtill more polygonal than the baſaltes.

19 Mr Bergman's theory.

Theſe may be conſidered as the principal arguments in favour of the volcanic theory of baſaltes. On the other hand, the late celebrated Mr Bergman expreſſes himſelf to the following purpoſe.

"Ten years ago it was a general opinion, that the ſurface of the earth, together with the mountains, had been produced by moiſture. It is true that ſome declared fire to be the firſt original cauſe, but the greater number paid little attention to this opinion. Now, on the contrary, the opinion that ſubterraneous fire had been the principal agent gains ground daily; and every thing is ſuppoſed to have been melted, even to the granite. 20 Both fire and water contribute to form baſaltes. My own opinion is, that both the fire and water have contributed their ſhare in this operation; though in ſuch a proportion, that the force of the former extends much farther than the latter; and, on the contrary, that the fire has only worked in ſome parts of the ſurface of the earth. It cannot be doubted that there has been ſome connection betwixt the baſaltic pillars and ſubterraneous fire; as they are found in places where the marks of fire are yet viſible; and as they are even found mixed with lava, tophus, and other ſubſtances produced by fire.

21 Of the methods by which mineral cryſtals are naturally formed.

"As far as we know, nature makes uſe of three methods to produce regular forms in the mineral kingdom. 1. That of cryſtallization or precipitation; 2. The cruſting or ſettling of the external ſurface of a liquid maſs while it is cooling; and, 3. The burſting of a moiſt ſubſtance while it is drying.

"The firſt method is the moſt common; but to all appearance, nature has not made uſe of it in the preſent caſe. Cryſtals are ſeldom or never found in any quantity running in the ſame direction; but either inclining from one another, or, what is ſtill more common, placed towards one another in ſloping directions. They are alſo generally ſeparated a little from one another when they are regular. The nature of the thing requires this, becauſe the ſeveral particles of which the cryſtals are compoſed muſt have the liberty of obeying that power which affects their conſtitution. The baſaltic columns, on the contrary, whoſe height is frequently from 30 to 40 feet, are placed parallel to one another in conſiderable numbers, and ſo cloſe together that the point of a knife can hardly be introduced between them. Beſides, in moſt places, each pillar is divided into ſeveral parts or joints, which ſeem to be placed on one another. And indeed it is not uncommon for cryſtals to be formed above one another in different layers, while the ſolvent has been viſibly diminiſhed at different times: but then the upper cryſtals never fit ſo exactly upon one another as to produce connected priſms of the ſame length or depth in all the ſtrata taken together; but each ſtratum, ſeparately taken, produces its own cryſtals.

“ Precipitation, both in the wet and dry way, requires that the particles ſhould be free enough to arrange themſelves in a certain order; and as this is not practicable in a large melted maſs, no cryſtallizations appear, excepting on its ſurface or in its cavities. Add to this, that the baſaltes in a freſh fracture do not ſhow a plain ſmooth ſurface under the microſcope; but appear ſometimes like grains of different magnitude, and at other times reſemble fine rays running in different directions, which does not correſpond with the internal ſtructure of cryſtals.

“ Hence the opinion of baſaltes being formed by cryſtallization either in the wet or dry method muſt become leſs probable; but it muſt not be omitted, that the ſpars exhibit a kind of cryſtallization, which at firſt ſight reſembles a heap of baſaltes, but upon a cloſer examination a very great difference is to be found. The form of the ſpar is every where alike, but the baſaltes differ from one another in ſize and the number of their ſides. The former, when broken, conſiſts of many ſmall unequal cubes; but the baſalt does not ſeparate in regular parts, &c. &c.

“ Nature's ſecond method of producing regular forms is that of cruſting the outer ſurface of a melted maſs. By a ſudden refrigeration, nature, to effect this purpoſe, makes uſe of polyhedrous and irregular forms. If we ſuppoſe a conſiderable bed which is made fluid by fire, and ſpread over a plain, it evidently appears, that the ſurface muſt firſt of all loſe the degree of heat requiſite for melting, and begin to congeal. But the cold requiſite for this purpoſe likewiſe contracts the uppermoſt congealed ſtratum into a narrower ſpace; and conſequently cauſes it to ſeparate from the remaining liquid maſs, as the ſide expoſed to the air is already too ſtiff to give way. In this manner a ſtratum is produced, running in a parallel direction with the whole maſs; others are ſtill produced by the ſame cauſe in proportion as the refrigeration penetrates deeper. Hence we may very plainly ſee how a bed may be divided into ſtrata. In the ſame manner the refrigeration advances on the ſides; which conſequently divides the ſtrata into polyhedrous pillars, which can hardly ever be exactly ſquare, as the ſtrongeſt refrigeration into the inner parts of the maſs advances almoſt in a diagonal line from the corners. If we add to this, that a large maſs cannot be equal through its compoſition, nor every where liquid in the ſame degree, it will be eaſy to diſcover the cauſe of ſeveral irregularities. If the depth of the bed be very conſiderable in proportion to its breadth, priſmatic pillars without croſs diviſions will be formed at leaſt lengthwiſe from the uppermoſt ſurface downwards.

“ The third way is perfectly ſimilar to the preceding in its effect; but it is different from it by the maſs being ſoaked in water, and by the burſting of it aſunder, being the effect of the contraction while it is drying. If we ſuppoſe ſuch a bed to be ſpread over a level ſpace, the drying advances in the ſame manner as the refrigeration in the former caſe. This ſeparation into ſtrata properly happens when a conſiderable quantity of clay enters into the whole compoſition, becauſe the clay decreaſes more than any other kind of earth in drying.

22
How the baſaltes have been formed, according to this theory.

“ It is moſt probable, therefore, that the pillars have been produced out of the baſaltic ſubſtance while it was yet ſoft, or at leaſt not too hard to be ſoftened by exhalations. If we therefore ſuppoſe a bed to be ſpread over a place where a volcano begins to work, it is evident that a great quantity of the water always preſent on ſuch occaſions muſt be driven upwards in exhalations or vapours; which, it is well known, poſſeſs a penetrating, ſoftening power, by means of which they produce their firſt effect: but when they are increaſed to a ſufficient quantity, they force this tough moiſt ſubſtance upwards; which then gradually falls, and during this time burſts in the manner above deſcribed.

23
Reaſons for ſuppoſing that the baſaltes has not been melted.

“ The reaſons for this ſuppoſition are as follows: 1. We do not find the internal ſubſtance of the baſaltes melted or vitrified; which, however, ſoon happens by fuſion; and for which only a very ſmall degree of fire is requiſite. It is of conſequence very hard to explain how this ſubſtance could have been ſo fluid that no traces of bubbles appear in it; and yet, when broken, ſeem dull and uneven. Lava is ſeldom vitrified within; but the great number of bubbles and pores which are found in the whole maſs, are more than ſufficient proofs, that it has not been perfectly melted to its ſmalleſt parts, but has only been brought to be near fluid. Secondly, the baſaltes ſo much reſemble the finer trapp, both in their grain and original compoſition, that they can hardly be diſtinguiſhed in ſmall fragments.”

24
Mr Kirwan's opinion.

Mr Kirwan is of opinion, that the baſaltes owe their origin both to fire and water: they ſeem to have been at firſt a lava; but this, while immerſed in water, was ſo diffuſed or diſſolved in it with the aſſiſtance of heat, as to cryſtallize when cold, or coaleſce into regular forms. That baſaltes is not the effect of mere fuſion he concludes from compairing its form with its texture. Its form, if produced by fuſion, ought to be the effect of having flowed very thin; but in that caſe its texture ſhould be glaſſy: whereas it is merely earthy and devoid of cavities. Hence we may underſtand how it comes to paſs that lava perfectly vitrified, and even water, have been found incloſed in baſaltes.

25
Mr Houel's theory.

Mr Houel in his *Voyage Pittureſque*, is at conſiderable pains to account for the origin of the different ſpecies of baſaltes he met with in the neighbourhood of Ætna. “ Some modern writers (ſays he) attribute the configuration of the baſaltes to the ſudden cooling of the lava in conſequence of the effects produced upon it by the coldneſs of ſea-water, when it reaches the ſea in a ſtate of fuſion. They ſuppoſe that the ſhock, which it then receives, is the cauſe of thoſe different configurations which this ſubſtance aſſumes; the moſt remarkable of which have been already mentioned. This aſſertion, however, ſeems to be ill founded. By conſidering the baſaltic rock, the firſt of the cyclops repreſented in the plate, we find that the pile is not in its original ſtate, and that the ſeries of columns is at preſent incomplete. It is very probable, that the ſpecies of clay found there, and which is extraneous to the baſaltes, has by ſome means taken poſſeſſion of its place; and it likewiſe appears, that not one of the baſaltes here deſcribed is entire.

“ It ſeems incredible, however, that a maſs of matter reduced by fire to a ſtate of liquefaction, and flowing into the ſea, ſhould be ſuddenly changed into regular figures by the ſhock of coming into contact with cold water: and that all the figures which are thus formed ſhould be diſpoſed in the ſame manner with regard to one another. For if we ſuppoſe that the water made its way into the cavity of the lava at the inſtant when it retreated backwards, then might the ſame quantity of water penetrate into the moſt remote parts of the maſs; and by that means prolong the cavity which it had begun to form when it firſt entered the maſs. The water then being lodged within this burning maſs, and being in a ſtate of dilatation, would have expelled whatever oppoſed it, and ſwelled the whole maſs in ſuch a manner as to form much larger interſtices than thoſe which appear between the baſaltic columns; ſince theſe are every where in cloſe contact with one another. Beſides, how could the ſudden cooling of the lava divide the upper part and ſides of ſuch an enormous maſs as exactly as if they had been caſt in a mould made on purpoſe?

“ It remains alſo for thoſe who adopt the hypotheſis in queſtion to explain how the ſhock occaſioned by the cold water ſhould make itſelf felt beyond a certain depth: ſince the very firſt moment it comes into contact with the liquid lava, it muſt ceaſe to be cold; for the lava cannot but communicate to it a greater degree of heat than it communicates of cold in return, as the water is more eaſily penetrable by the burning lava than the maſs of lava by the ſurrounding water. But further, if at the firſt moment after the lava enters the water it were cooled and contracted, the water would ſoon prevent, by the contraction of its whole ſurface, any continuation of the effect which it had firſt occaſioned.

“ This ſeems to be the great difficulty: for how is it thus poſſible for the water to extend its influence to the centre of any very conſiderable maſs; and even ſuppoſing it to act at the centre, how could it be able to fix the common centre of all the different columns?

“ Let us next conſider what a degree of ebullition muſt take place in the water when it receives ſuch a vaſt quantity of lava heated not only more intenſely than common fire, but than red-hot iron! Though that maſs, 100 fathoms in diameter, were to proceed from the bottom of the ſea; or though it were immerſed in it, the degree of ebullition would ſtill be the ſame; and it is difficult to conceive what ſhock can be occaſioned by a cold which does not exiſt, on a maſs which burns, or cauſes to boil, whatever comes near it.

“ One peculiarity attending the baſaltes is, that it remains fixed in the receſs which it has once occupied. Another, not leſs eſſential, is its power of dividing itſelf in the midſt of any one of its hardeſt parts [†], and to form two diſtinct pieces, one of which is always concave, and the other convex; a diviſion which ſeems the moſt ſingular curioſity of the whole.

“ A third peculiarity might ſtill be found in the interior part of theſe columns, if we were to meet with any that had ſuffered more by the lapſe of time than thoſe already deſcribed; but it is impoſſible for all this to be effected by water. How can water, which is every where the ſame, and which may be expected always to produce the ſame effects, produce ſuch a variety on baſaltes by mere contact?

“ The cauſe of all theſe varieties, therefore, ſeems to be this, that theſe lavas are originally compoſed of materials extremely different in their natures, and from which ſuch a variety of effects naturally proceed. The ſame ſpecies of matter, when actuated by the ſame cauſe, will conſtantly produce the ſame effects. This variety of effects therefore is much leſs owing to the influence of the water, than to the variety of materials of which thoſe lavas are compoſed; and theſe are combined in different forms and quantities, according to the nature and quantity of the various materials which have been reduced by the volcano to a ſtate of fuſion.

“ The forms of the baſaltes therefore proceed from two cauſes. One of them, viz. the cooling, belongs indifferently to every ſpecies, independent of its meeting with water. The other is the diverſity of the quantities and of the materials of which the lava is compoſed. From theſe cauſes alone proceed all the beauties and varieties which are beheld with admiration in this claſs of bodies. Theſe take place, from the moſt irregular fractures in the lava, to thoſe which diſplay the greateſt exactneſs and ſymmetry. Every new erupted lava differs from thoſe which preceded it, and from thoſe which will follow. In the various principles of theſe lavas we muſt ſeek for the cauſes of thoſe cavities diſcoverable in the baſaltes, and for the cauſes which produce thoſe baſaltes, at the time when the matter of which it is compoſed contracted itſelf, and conſolidated all its parts. In the act of condenſation, it appears to have formed various foci, around which we may diſtinguiſh the line which ſets bounds to the power of each of them; and this is the line which marks the ſpaces intervening between the different pieces; becauſe all of them are poſſeſſed of the ſame attractive force. The fire emitted by the lava, at the time the baſaltes is formed, produces upon it the ſame effect that is produced by the evaporation of the acqueous moiſture from thoſe bodies where water forms a part of the original conſtitution; which bodies harden in proportion as they become dry, by reaſon of the approach of their conſtituent parts to one another. The abſtraction of fire produces the ſame effect upon baſaltes, by ſuffering its component parts to come into cloſer union.

“ A new proof of this theory is deducible from the form of the baſaltes repreſented Plate XCIV fig. 4. The interſtices there are pretty numerous; becauſe the lava being of that ſpecies denominated *dirty*, and conſiſting of parts, moſt of which have but little ſolidity, they have left much larger ſpaces between them at their contraction. From this want of ſoldity we may perceive how much the baſaltic maſs loſt of the fire by which it was dilated while in ſtate of fuſion.

“ The void ſpaces left by the contraction of the baſaltes,

[†] See Pl XCIII. fig. 2,

ſaltes, are filled with a ſpongy matter, which by drying has alſo left large interſtices; and theſe have been filled in their turn with a kind of yellow matter ſimilar to that which covers the promontory of Caſtel d'Iaci.

"Whatever variety of forms we meet with among the baſaltes, and whatever diviſions and ſubdiviſions may be obſervable among theſe varieties, they are owing, 1. To the minuteneſs, 2. To the homogeneous nature, or, 3. To the diverſity among the particles which compoſe the baſaltes. Among the varieties already enumerated, we find rediſh, earthy, ſoft and porous ſubſtances, together with the zeolite cryſtals. We ſee others extremely hard and compact, very finely grained, and containing likewiſe ſchoerl and zeolite cryſtals. Others are very hard and denſe, which appear to be a mixture of ſmall grey and white bodies; and of each of theſe colours many different ſhades, from light to darker, containing alſo zeolite cryſtals. Laſtly, we find ſome conſiſting of a matter ſimilar to clay, mixed with round black ſand.

"It may be objected, that the late eruptions of Ætna afford no baſaltes, nor have they any diviſions ſimilar to thoſe abovementioned. But to this we may reply, that if they afford neither ſuch baſaltes, nor ſuch regular diviſions, the reaſon is, that neither their quantity, nor the ingredients of which they are compoſed, are ſuch as are neceſſary for the production of baſaltes: and for a proof of this we may refer to lavas of the moſt remote antiquity, which have no more reſemblance to baſaltes than thoſe that are more modern.

"Laſtly, an argument, to which no plauſible reply can be made, that the baſaltes are not formed by ſea-water, is, that in the year 1669, the lava of mount Ætna ran into the ſea for two leagues and a half, without having the leaſt appearance of being converted into baſaltes."

BASAN, or **Bashan**, (anc. geog.), a territory beyond Jordan, mentioned in ſcripture. By Joſephus, Euſebius, and Jerom, it is called *Batanæa*. On the entering of the Iſraelites into the land of Canaan, the whole of the country beyond Jordan, from that of the Moabites, or Arabia, as far as mount Hermon and Lebanon, was divided into two kingdoms, viz. that of Sihon king of the Amorites, and of Og king of Baſan or *Baſhan*; the former to the ſouth and the latter to the north. The kingdom of Sihon extended from the river Arnon and the country of Moab, to the river Jabbok; which running in an oblique courſe from the eaſt, was at the ſame time the boundary of the Ammonites, as appears from Numb. xxi. 24. and Deut. ii. 37. and iii. 16. The kingdom of Sihon fell to the lot of the Reubenites and Gadites, and Baſan to the half-tribe of Maneſſeh. To this was annexed a part of the hilly country of Gilead, and the diſtrict of Argob, but ſo that Baſan continued to be the principal and greateſt part: but, after the Babyloniſh captivity, Baſan was ſubdivided: ſo that only a part was called *Batanea* or *Baſan*, another *Trahonitis*, a third *Auranitis* or *Ituræa*, and ſome part alſo *Gaulonitus*; but to ſettle the limits of each of theſe parts is a thing now impoſſible.—Baſhan was a country famous for its paſtures and breed of large cattle.

BASARTSCHIK, a conſiderable town of Romania in Turkey of Europe. It is pretty well built, and hath clean and broad ſtreets; has a great trade; and is ſituated on the river Meritz, in E. Long. 24. 30. N. Lat. 41. 49.

BASARUCO, in commerce, a ſmall baſe coin in the Eaſt Indies, being made only of very bad tin. There are, however, two ſorts of this coin, a good and a bad; the bad is one ſixth in value lower than the good.

BASE, in geometry, the loweſt ſide of the perimeter of a figure: Thus, the baſe of a triangle may be ſaid of any of its ſides, but more properly of the loweſt, or that which is parallel to the horizon. In rectangled triangles, the baſe is properly that ſide oppoſite to the right angle.

Base of a Solid Figure, the loweſt ſide, or that on which it ſtands.

Base of a Conic Section, a right line in the hyperbola and parabola, ariſing from the common interſection of the ſecant plain and the baſe of the cone.

Base, in architecture, is uſed for any body which bears another, but particularly for the lower part of a column and pedeſtal.—The ancients, in the early times of architecture, uſed no baſes. The Doric columns in the temple of Minerva at Athens have none, but ſtand immediately upon the floor of the porch. Columns afterwards came to be ſupported on ſquare pieces called *plinths*, and after that on pedeſtals. When we ſee a column, of whatſoever order, on a pedeſtal, the baſe is that part which comes between the top of the pedeſtal and the bottom of the ſhaft of the column; when there is no pedeſtal, it is the part between the bottom of the column and the plinth: ſome have included the plinth as a part of the baſe; but it is properly the piece on which the baſe ſtands, as the column ſtands upon that.—The pedeſtal alſo has its baſe as well as the column, and the pilaſter. The baſe of columns is differently formed in the different orders; but in general it is compoſed of certain ſpires or circles, and was thence in early times called the *ſpire of a column*. Theſe circles were in this caſe ſuppoſed to repreſent the folds of a ſnake as it lies rolled up, but they are properly the repreſentations of ſeveral larger and ſmaller rings or circles of iron, with which the trunk of trees which were the ancient columns were ſurrounded to prevent their burſting: theſe were rude and irregular, but the ſculptor who imitated them in ſtone found the way to make them elegant.

Base, in fortification, the exterior ſide of the polygon, or that imaginary line which is drawn from the flanked angle of a baſtion to the angle oppoſite to it.

Base, in gunnery, the leaſt ſort of ordnance, the diameter of whoſe bore is $1\frac{1}{4}$ inch, weight 200 pound, length 4 feet, load 5 pound, ſhot $1\frac{1}{4}$ pound weight, and diameter $1\frac{1}{4}$ inch.

Base, in chemiſtry. See Basis.

Base, in law. *Baſe eſtate*, ſuch as baſe tenants have in their hands. *Baſe tenure*, the holding by villenage, or other cuſtomary ſervices; as diſtinguiſhed from the higher tenures *in capite*, or by military ſervice. *Baſe fee*, is to hold in fee at the will of the lord, as diſtinguiſhed from ſoccage tenure. *Baſe court*, any court not of record.

BASELLA, climbing nightshade *from Malabar*: A genus of the trigynia order, belonging to the pentandria claſs of plants; and in the natural method ranking

Fig. 1.

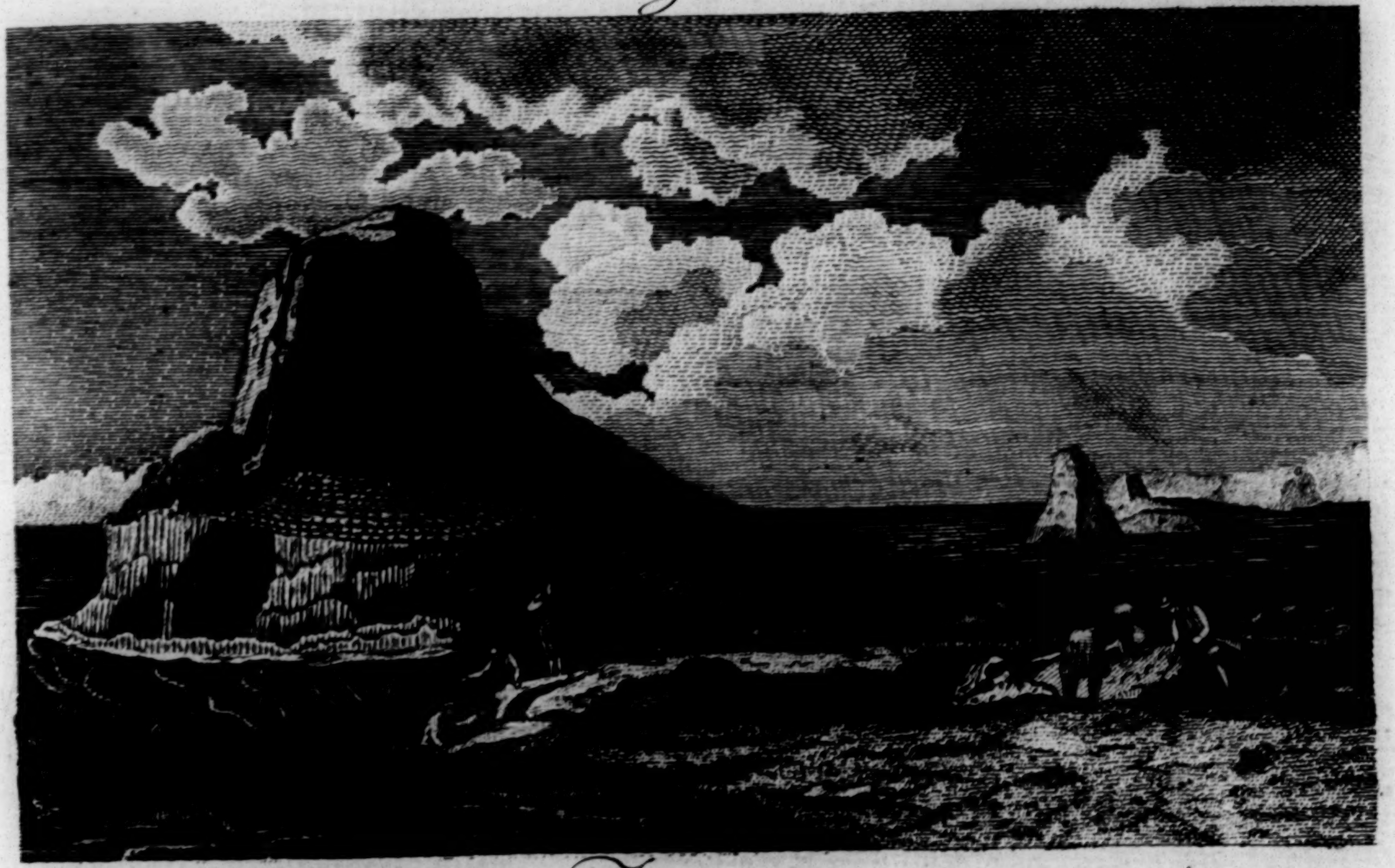
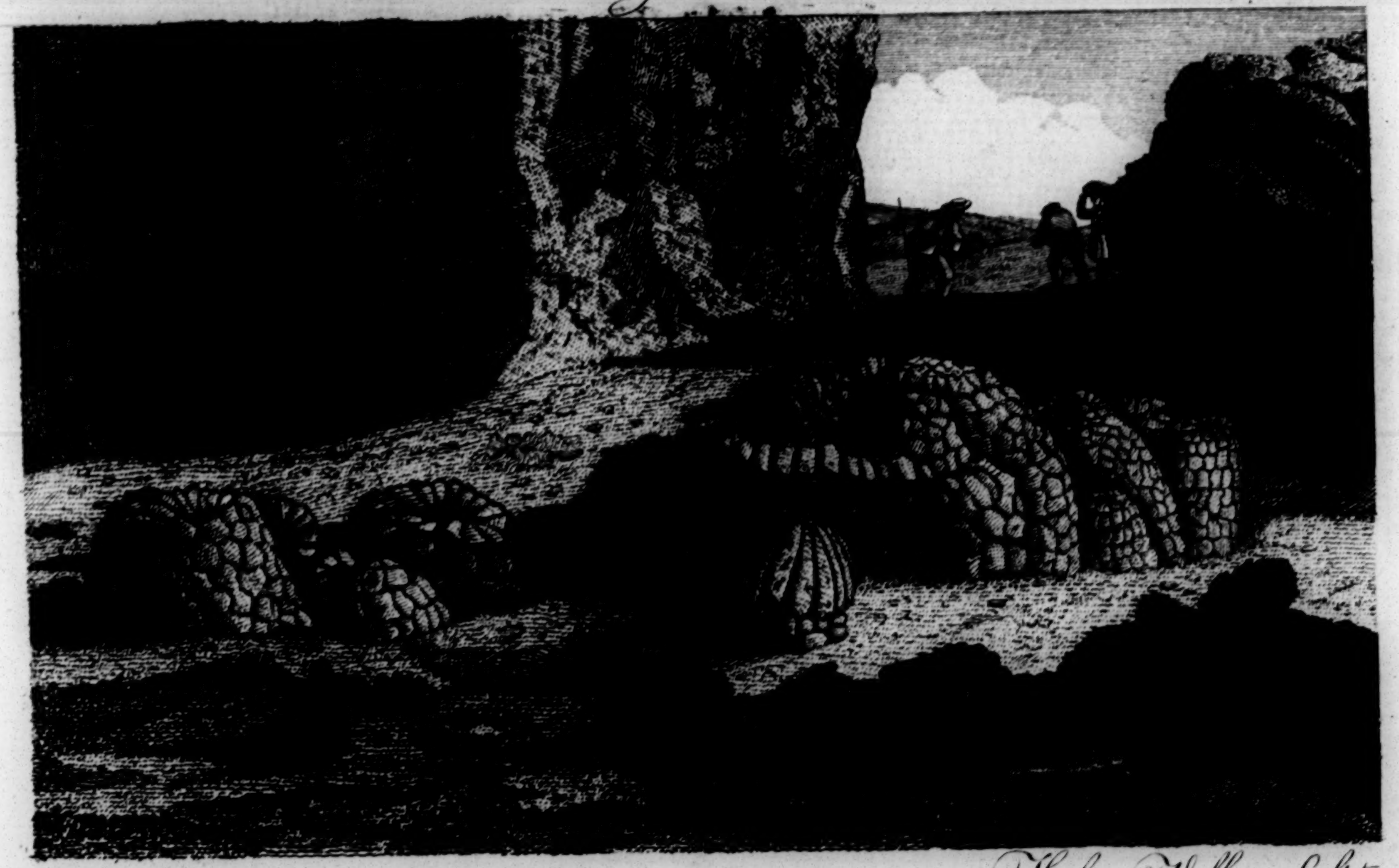


Fig. 2.



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ranking under the 12th order *Holoraceæ*. The calyx is wanting; the corolla is ſeven-cleft, with the two oppoſite diviſions broader, and at laſt berried; there is one ſeed.

Species. 1. The rubra, with red leaves and ſimple footſtalks, has thick, ſtrong, ſucculent ſtalks and leaves, which are of a deep purple colour. The plant will climb to the height of ten or twelve feet, provided it is kept in a ſtove; but in the open air it will not grow ſo large in Britain; nor will the ſeeds come to perfection in the open air, unleſs in very warm ſeaſons. The flowers of this plant have no great beauty, but it is cultivated on account of the odd appearance of its ſtalks and leaves There is a variety of this with green ſtalks and leaves, and the flowers of a whitiſh green colour tipped with purple. 2. The alba, with oval waved leaves. This ſort hath flaccid leaves, and ſmaller flowers and fruit than the firſt. The plants will climb to a conſiderable height, and ſend forth a great number of branches; ſo they ſhould be trained up to a trellis, or faſtened to the back of the ſtove, otherwiſe they will twiſt themſelves about whatever plants ſtand near them, which will make a very diſagreeable appearance.

Culture. Theſe plants are propagated from ſeeds, which ſhould be ſown on a moderate hot-bed in the ſpring; and when the plants are fit to remove, they ſhould be each planted in a ſeparate pot, and plunged into the tan-bed, where they are to be treated like other tender exotics. They may be alſo propagated from cuttings; but as they riſe ſo eaſily from the ſeeds, the latter method is ſeldom practiſed.

Uſes. The berries of the firſt ſpecies are ſaid to be uſed for ſtaining callicoes in India. Mr Miller aſſures us, that he has ſeen a very beautiful colour drawn from them, but which did not continue long when uſed in painting. He is of opinion, however, that a method of fixing the colour might be invented, in which caſe the plant would be very uſeful.—This, we apprehend, might be accompliſhed by means of ſolution of tin in aqua regia, which hath a ſurpriſing effect both in brightening and giving durability to other vegetable colours.

BASEMENT, in architecture. See ARCHITECTURE, Nº 70. 71.

BASHARIANS, a ſect of Mahometans, being a branch or ſubdiviſion of the Motazalites. The Baſharians are thoſe who maintain the tenets of Baſhar Ebn Motamer, a principal man among the Motazalites, who varied, in ſome points, from the general tenets of the ſect, as carrying man's free agency to a great length, and even to the making him independent.

BASHAW, a Turkiſh governor of a province, city, or other diſtrict.

A baſhaw is made with the ſolemnity of carrying a flag or banner before him, accompanied with muſic and ſongs, by the mirialem, an officer on purpoſe for the inveſtiture of baſhaws. *Baſhaw*, uſed abſolutely, denotes the prime vizir; the reſt of the denomination being diſtinguiſhed by the addition of the province, city, or the like, which they have the command of; as the baſhaw of Egypt, of Paleſtine, &c. The baſhaws are the emperor's ſponges. We find loud complaints among Chriſtians of their avarice and extortions. As they buy their governments, every thing is venal with them. When glutted with wealth, the emperor frequently makes them a preſent of a bow ſtring, and becomes heir to all their ſpoils.

The appellation *baſhaw* is given by way of courteſy to almoſt every perſon of any figure at the grand ſignior's court.

BASIL (St) the Great, one of the moſt learned and eloquent doctors of the church, was born at Cæſarea, in Cappadocia, about the year 328; and went to finiſh his ſtudies at Athens, where he contracted a ſtrict friendſhip with St Gregory Nazianzen. He returned to his native country in 355, where he taught rhetoric. Some time after, he travelled into Syria, Egypt, and Lybia, to viſit the monaſteries of theſe countries; and the monaſtic life ſo much ſuited his diſpoſition, that upon his return home he reſolved to follow it, and he was the firſt inſtitutor thereof in Pontus and Cappadocia. His reputation became ſo great, that, upon the death of Euſebius biſhop of Cæſarea, in 370, he was choſen his ſucceſſor. It was with ſome difficulty that he accepted of this dignity; and no ſooner was he raiſed to it, than the emperor Valens began to perſecute him becauſe he refuſed to embrace the doctrine of the Arians. Being at length let alone, he began to uſe his utmoſt endeavours to bring about a reunion betwixt the eaſtern and weſtern churches, who were then much divided about ſome points of faith, and in regard to Meletius and Paulinus two biſhops of Antiochia. But all his efforts were ineffectual, this diſpute not being terminated till nine months after his death. Baſil had a ſhare in all the diſputes which happened in his time in the eaſt in regard to the doctrine of the church; and died the 1ſt of January, 379.—There have been ſeveral editions of his works in Greek and Latin. The beſt is that of Father Garnier, printed in Greek and Latin, in three volumes folio. St Baſil's ſtyle is pure and elegant, his expreſſions are grand and ſublime, and his thoughts noble and full of majeſty. Eraſmus places him among the greateſt orators of antiquity.

BASIL, a Canton of Switzerland, which joined the confederacy in 1501. It is bounded on the ſouth by the canton of Solothurn; on the north by part of the margravate of Baden Dourlach, and the territory of Rheinſelden; on the eaſt by Frickthal; and on the weſt by part of Solothurn, the dioceſe of Baſil, and the Sundgare; being upwards of 20 miles in length, and about 18 in breadth. It is entirely proteſtant; and contains 27 pariſhes, and ſeven bailiwics. The lower parts of it are fruitful in corn and wine, and alſo fit for paſture; but the mountains are extremely barren. Here are many medicinal ſprings and baths, and the air is wholeſome and temperate. Both men and women for the moſt part wear the French dreſs; but the language commonly ſpoken is the High Dutch, tho' the French alſo is much uſed. The government is ariſtocratical; and its revenues ariſe chiefly from ſecularized abbeys, and impoſts on goods carried through the country, to and from France, Italy, and Germany. Beſides the military eſtabliſhment of the city of Baſil, there are two provincial regiments, conſiſting each of ten companies, and a troop of dragoons.—The places of moſt note are Baſil the capital, Walienburg, St Jacob, Neue-Haus, &c.

BASIL, the capital of the canton of that name, is the largeſt city in all Switzerland, having 220 ſtreets, and ſix market-places or ſquares. Its environs are exceeding beautiful, conſiſting of a fine level tract of fields and meadows. The city is divided into two parts by the Rhine, over which there is a handſome bridge. It is thought by ſome to have riſen on the ruins of the old Auguſta Rauracorum. For its name of *Baſilia* it is indebted to Julian the Apoſtate, who would have it ſo called in honour of his mother Baſilina. It is fortified with walls, moats, towers, and baſtions, and contains ſeveral churches, beſides the cathedral, which is an old Gothic ſtructure; a commandery of the order of St John, and another of the Teutonic order; a public granary and arſenal; a ſtately town-houſe, in which is an exquiſite piece of the ſufferings of Chriſt, by Holbein, and a ſtatue of Munatius Plancus, a Roman general, who, about 50 years before Chriſt, built the ancient city of Auguſta Rauracorum; an univerſity, which was founded in 1459, and has a curious phyſic-garden, library, and muſeum; a gymnaſium: a ſtately palace, belonging to the margrave of Baden-Dourlach; beſides a chamber of curioſities, ſeveral hoſpitals, &c. In the arſenal is ſhown the armour in which Charles the Bald loſt his life, with the furniture of his horſe, and the kettle-drums and trumpets of his army. On the ſtair-caſe of the council-houſe, is a picture of the laſt judgment, in which, though drawn before the reformation, popes, cardinals, monks, and prieſts, are repreſented in the torments of hell. Over againſt the French church, on a long covered wall, is painted the dance of death; where the king of terrors is repreſented as mixing with all ranks and ages, and complimenting them, in German verſes, on their arrival at the grave. St Peter's ſquare, planted with elm and lime-trees, makes a pleaſant walk; but a ſpot regularly planted with trees, cloſe by the river, and near the minſter, makes ſtill a finer, as commanding a moſt beautiful and extenſive proſpect. The celebrated Eraſmus died here in 1536, in the 70th year of his age, and was buried in the great church. He left his library and cabinet of rarities to one Amberbach, a learned lawyer of this city, of whoſe heirs they were purchaſed by the univerſity. Beſides this cabinet, there are ſeveral other curious private ones. The clocks of this city go an hour faſter than elſewhere, except at Conſtance; a circumſtance which ſome aſcribe to the famous councils held there, when it was thought the beſt expedient to bring the fathers earlier to the aſſembly, for the quicker diſpatch of buſineſs; but others ſay, that, in Baſil, it was owing to an aſſault being defeated by that means. About 400 years ago, according to the ſtory, the city was threatened with an aſſault by ſurpriſe. The enemy was to begin the attack when the large clock of the tower at one end of the bridge ſhould ſtrike one after midnight. The artiſt who had the care of the clock, being informed that this was the expected ſignal, cauſed the clock to be altered, and it ſtruck two inſtead of one; ſo the enemy thinking they were an hour too late, gave up the attempt: and in commemoration of this deliverance, all the clocks in Baſil have ever ſince ſtruck two at one o'clock, and ſo on. In caſe this account of the matter ſhould not be ſatisfactory, they ſhow, by way of confirmation, a head, which is placed near this patriotic clock, with the face turned to the road by which the enemy was to have entered. This ſame head lolls out its tongue every minute, in the moſt inſulting manner poſſible. This was originally a piece of mechanical wit of the famous clockmaker's who ſaved the town. He framed it in deriſion of the enemy, whom he had ſo dexterouſly deceived. It has been repaired, renewed, and enabled to thruſt out his tongue every minute for theſe four hundred years, by the care of the magiſtrates, who think ſo excellent a joke cannot be too often repeated. Trade ſtill flouriſhes here, eſpecially in ſilk, ribbons, and wines; and the police is under excellent regulations. Moſt of the offices are beſtowed by lot among well qualified perſons. No perſon, without the city, muſt wear lace of gold or ſilver. All young women are prohibited from wearing ſilks; and the neareſt relations only are to be invited to a marriage feaſt. For the government of the city there are ſeveral councils or colleges, and officers. Of the laſt, the two burgomaſters, and two wardens of trades, are the chief. The great council is compoſed of the repreſentatives of the ſeveral companies of the greater and leſſer city. Baſil was the ſee of a biſhop till the Reformation; but though there is one that ſtill bears the title, he has now no juriſdiction here, and lives at Porentru, near the Upper Alſace. The two Buxtorffs, father and ſon, and the famous painter Holbein, were natives of this place. The council held here, in 1431, ſat in the veſtry of the cathedral.

Basil, in botany. See Ocymum.

Basil, among joiners, the ſloping edge of a chiſſel, or of the iron of a plane, to work on ſoft wood: they uſually make the baſil 12 degrees, and for hard wood 18; it being remarked, that the more acute the baſil is, the better the inſtrument cuts; and the more obtuſe, the ſtronger, and fitter it is for ſervice.

BASILEUS, βασιλευς, a title aſſumed by the emperors of Conſtantinople, excluſive of all other princes, to whom they give the title *rex*, "king." The ſame quality was afterwards given by them to the kings of Bulgaria, and to Charlemagne, from the ſucceſſors of which laſt they endeavoured to wreſt it back again.

The title *baſileus* has been ſince aſſumed by other kings, particularly the kings of England, *Ego Edgar totius Angliæ baſileus confirmavi*. Hence alſo the queen of England was intitled *Baſilea* and *Baſiliſſa*.

BASILIAN monks; Religious of the order of St Baſil. That ſaint, having retired into a deſart, in the province of Pontus, founded a monaſtery for the convenience of himſelf and his numerous followers: and for the better regulation of this new ſociety, he drew up in writing the orders and rules he would have them follow. This new order ſoon ſpread all over the eaſt; nor was it long before it paſſed into the weſt. The rule of St Baſil was approved by pope Liberius, the ſame year in which it was written and publiſhed; and afterwards by ſeveral other popes; and, in theſe laſt ages, by pope Gregory XIII. who approved the abridgement made of it by cardinal Beſſarion, in the pontificate of Eugenius IV.—Some authors pretend, that St Baſil, before he died, ſaw himſelf the ſpiritual father of more than 90,000 monks, in the eaſt only. But this order, which flouriſhed ſo greatly for more than three centuries, was afterwards conſiderably diminiſhed by hereſy, ſchiſm, and a change of empire. The greateſt ſtorm it felt, was in the reign of Conſtantine Copronymus; who perſecuted the monks of St Baſil, impriſoning ſome, and baniſhing others; inſomuch that the monaſteries were abandoned and ſpoiled of all their goods.

The hiſtorians of this order tells us, that it has produced 1805 biſhops; and beatified, or acknowledged as ſaints, 3010 abbots, 11,805 martyrs, and an infinite number of confeſſors and virgins. They likewiſe place among the religious of the order of St Baſil 14 popes, ſome cardinals, and a very great number of patriarchs, archbiſhops, and biſhops. This order likewiſe boaſts of ſeveral emperors and empreſſes, kings and queens, princes and princeſſes, who have embraced its rule.

This order was introduced in the weſt in 1057; and was reformed in 1569, by pope Gregory XIII. who united the religious of this order in Italy, Spain, and Sicily, into one congregation; of which the monaſtery of St Saviour at Meſſina is the chief, and enjoys pre-eminence over the reſt. Each community has its particular rule, beſides the rule of St Baſil, which is very general, and preſcribes little more than the common duties of a Chriſtian life.

BASILIC, or **Basilica**, in the ancient architecture, denotes a kind of public hall or court of judicature, where the princes or magiſtrates ſat to adminiſter juſtice. The word is originally Greek, *ϐασιλικη, q. d. royal houſe, palace.*

The baſilics couſiſted of a great hall, with ailes, porticos, tribunes, and tribunals. The bankers too had one part of the baſilica allotted for their reſidence. The ſcholars alſo went thither to make their declamations, according to the teſtimony of Quintillian. In after-times the denomination *baſilica* was alſo given to other buildings of public uſe, as town-houſes, exchanges, burſes, and the like. The Roman *baſilicæ* were covered, by which they were diſtinguiſhed from the *fora*, which were public places open to the air. The firſt baſilica was built at Rome by Cato the elder, whence it was called *Porcia*; the ſecond was called *Opimia*; the third was that of Paulus, built with a great expence, and with much magnificence, whence it was called by ſome *regila Pauli*; another was built by Julius Cæſar, called *baſilica Julia*; of which Vitruvius tells us he had the direction. There were others alſo, to the number of eighteen or twenty. The *baſilica Julia* not only ſerved for the hearing of cauſes, but for the reception and audience of foreign ambaſſadors. It was ſupported by an hundred marble pillars in four rows, and enriched with decorations of gold and precious ſtones. In it were 13 tribunals or judgment ſeats, where the prætors ſat to diſpatch cauſes.

Basilic is alſo uſed, in eccleſiaſtical writers, for a church. In which ſenſe, this name frequently occurs in St Ambroſe, St Auſtin, St Jerom, Sidonius Apollinaris, and other writers of the fourth and fifth centuries. It is thought that the name was thus applied, from many of the ancient churches having been formed of the Roman halls mentioned in the preceding article. In reality, on the converſion of Conſtantine, many of the ancient *baſilicæ* were given to the church, and turned to another uſe, *viz.* for Chriſtian aſſemblies to meet in, as may be collected from that paſſage in Auſonius, where ſpeaking to the emperor Gratian, he tells him, the *baſilicæ*, which heretofore were wont to be filled with men of buſineſs, were now thronged with votaries praying for his ſafety. By which he muſt needs mean, that the Roman halls or courts were turned into Chriſtian churches: and hence, we conceive, the name *baſilicæ* came to be a general name for churches in after ages.

Basilic is chiefly applied, in modern times, to churches of royal foundation; as thoſe of St John de Lateran, and St Peter of the Vatican at Rome, founded by the emperor Conſtantine.

Basilics were alſo little chapels built by the ancient Franks over the tombs of their great men, ſo called, as reſembling the figure of the ſacred *baſilicæ* or churches. Perſons of inferior condition had only *tumbæ* or *porticuli* erected over them. By an article in the Salic law, he that robbed a *tumba* or *porticulus*, was to be fined fifteen *ſolidi*; but he that robbed a baſilica, thirty *ſolidi*.

Basilics, in literary hiſtory, a name ſuppoſed to have been given by the emperor Leo to a collection of laws in honour of his father Baſilius Macedo, who began it in the year 867, and in the execution chiefly made uſe of Sabbathius Protoſpatharius, who carried the work as far as 40 books. Leo added 20 books more, and publiſhed the work in 880. The whole, 30 years after, was corrected and improved by Conſtantin Porphyrogenitus, ſon of Leo; whence many have held him the author of the baſilica. Six books of the baſilica were tranſlated into Latin in 1557, by Gentian Hervetus. An edition of the Greek baſilics, with a Latin verſion, has been ſince publiſhed at Paris, in 1647, by Annib. Fabrottus, in 7 volumes. There ſtill want 19 books, which are ſuppoſed to be loſt. Fabrottus has endeavoured to ſupply in ſome meaſure the defect from the ſynopis of the baſilica, and the gloſſes; of which ſeveral had been made under the ſucceeding emperors, and contained the whole Juſtinian law, excepting the ſuperfluities, in a new and more conſiſtent order, together with the later conſtitutions of the emperors poſterior to Juſtinian.

BASILICA, in anatomy, the interior branch of the axillary vein, running the whole length of the arm.

BASILICATA, a territory of Italy, bounded on the north by the Otranto, Bari, and Capitanata; on the weſt by the Principato, and a ſmall part of the Tuſcan ſea; on the ſouth by Calabria; and on the eaſt by the gulph of Taranto. It is watered by ſeveral rivers: but it is almoſt all occupied by the Apennine mountains, it is neither very populous nor fertile; however it produces enough to maintain its inhabitants, and has a ſmall quantity of cotton. The principal towns are Cirenza the capital, Meſi, Turſi, Rapollo, Muro, Lavello, Tracarico, Monte Peloſe, and Veneſo, which are all epiſcopal ſees.

BASILICI, a denomination given in the Greek empire to thoſe who carried the emperor's orders and commands.

BASILICON, in pharmacy, a name given to ſeveral compoſitions to be found in ancient medicinal writers. At preſent it is confined to three officinal ointments, diſtinguiſhed by the epithets black, yellow, and green. See Pharmacy.

BASILIDIANS, ancient heretics, the followers of Ba-

Baſilides, an Egyptian, who lived near the beginning of the ſecond century. He was educated in the Gnoſtic ſchool, over which Simon Magus preſided; with whom he agreed that Chriſt was a man in appearance, that his body was a phantom, and that he gave his form to Simon the Cyrenian, who was crucified in his ſtead. We learn from Euſebius, that this hereſiarch wrote 24 books upon the goſpel, and that he forged ſeveral prophets; to two of which he gave the names *Barcaba* and *Barcoph*. We have ſtill the fragment of a Baſilidian goſpel. His diſciples ſuppoſed there were particular virtues in names; and taught with Pythagoras and Plato, that names were not formed by chance, but naturally ſignified ſomething.—Baſilides, to imitate Pythagoras, made his diſciples keep ſilence for five years.

In general, the Baſilidians held much the ſame opinions with the Valentinians, another branch of the Gnoſtic family. They aſſerted, that all the actions of men are neceſſary; that faith is a natural gift, to which men are forcibly determined, and ſhould therefore be ſaved though their lives were ever ſo irregular. Irenæus and others aſſure us, they acted conſiſtently with their principle; committing all manner of villanies and impurities, in confidence of their natural election. They had a particular hierarchy of divine perſons, or Æons. Under the name *Abraxas*, they are ſaid to have worſhipped the ſupreme God, from whom as a principle, all other things proceeded. There are ſeveral gems ſtill ſubſiſting, inſcribed with the name *Abraxas*, which were uſed by the Baſilidians as amulets againſt diſeaſes and evil ſpirits. See ABRASAX and ABRAX.

BASILIPPUM (anc. geog.), a town of Bætica in Spain; now *Cantillana*, a citadel of Andaluſia, above Seville on the Guadalquivir.

BASILISCUS, in zoology, the trivial name of a ſpecies of lacerta. See LACERTA.

BASILISK, a fabulous kind of ſerpent, ſaid to kill by its breath or ſight only. Galen ſays, that it is of a colour inclining to yellow; and that it has three little eminences upon its head, ſpeckled with whitiſh ſpots, which have the appearance of a ſort of crown. Ælian ſays, that its poiſon is ſo penetrating, as to kill the largeſt ſerpents with its vapour only; and that if it but bite the end of any man's ſtick, it kills him. It drives away all other ſerpents by the noiſe of its hiſſing. Pliny ſays, it kills thoſe who look upon it.—The generation of the baſiliſk is not leſs marvellous, being ſaid to be produced from a cock's egg, brooded on by a ſerpent. Theſe, and other things equally ridiculous, are related by Matthiolus, Galen, Dioſcorides, Pliny, and Eraſiſtratus. Hirchmayer and Vander Wiel have given the hiſtory of the baſiliſk, and detected the folly and impoſture of the traditions concerning it.—In ſome apothecaries ſhops there are little dead ſerpents ſhown, which are ſaid to be baſiliſks. But theſe ſeem rather to be a kind of ſmall bird, almoſt like a cock, but without feathers: its head is lofty, its wings are almoſt like a bat's its eyes large, and it neck is very ſhort. As to thoſe which are ſhown and ſold at Venice, and in other places, they are nothing but little thornbacks artificially put into a form like that of a young cock, by ſtretching out their fins, and contriving them with a little head and hollow eyes: and this, Calmet ſays, he has in reality obſerved in a ſuppoſed baſiliſk, at an apothecary's ſhop at Paris, and in another at the Jeſuits of Pont-a-Mouſſon.

BASILISK, in military affairs, a large piece of ordnance, thus denominated from its reſemblance to the ſuppoſed ſerpent of that name. The baſiliſk throws an iron ball of 200 pound weight. It was much talked of in the time of Solyman emperor of the Turks, in the wars of Hungary; but ſeems now out of uſe. Paulus Jovius relates the terrible ſlaughter made by a ſingle ball from one of theſe baſiliſks in a Spaniſh ſhip; after penetrating the boards and planks in the ſhip's head, it killed above 30 men. Maffeus ſpeaks of baſiliſks made of braſs, which were drawn each by 100 yoke of oxen.—Modern writers alſo give the name *baſiliſk* to a much ſmaller and ſizeable piece of ordnance, which the Dutch make 15 feet long, and the French only 10. It carries 48 pounds.

BASILIUS, ſurnamed the *Macedonian* emperor of the Greeks. He was a common ſoldier, and of an obſcure family in Macedonia, and yet raiſed himſelf to the throne; for having pleaſed the emperor Michael by his addreſs in the management of his horſes, he became his firſt equerry, and then his great Chamberlain. He at length aſſaſſinated the famous Bardas, and was aſſociated to the empire in 849. He held the eighth general council at Conſtantinople; depoſed the patriarch Photius, but in 858 reſtored him to the patriarchate; and declared againſt the popes, who refuſed to admit him into their communion. He was dreaded by his enemies the Saracens, whom he frequently vanquiſhed; and loved by his ſubjects, for his juſtice and clemency. He died in 886. Under his reign the Ruſſians embraced Chriſtianity, and the doctrine of the Greek church. He ought not to be confounded with Baſilius the Young, who ſucceeded Zemiſces in 975, and after a reign of 50 years died in 1025.

BASINGSTOKE, a corporation-town of Hampſhire in England, and a great thoroughfare on the weſtern road. It is ſeated on a ſmall brook, in W. Long. 1. 10. N. Lat. 51. 20.

BASIOGLOSSUS, a muſcle ariſing from the baſe of the os hyoides. See ANATOMY, *Table of the Muſcles*.

BASIS, or baſe, in geometry. See BASE.

BASIS, or *Baſe*, in chemiſtry, any body which is diſſolved by another body, which it receives and fixes, and with which it forms a compound, may be called the *baſis* of that compound. Thus, for example, the baſes of neutral ſalts are the alkaline, earthy, and metallic matters which are ſaturated by the ſeveral acids, and form with them theſe neutral ſalts. In this ſenſe it is that theſe neutral ſalts are called *ſalts with earthy baſes*, *ſalts with alkaline baſes*, *ſalts with metallic baſes*: alſo the appellations *baſis of alum*, *baſis of nitre*, *baſis of Glauber's ſalt*, *baſis of vitriol*, &c. ſignify the argillaceous earth, which, with the vitriolic acid, forms alum; the vegetable alkali, which, with the nitrous acid, forms nitre; and mineral alkali, which, with the vitriolic acid, forms Glauber's ſalt; and the metal which, with the vitriolic acid, forms a vitriol; becauſe theſe ſubſtances are ſuppoſed to be fixed, unactive, and only yielding to the action of the acids, which they fix, and to which they give a body and conſiſtence.

Basis, among phyſicians, denotes the principal ingredients in compound medicines.

BASKERVILLE (John), an eminent artiſt, eſpecially in letter-founding and printing, of the preſent century. He was born in 1706 at Woverley in Worceſterſhire, and was heir to an eſtate of about L. 60 a-year; the whole of which income he allowed to his parents till their deaths. In his early years he conceived a love for fine writing, and cutting in ſtone; and being brought up to no particular profeſſion, he commenced writing-maſter in Birmingham when about 20 years of age. The improvements in different manufactures there ſoon drew his attention, and he applied to the japan buſineſs, which he carried on for a long time with diſtinguiſhed excellence and ſucceſs. In 1750 he applied himſelf to letter-founding, the bringing of which to perfection coſt him much labour and expence. In a few years he proceeded to printing; and his firſt work was an edition of Virgil on royal quarto, which now ſells for three guineas. In a ſhort time he obtained leave from the univerſity of Cambridge to print a Bible, in royal folio, and editions of the Common Prayer in three ſizes; for which he paid a large ſum to the univerſity. He afterwards printed Horace, Terence, Catullus, Lucretius, Juvenal, Salluſt, and Florus, in royal quarto; Virgil in octavo; and ſeveral books in duodecimo. He publiſhed likewiſe ſome of the Engliſh claſſics. The beſt teſtimonies of the merit of theſe performances are themſelves; and Mr Baſkerville's name is deſervedly ranked among thoſe who, in modern times, have brought the art of printing to its greateſt perfection. Not meeting, however, with that encouragement from the bookſellers which he expected, he ſet up a letter-foundery for ſale a little before his death. He died without iſſue in July 1785.

BASKET, an utenſil made of twigs interwoven together, in order to hold fruit, earth, &c. As a meaſure, it denotes an uncertain quantity; as, a baſket of medlars is two buſhels, of aſafœtida from 20 to 50 pound weight. The ancient Britons were noted for their ingenuity in making baſkets, which they exported in large quantities. Theſe baſkets were of very elegant workmanſhip, and bore a high price; and are mentioned by Juvenal among the extravagant expenſive furniture of the Roman tables in his time.

Adde et baſcaudas et mille eſcaria.

Add baſkets, and a thouſand other diſhes.

That theſe baſkets were manufactured in Britain, we learn from the following epigram of Martial:

Barbara de pictis veni baſcauda Britannis,
Sed me jam mavult dicere Roma ſuam.

A baſket I, by painted Britons wrought,
And now to Rome's imperial city brought.

Baskets of Earth, in the military art, called by the French *corbeilles*, are ſmall baſkets uſed in ſieges, on the parapet of a trench, being filled with earth. They are about a foot and a half high, about a foot and a half in diameter at the top, and 8 or 10 inches at bottom; ſo that, being ſet together, there is a ſort of embraſures left at their bottoms, through which the ſoldiers fire, without expoſing themſelves.

Basket-Fiſh, a ſpecies of *Sea-Star*. See Asterias.

Basket-Salt, that made from ſalt-ſprings, being purer, whiter, and compoſed of finer grains, than the common brine-ſalt. See Salt.

BASKING shark, or *Sun-Fiſh of the Iriſh*. See Squalus.

BASNAGE (James), a learned and accompliſhed author, and paſtor of the Walloon church at the Hague, was born at Roan in Normandy, Auguſt 8. 1653. He was the ſon of Henry Baſnage, one of the ableſt advocates in the parliament of Normandy. At 17 years of age, after he had made himſelf maſter of the Greek and Latin authors, as well as the Engliſh, Spaniſh, and Italian languages, he went to Geneva, where he began his divinity ſtudies under Meſtrezat, Turretin and Tronchin; and finiſhed them at Sedan, under the profeſſors Jurieu and Le Blanc de Beaulieu. He then returned to Roan, where he was received as miniſter, September 1676, in which capacity he remained till the year 1685, when, the exerciſe of the Proteſtant religion being ſuppreſſed at Roan, he obtained leave of the king to retire to Holland. He ſettled at Rotterdam; and was a miniſter penſionary there till 1691, when he was choſen paſtor of the Walloon church of that city. In 1709, Penſionary Heinſius got him choſen one of the paſtors of the Walloon church at the Hague, intending not only to employ him in religious but in ſtate affairs. He was employed in a ſecret negociation with marſhal d'Uxelles, plenipotentiary of France at the Congreſs of Utrecht; and he executed it with ſo much ſucceſs, that he was afterwards entruſted with ſeveral important commiſſions, all which he diſcharged in ſuch a manner as to gain a great character for his abilities and addreſs; a celebrated modern writer has therefore ſaid of him, that he was fitter to be miniſter of ſtate than of a pariſh. The abbe du Bois, who was at the Hague in 1716, as ambaſſador plenipotentiry from his moſt Chriſtian majeſty, to negociate a defenſive alliance between France, England, and the States-General, was ordered by the Duke of Orleans, regent of France, to apply himſelf to M. Baſnage, and to follow his advice: they accordingly acted in concert, and the alliance was concluded in January 1717. He kept an epiſtolary correſpondence with ſeveral princes, noblemen of high rank, and miniſters of ſtate, both Catholic and Proteſtant, and with a great many learned men in France, Italy, Germany, and England. The Catholics eſteemed him no leſs than the Proteſtants; and the works he wrote, which are moſtly in French, ſpread his reputation almoſt all over Europe: among theſe are, 1. The Hiſtory of the Religion of the Reformed Churches. 2. Jewiſh Antiquities. 3. The Hiſtory of the Old and New Teſtament; and many others. He died September 22. 1723.

Basnage (Henry) Sieur de Beauval, ſecond ſon to Henry Baſnage, and brother to James mentioned in the laſt article. He applied himſelf to the ſtudy of the law, and was admitted advocate in the parliament of of Roan, in the year 1679. He did not follow the bar immediately upon his admiſſion; but went to Valencia, where he ſtudied under M. de Marville. Upon his return from thence, he practiſed with great reputation till the year 1687, when the revocation of the edict of

Nantz obliged him to fly to Holland, where he compoſed the greateſt part of his works, and died there the 29th of March, 1710. His chief work is *Hiſtoire des ouvrages des Sçavans.* Rotterd. 24 vol. in duodecimo. This work was begun in the month of September 1687, and continued till June 1709. When he arrived in Holland, Mr Bayle, through indiſpoſition, had been obliged to drop his *Nouvelles de la Republique des Lettres,* which induced Mr Baſnage to undertake a work of the ſame kind under a different title.

BASON, in hydraulics, a reſervoir of water, uſed for various purpoſes: thus we ſay, *The baſon of a jet d'eau, the baſon of a fountain,* and likewiſe *the baſon of a port* or *harbour.*

Bason, in Jewiſh antiquities, the laver of the tabernacle, made of the braſs looking-glaſſes belonging to thoſe devout women that watched and ſtood centinels at the door of the tabernacle.

Bason, or *Diſh,* among glaſs-grinders. Theſe artificers uſe various kinds of baſons, of copper, iron, &c. and of various forms, ſome deeper, others ſhallower, according to the focus of the glaſſes that are to be ground. In theſe baſons it is that convex glaſſes are formed, as concave ones are formed on ſpheres or bowls.

Glaſſes are worked in baſons two ways.—In the firſt, the baſon is fitted to the arbor or tree of a lath, and the glaſs (fixed with cement to a handle of wood) preſented and held faſt in the right hand within the baſon, while the proper motion is given by the foot of the baſon. In the other, the baſon is fixed to a ſtand or block, and the glaſs with its wooden handle moved. The moveable baſons are very ſmall, ſeldom exceeding five or ſix inches in diameter; the others are larger, ſometimes above ten feet diameter. After the glaſs has been ground in the baſon, it is brought ſmoother with greaſe and emery; and poliſhed firſt with tripoli, and finiſhed with paper cemented to the bottom of the baſon.

Bason, among hatters, is a large round ſhell or caſe, ordinarily of iron, placed over a furnace; wherein the matter of the hat is moulded into form. The hatters have alſo baſons for the brims of hats, uſually of lead, having an aperture in the middle, of a diameter ſufficient for the largeſt block to go through.

BASQUES, a ſmall territory of France, towards the Pyrenean mountains. It comprehends Labour, Lower Navarre, and the diſtrict of Soule.

BASS, the loweſt in the four parts of muſic: of uncertain etymology; whether from the Greek word *βασις, a foundation;* or from the Italian adjective *baſſo,* ſignifying "low." Of all the parts it is the moſt important, and it is upon this that the chords proper to conſtitute a particular harmony are determined. Hence the maxim among muſicians, that when the baſs is properly formed, the harmony can ſcarcely be bad.

Baſſes are of different kinds. Of which in their order.

Thorough-Bass is the harmony made by the baſs-viols, or theorbos, continuing to play both while the voices ſing, and the other inſtruments perform their parts, and alſo filling up the intervals when any of the other parts ſtop. It is played by figures marked over the notes, on the organ, ſpinet, harpſichord, &c. and frequently ſimply and without figures on the baſs-viol and baſſoon.

Counter Bass is a ſecond or double baſs, where there are ſeveral in the ſame concert.

Bass-Viol, a muſical inſtrument of the like form with that of a violin, but much larger. It is ſtruck with a bow, as that is; has the ſame number of ſtrings; and has eight ſtops, which are ſubdivided into ſemiſtops: Its ſound is grave, and has a much nobler effect in a concert than that of the violin.

Bass (iſle of), a rock, about a mile in circumference, in the mouth of the Frith of Forth, at a ſmall diſtance from the town of North Berwick, in Eaſt Lothian. It is ſteep and inacceſſible on all ſides, except to the ſouth-weſt; and even there it is with great difficulty that a ſingle man can climb up with the help of a rope or ladder. It was formerly kept as a garriſon. A party of King James's adherents ſurpriſed it at the Revolution, and it was the laſt place in the three kingdoms that ſubmitted to the new government; upon which, its fortifications were ordered to be neglected. In ſummer, this remarkable rock, which riſes to a great height above the water, in form of a cone, is quite covered with ſea-fowl which come hither to breed. The chief of theſe are the ſolon geeſe†, which arrive in June, and retire in September. It alſo contains a ſmall warren of rabbits, and affords paſture for a few ſheep. The force of the tides have now almoſt worn a hole quite through this rock. W. Long. 2. 15. N. Lat. 56. 3.

† See *Pelecanus.*

BASSAN (Giacomo de Pont), or le Bassan, a celebrated Venetian painter, was born in 1510. His ſubjects were generally peaſants and villagers, buſy at their different rural occupations, according to the various ſeaſons of the year; cattle, landſcapes, and hiſtorical deſigns; and in all thoſe ſubjects the figures were well deſigned, and the animals and landſcapes have an agreeable reſemblance of ſimple nature. His compoſitions cannot boaſt of much elegance or grandeur of taſte, not even thoſe which are hiſtorical; but they have abundance of force and truth. His local colours are very well obſerved, his carnations are freſh and brilliant, and the chiaro-ſcuro and perſpective well underſtood. His touch is free and ſpirited; and the diſtances in his landſcapes are always true, if not ſometimes too dark in the nearer parts. His works are ſpread all over Europe: many of them were purchaſed by Titian; and there are ſeveral in the French king's cabinet, the royal palace, and the Hotel de Toulouſe. They are more readily known than thoſe of moſt other painters; from the ſimilitude of characters and countenances in the figures and animals; from the taſte in the buildings, utenſils, and draperies, and, beſide, from a violet or purple tint that predominates in every one of his pictures. But the genuine pictures of his hand are not ſo eaſily aſcertained; becauſe he frequently repeated the ſame deſign, and his ſons were moſtly employed in copying the works of their father, which he ſometimes retouched. As he lived to be very old, he finiſhed a great number of pictures; yet notwithſtanding his application and years, the real pictures of Giacomo are not commonly met with. Many of thoſe which are called originals by purchaſers as well as dealers, being at beſt no more than copies by the ſons of Baſſan, who were far inferior to him; or perhaps by ſome painter of ſtill meaner abilities. But the true pictures of Giacomo always bear a conſiderable price if they happen to be undamaged. He died in 1592, aged 82—Francis and Leander, his ſons, diſtinguiſhed themſelves in the ſame art; but inheriting a ſpecies of lunacy from their mother, both came to an untimely end.

BASSANI (Giovanni Battiſta), maeſtro di cappella of the cathedral church of Bologna about the middle of the laſt century, was a very voluminous compoſer of muſic, having given to the world no fewer than 31 different works. He is equally celebrated both as a compoſer for the church and for concerts; and was beſides a celebrated performer on the violin, and, as it is ſaid, taught Corelli on that inſtrument. His compoſitions conſiſt of maſſes, pſalms, motets with inſtrumental parts, and ſonatas for violins: his fifth opera in particular, containing 12 ſonatas for two violins and a baſs, is much eſteemed; it is written in a ſtyle wonderfully grave and pathetic, and abounds with evidences of great learning and fine invention. The firſt and third operas of Corelli are apparently formed after the model of this work. Baſſani was one of the firſt who compoſed motets for a ſingle voice, with accompaniments of violins; a practice which is liable to objection, as it aſſimilates church-muſic too nearly to that of the chamber; and of his ſolo-motets it muſt be confeſſed that they differ in ſtyle but little from opera airs and cantatas: two operas of them, *viz.* the eight and thirteenth, were printed in London by Pearſon above 50 years ago, with the title of *Harmonia Feſtiva.*

BASSANTIN (James), a Scotch aſtronomer, ſon of the Laird of Baſſantin in Mers, was born in the reign of James IV. He was educated at the univerſity of Glaſgow, travelled through Germany and Italy, and then fixed his abode in the univerſity of Paris, where he taught mathematics with great applauſe. Having acquired ſome fortune in this occupation in 1562, he returned to Scotland, were he died in the year 1568. From his writings, he appears to have been no contemptible aſtronomer, conſidering the times; but, like moſt of the mathematicians of that age, he was not a little addicted to judicial aſtrology. Sir James Melvil, in his Memoirs, ſays that his brother Sir Robert, when he was exerting his abilities to reconcile the two queens Elizabeth and Mary, met with one Baſſantin, a man learned in the high ſciences, who told him, "that all his travel would be in vain; for, ſaid he, they will never meet together; and next, there will never be any thing but diſſembling and ſecret hatred for a while, and at length captivity and utter wreck to our queen from England." He added, "that the kingdom of England at length ſhall fall, of right, to the crown of Scotland: but it ſhall coſt many bloody battles; and the Spaniards ſhall be helpers, and take a part to themſelves for their labour." Sir James Melvil is an author of credit; therefore it is probable that our aſtrologer ventured to utter his prediction: but, as it proved true only in part, either he miſunderſtood the ſtars, or they deceived the aſtrologer.—His works are, 1. *Aſtronomia Jacobi Baſſantini Scoti, opus abſolutiſſimum,* &c. *ter editum Latine et Gallice.* Genev. 1599, fol. This is the title given it by Tornæſius, who tranſlated it into Latin from the French, in which language it was firſt publiſhed. 2. *Paraphraſe de l' Aſtrolabe, avec un amplification de l'uſuge de l'Aſtrolabe.* Lyons 1555. Paris, 1617, 8vo. 3. *Mathematic. genethliaca.* 4. *Arithmetica.* 5. *Muſica ſecundum Platonem.* 6. *De matheſi in genere.*

BASSE, or BASS, a town of the French Netherlands, in the county of Flanders, on the confines of Artois, remarkable on account of the many ſieges it has ſuſtained: but its fortifications are now demoliſhed. It is ſeated on a canal which runs as far as Deule. E. Long. 3. 0. N. Lat. 50. 53.

BASSE Terre, part of the iſland of St Chriſtopher's, one of the Carribbee iſlands, formerly occupied by the French, but ceded to Great Britain by the treaty of Utrecht in 1713.

BASSET, or BASETTE, a game with cards, ſaid to have been invented by a noble Venetian, for which he was baniſhed. It was firſt introduced into France by Signior Juſtiniani, ambaſſador of Venice, in 1674. Severe laws were made againſt it by Louis XIV. to elude which they diſguiſed baſſet under the name of *pour & contre,* that is, "for and againſt," which occaſioned new arrets and prohibitions of parliament. The parties concerned in it are, a dealer or banker; his aſſiſtant, who ſuperviſes the loſing cards; and the punter, or any one who plays againſt the banker.

Beſides theſe, there are other terms uſed in this game; as, 1. The *faſſe* or *face,* which is the firſt card turned up by the tailleur belonging to the pack, by which he gains half the value of the money laid down on every card of that ſort by the punters. 2. The *couch,* or firſt money which every punter puts on each card; each perſon that plays having a book of 13 ſeveral cards before him, on which he may lay his money, more or leſs, at diſcretion. 3. The *paroli,* which is, when a punter having won the firſt ſtake, and having a mind to purſue his good fortune, crooks the corner of his card, and lets his prize lie, aiming at a *ſept et le va.* 4. The *maſſe;* when having won the firſt ſtake, the punter is willing to venture more money on the ſame card. 5. The *pay;* when the punter having won the firſt ſtake, be it a ſhilling, half-crown, guinea, or whatever he laid down on his card, and not caring to hazard the paroli, leaves off, or *goes the pay:* in which caſe, if the card turn up wrong, he loſes nothing, having won the couch before; whereas, if it turn right, he by this adventure wins double the money ſtaked. 6. The *alpiew;* much the ſame with parolia, and uſed when a couch is won by turning up or crooking the corner of the winning card. *Sept et le va,* the firſt great chance or prize, when the punter, having won the couch, makes a paroli, and goes on to a ſecond chance; ſo that if his winning card turns up again, it comes to *ſept et le va,* which is ſeven times as much as he laid down on his card. 8. *Quinze et le va* is the next higher prize, when the punter having won the former, is reſolved to puſh his fortune, and lay his money a ſecond time on the ſame card by crooking another corner; in which caſe, if it comes up, he wins fifteen times the money he laid down. 9. *Trent et le va* is the next higher prize, when the punter, crooking the fourth corner of his winning card, if it turn up, wins 33 times the money he firſt ſtaked. 10. *Soixant et le va* is the higheſt prize, and intitles the winner to 67 times his firſt money; which, if it were conſiderable, ſtands a chance to break the bank:

but the bank ſtands many chances firſt of breaking the punter. This cannot be won but by the tailleur's dealing the cards over again.

The rules of the game of baſſet are as follow: 1. The banker holds a pack of 52 cards, and having ſhuffled them, he turns the whole pack at once, ſo as to diſcover the laſt card; after which he lays down all the cards by couples. 2. The punter has his book of 13 cards in his hand, from the king to the ace; out of theſe he takes one card, or more, at pleaſure, upon which he lays a ſtake. 3. The punter may, at his choice, either lay down his ſtake before the pack is turned, or immediately after it is turned, or after any number of couples are down. 4. Suppoſing the punter to lay down his ſtake after the pack is turned, and calling 1, 2, 3, 4, 5, &c. the places of thoſe cards which follow the card in view, either immediately after the pack is turned, or after any number of couples are drawn. Then, 5. If the card upon which the punter has laid a ſtake comes out in any even place, except the firſt, he wins a ſtake equal to his own. 6. If the card upon which the punter has laid a ſtake comes out in any even place, except the ſecond, he loſes his ſtake. 7. If the card of the punter comes out in the firſt place, he neither wins nor loſes, but takes his own ſtake again. 8. If the card of the punter comes out in the ſecond place, he does not loſe his whole ſtake, but only one half; and this is the caſe in which the punter is ſaid to be *faced*. 9. When the punter chooſes to come in after any number of couples are down, if his card happens to be put once in the pack and is the laſt of all, there is an exception from the general rule; for though it comes out in an odd place, which ſhould entitle him to win a ſtake equal to his own, yet he neither wins nor loſes from that circumſtance, but takes back his own ſtake.

This game has been the object of mathematical calculations. M. de Moivre ſolves this problem: to eſtimate at baſſet the loſs of the punter under any circumſtance of cards remaining in the ſtock when he lays his ſtake, and of any number of times that his card is repeated in the ſtock. From this ſolution he has formed a table ſhowing the ſeveral loſſes of the punter in whatſoever circumſtances he may happen to be. From this table it appears, 1. That the fewer the cards are in the ſtock, the greater is the loſs of the punter. 2. That the leaſt loſs of the punter, under the ſame circumſtances of cards remaining in the ſtock, is when his card is but twice in it; the next greater when but three times; ſtill greater when four times; and the greateſt when but once. The gain of the banker upon all the money adventured at baſſet is 15s. 3 d. *per cent.*

BASSET (Peter), a gentleman of a good family, was chamberlain, or gentleman of the privy-chamber, to King Henry V. a conſtant attendant on that brave prince, and an eye-witneſs of his moſt glorious actions both at home and abroad; all which he particularly deſcribed in a volume intitled, *The Acts of King Henry V.* which remains in MS. in the college of heralds.

BASSETING, in the coal mines, denotes the riſe of the vein of coal towards the ſurface of the earth, till it come within two or three feet of the ſurface itſelf. This is alſo called by the workmen *croping*; and ſtands oppoſed to *dipping*, which is the deſcent of the vein to ſuch a depth that it is rarely, if ever, followed to the end.

BASSIA; a genus of the monogynia order, belonging to the dodecandria claſs of plants; the characters of which are: The calyx is quadriphyllous; the corolla octofid, with the tube inflated; the ſtamina are 16; and the drupe is quinqueſpermous. There is but one ſpecies, the longifolia, a native of Malabar.

BASSO RELIEVO, or BASS-RELIEF; a piece of ſculpture, where the figures or images do not protuberate, jet, or ſtand out, far above the plane on which they are formed.—Whatever figures or repreſentations are thus cut, ſtamped, or otherwiſe wrought, ſo that not the entire body, but only part of it, is raiſed above the plane, are ſaid to be done in *relief*, or *relievo*; and when that work is low, flat, and but little raiſed, it is called *low relief*. When a piece of ſculpture, a coin, or a medal, has its figure raiſed ſo as to be well diſtinguiſhed, it is called *bold*, and we ſay its *relief is ſtrong*.

BASSOON, a muſical inſtrument of the wind ſort, blown with a reed, furniſhed with 11 holes, and uſed as a baſs in a concert of hautboys, flutes, &c.—To render this inſtrument more portable, it is divided into two parts, whence it is alſo called a *fagot*. Its diameter at bottom is nine inches, and its holes are ſtopped like theſe of a large flute.

BASSORA, BALSORA, or *Baſrah*, a city between Arabia and Perſia, ſituated in the extremity of the deſarts of Irak, a little to the weſt of the Tigris, in about 57° eaſt longitude, and 30° north latitude. It was built by the command of the khalif Omar, in the 15th year of the Hegira, for the ſake of carrying on more commodiouſly an extenſive commerce between the Syrians, Arabians, Perſians, and Indians. It is at preſent a very famous empory of the Eaſt; and ſtands upon a thick ſtony ſoil, as the word *baſra* imports, about a day and a half's journey from one of the mouths of the Tigris, where it empties itſelf into the Perſian Gulf, denominated likewiſe from this town the *Bay of Baſra*. The circumjacent tract is looked upon by the Arabs to be one of the moſt delightful ſpots in Aſia, and even as one of the moſt beautiful gardens in the world; however, the hot winds that frequently blow there are very troubleſome to travellers, and ſometimes overwhelm them with ſand driven by the force of theſe winds out of the neighbouring deſarts. The city is inhabited by Jacobites, Neſtorians, Jews, Mahometans, and Chaldean Chriſtians, commonly called *Chriſtians of St John*, which laſt are pretty numerous here.

The Abbé Raynal values the merchandiſe annually brought to Baſſora at L. 525,000: of which the Engliſh furniſh L. 175,000; the Dutch L. 87,500; and the Moors, Banians, Armenians, and Arabs, furniſh the remainder. "The cargoes of theſe nations (ſays he) conſiſt of rice; ſugar; plain, ſtriped, and flowered muſlins from Bengal; ſpices from Ceylon and the Molucca iſlands; coarſe, white, and blue cottons from Coromandel; cardamum, pepper, ſanders-wood, from Malabar; gold and ſilver ſtuffs, turbans, ſhawls, indigo, from Surat; pearls from Baharen, and coffee from Mocha; iron, lead, and woollen cloth, from Europe. Other articles of leſs conſequence are imported from different places. Some of theſe commodities are ſhipped on board ſmall Arabian veſſels; but the greater part is brought by European ſhips, which have the advantage of a conſiderable freight.

“ This merchandiſe is ſold for ready money ; and paſſes through the hands of the Greeks, Jews, and Armenians. The Banians are employed in changing the coin current at Baſſora, for that which is of higher value in India.

“ The different commodities collected at Baſſora are diſtributed into three channels. One of half them goes to Perſia, whether they are conveyed by the caravans; there being no navigable river in the whole empire. The chief conſumption is in the northern provinces, which have not been ſo much ravaged as thoſe of the ſouth. Both of them formerly made their payments in precious ſtones, which were become common by the plunder of India. They had afterwards recourſe to copper utenſils, which had been exceedingly multiplied from the great abundance of copper mines. At laſt they gave gold and ſilver in exchange, which had been concealed during a long ſcene of tyranny, and are continually dug out of the bowels of the earth. If they do not allow time for the trees that produce gum, and have been cut to make freſh ſhoots ; if they neglect to multiply the breed of goats which afford ſuch fine wool ; and if the ſilks, which are hardly ſufficient to ſupply the few manufactures remaining in Perſia, continue to be ſo ſcarce ; in a word, if this empire does not riſe again from its aſhes ; the mines will be exhauſted, and this ſource of commerce muſt be given up.”

BASTARD, a natural child, or one begotten and born out of lawful wedlock.

Blackſton's Comment.

The civil and canon laws do not allow a child to remain a baſtard, if the parents afterwards intermarry : and herein they differ moſt materially from our law ; which though not ſo ſtrict as to require that the child ſhall be *begotten*, yet makes it an indiſpenſable condition that it ſhall be *born*, after lawful wedlock. And the reaſon of our law is ſurely much ſuperior to that of the Roman, if we conſider the principal end and deſign of eſtabliſhing the contract of marriage, taken in a civil light; abſtractedly from any religious view, which has nothing to do with the legitimacy or illegitimacy of the children. The main end and deſign of marriage, therefore, being to aſcertain and fix upon ſome certain perſon, to whom the care, the protection, the maintenance, and the education of the children, ſhould belong ; this end is undoubtedly better anſwered by legitimating all iſſue born after wedlock, than by legitimating all iſſue of the ſame parties, even born before wedlock, ſo as wedlock afterwards enſues : 1. Becauſe of the very great uncertainty there will generally be, in the proof that the iſſue was really begotten by the ſame man ; whereas, by confining the proof to the birth, and not to the begetting, our law has rendered it perfectly certain, what child is legitimate, and who is to take care of the child. 2. Becauſe by the Roman law a child may be continued a baſtard, or made legitimate, at the option of the father and mother, by a marriage *ex poſt facto* ; thereby opening a door to many frauds and partialities, which by our law are prevented. 3. Becauſe by thoſe laws a man may remain a baſtard till 40 years of age, and then become legitimate by the ſubſequent marriage of his parents; whereby the main end of marriage, the protection of infants, is totally fruſtrated. 4. Becauſe this rule of the Roman law admits of no limitation as to the time, or number, of baſtards to be ſo legitimated : but a dozen of them may, 20 years after their birth, by the ſubſequent marriage of their parents, be admitted to all the privileges of legitimate children. This is plainly a great diſcouragement to the matrimonial ſtate ; to which one main inducement is uſually not only the deſire of having children, but alſo the deſire of procreating lawful heirs. Whereas our conſtitution guards againſt this indecency, and at the ſame time give ſufficient allowance to the frailties of human nature. For if a child be begotten while the parents are ſingle, and they will endeavour to make an early reparation for the offence, by marrying within a few months after, our law is ſo indulgent as not to baſtardize the child, if it be born, though not begotten, in lawful wedlock ; for this is an incident that can happen but once ; ſince all future children will be begotten, as well as born, within the rules of honour and civil ſociety.

From what has been ſaid it appears, that all children born before matrimony are baſtards by our law : and ſo it is of all children born ſo long after the death of the huſband, that, by the uſual courſe of geſtation, they could not be begotten by him. But this being a matter of ſome uncertainty, the law is not exact as to a few days. But if a man dies, and his widow ſoon after marries again, and a child is born within ſuch a time as that by the courſe of nature it might have been the child of either huſband : in this caſe, he is ſaid to be more than ordinarily legitimate ; for he may, when he arrives to years of diſcretion, chooſe which of the fathers he pleaſes. To prevent this, among other inconveniences, the civil law ordained that no widow ſhould marry *infra annum luctus* ; a rule which obtained ſo early as to the reign of Auguſtus, if not of Romulus : and the ſame conſtitution was probably handed down to our early anceſtors from the Romans, during their ſtay in this iſland ; for we find it eſtabliſhed under the Saxon and Daniſh governments.

As baſtards may be born before the coverture or marriage-ſtate is begun, or after it is determined, ſo alſo children born during wedlock, may in ſome circumſtances be baſtards. As if the huſband be out of the kingdom of England (or as the law looſely phraſes it, *extra quatuor maria*) for above nine months, ſo that no acceſs to his wife can be preſumed, her iſſue during that period, ſhall be baſtards. But generally during the coverture, acceſs of the huſband ſhall be preſumed, unleſs the contrary ſhall be ſhown ; which is ſuch a negative as can only be proved by ſhowing him to be elſewhere ; for the general rule is, *præſumitur pro legitimatione*. In a divorce *a menſa et thoro*, if the wife breeds children, they are baſtards ; for the law will preſume the huſband and wife conformable to the ſentence of ſeparation, unleſs acceſs be proved : but in a voluntary ſeparation by agreement, the law will ſuppoſe acceſs, unleſs the negative be ſhown. So alſo, if there is an apparent impoſſibility of procreation on the part of the huſband, as if he be only eight years old, or the like, there the iſſue of the wife ſhall be baſtard. Likewiſe, in caſe of divorce in the ſpiritual court *a vinculo matrimonii*, all the iſſue born during the coverture are baſtards; becauſe ſuch divorce is always upon ſome cauſe that rendered the marriage unlawful and null from the beginning.

As to the *duty* of parents to their baſtard children, by our law, it is principally that of maintenance. For though baſtards are not looked upon as children to any civil purpoſes; yet the ties of nature, of which maintenance is one, are not ſo eaſily diſſolved: and they hold indeed as to many other intentions; as particularly that a man ſhall not marry his baſtard ſiſter or daughter. The method in which the Engliſh law provides maintenance for them is as follows: When a woman is delivered, or declares herſelf with child, of a baſtard, and will by oath before a juſtice of the peace charge any perſon having got her with child, the juſtice ſhall cauſe ſuch perſon to be apprehended, and commit him till he gives ſecurity, either to maintain the child, or appear at the next quarter ſeſſions to diſpute and try the fact. But if the woman dies, or is married, before delivery, or miſcarries, or proves not to have been with child, the perſon ſhall be diſcharged: otherwiſe the ſeſſions, or two juſtices out of ſeſſions, upon original application to them, may take order for the keeping of the baſtard, by charging the mother or the reputed father with the payment of money or other ſuſtentation for that purpoſe. And if ſuch putative father, or lewd mother, run away from the pariſh, the overſeers by direction of two juſtices may ſeize their rent, goods, and chattels, in order to bring up the ſaid baſtard child. Yet ſuch is the humanity of our laws, that no woman can be compulſively queſtioned concerning the father of her child till one month after her delivery: which indulgence is however very frequently a hardſhip upon pariſhes, by giving the parents opportunity to eſcape.

As to the *rights* and *incapacities* which appertain to a baſtard: The former are very few, being only ſuch as he can *acquire*; for he can *inherit* nothing, being looked upon as the ſon of nobody, and ſometimes called *filius nullius*, ſometimes *filius populi*. Yet he may gain a ſirname by reputation, though he has none by inheritance. All other children have their primary ſettlement in their father's pariſh; but a baſtard in the pariſh where born, for he hath no father. However, in caſe of fraud, as if a woman either be ſent by order of juſtices, or comes to beg as a vagrant, to a pariſh which ſhe does not belong to, and drops her baſtard there; the baſtard ſhall, in the firſt caſe, be ſettled in the pariſh from whence ſhe was illegally removed; or in the latter caſe, in the mother's own pariſh, if the mother be apprehended for her vagrancy. Baſtards alſo, born in any licenſed hoſpital for pregnant women, are ſettled in the pariſhes to which the mothers belong.—The *incapacity* of a baſtard conſiſts principally in this, that he cannot be heir to any one; for being *nullius filius*, he is therefore of kin to nobody, and has no anceſtor from whom any inheritable blood can be derived: Therefore if there be no other claimant upon an inheritance than ſuch illegitimate child, it ſhall eſcheat to the lord. And as baſtards cannot be heirs themſelves, ſo neither can they have any heirs but thoſe of their own bodies. For as all collateral kindred conſiſts in being derived from the ſame common anceſtor, and as a baſtard has no legal anceſtors, he can have no collateral kindred; and conſequently can have no legal heirs, but ſuch as claim by a lineal deſcent from himſelf. And therefore, if a baſtard purchaſes land, and dies ſeiſed thereof without iſſue, and inteſtate, the land ſhall eſcheat to the lord of the fee. A baſtard was alſo, in ſtrictneſs, incapable of holy orders; and though that were diſpenſed with, yet he was utterly diſqualified from holding any dignity in the church; but this doctrine ſeems now obſolete; and in all other reſpects, there is no diſtinction between a baſtard and another man. And really any other diſtinction but that of not inheriting, which civil policy renders neceſſary, would, with regard to the innocent offſpring of his parent's crimes, be odious, unjuſt, and cruel to the laſt degree; and yet the civil law, ſo boaſted of for its equitable deciſions, made baſtards in ſome caſes incapable even of a gift from their parents. A baſtard may, laſtly, be made legitimate, and capable of inheriting, by the tranſcendant power of an act of parliament, and not otherwiſe: as was done in the caſe of John of Gaunt's baſtard children, by a ſtatute of Richard II.

As to the *puniſhment* for having baſtard children: By the ſtatute 18 Eliz. c. 3. two juſtices may take order for the puniſhment of the mother and reputed father: but what that puniſhment ſhall be, is not therein aſcertained: though the cotemporary expoſition was, that a corporeal puniſhment was intended. By ſtatute 7 Jac. I. c. 4. a ſpecific puniſhment (*viz.* commitment to the houſe of correction) is inflicted on the woman only. But in both caſes, it ſeems that the penalty can only be inflicted, if the baſtard becomes chargeable to the pariſh; for otherwiſe the very maintenance of the child is conſidered as a degree of puniſhment. By the laſt mentioned ſtatute the juſtices may commit the mother to the houſe of correction, there to be puniſhed and ſet on work for one year; and in caſe of a ſecond offence, till ſhe find ſureties never to offend again.

He that gets a baſtard in the hundred of Middleton in Kent, forfeits all his goods and chattels to the king*.

If a baſtard be got under the umbrage of a certain oak in Knollwood in Staffordſhire, belonging to the manor of Terley-caſtle, no puniſhment can be inflicted, nor can the lord nor the biſhop take cognizance of it†.

It is enacted by ſtatute 21 Jac. I. c. 27. that if any woman be delivered of a child, which if born alive ſhould by law be a baſtard; and endeavours privately to conceal its death, by burying the child or the like; the mother ſo offending ſhall ſuffer death, as in the caſe of murder, unleſs ſhe can prove by one witneſs at leaſt, that the child was actually born dead. This law, which favours pretty ſtrongly of ſeverity, in making the concealment of the death almoſt concluſive evidence of the child's being murdered by the mother, is nevertheleſs to be alſo met with in the criminal codes of many other nations of Europe; as the Danes, the Swedes, and the French: but it has of late years been uſual with us, upon trials for this offence, to require ſome ſort of preſumptive evidence that the child was born alive, before the other conſtrained preſumption (that the child, whoſe death is concealed, was therefore killed by its parent) is admitted to convict the priſoner.

Concerning baſtards in Scotland, ſee LAW, Part III. N° clxxxii. 3, 4, and clxxii. 33.

BASTARD, in reſpect of artillery, is applied to thoſe pieces which are of an unuſual or illegitimate make or proportion. Theſe are of two kinds, long and ſhort, according as the defect is on the redundant or defective ſide. The long baſtards again, are either common or uncommon. To the common kind belong the double culverin extraordinary, half culverin extraordinary, quarter culverin extraordinary, falcon extraordinary, &c. The ordinary baſtard culverin carries a ball of eight pounds.

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* *Chamb. Dict.*

† *Plot. Nat. Hiſt. Staff.* p. 279.

Bastards are alſo an appellation given to a kind of faction or troop of banditti who roſe in Guienne about the beginning of the fourteenth century, and joining with ſome Engliſh parties, ravaged the country, and ſet fire to the city of Xaintes.—Mezeray ſuppoſes them to have conſiſted of the natural ſons of the nobility of Guienne, who being excluded the right of inheriting from their fathers, put themſelves at the head of robbers and plunderers to maintain themſelves.

Bastard Flower-fence. See Adenanthera.—The flowers of this plant bruiſed and ſteeped in breaſt-milk are a gentle anodyne; for which purpoſe they are often given in the Weſt-Indies to quiet very young children. The leaves are uſed inſtead of ſena in Barbadoes and the Leeward Iſlands. In Jamaica, the plant is called *ſena*.

Bastard-Hemp. See Datisca.

Bastard-Rocket, Dyers-weed, or *Wild Wood.* See Reseda.

Bastard Star-of-Bethelem. See Albuca.

Bastard-Scarlet is a name given to red dyed with bale-madder, as coming neareſt the bow-dye, or new ſcarlet.

BASTARDY is a defect of birth objected to one born out of wedlock. Euſtathius will have baſtards among the Greeks to have been in equal favour with legitimate children, as low as the Trojan war; but the courſe of antiquity ſeems againſt him. Potter and oothers ſhow, that there never was a time when baſtardy was not in diſgrace,

In the time of William the Conqueror, however, baſtardy ſeems not to have implied any reproach, if we may judge from the circumſtance of that monarch himſelf not ſcrupling to aſſume the appellation of baſtard. His epiſtle to Alan count of Bretagne begins, *Ego Willielmus cognomento baſtardus*†.

Bastardy, in relation to its trial in law, is diſtinguiſhed into general and ſpecial. *General* baſtardy is a certificate from the biſhop of the dioceſe, to the king's juſtices, after inquiry made, whether the party is a baſtard or not, upon ſome queſtion of inheritance. Baſtardy *ſpecial* is a ſuit commenced in the king's courts, againſt a perſon that calls another baſtard.

Arms of Bastardy ſhould be croſſed with a bar, fillet, or traverſe, from the left to the right. They were not formerly allowed to carry the arms of their father, and therefore they invented arms for themſelves; and this is ſtill done by the natural ſons of a king.

Right of Bastardy, Droit de batardiſe, in the French laws, is a right, in virtue whereof the effects of baſtards dying inteſtate devolve to the king or the lord.

BASTARNÆ, or Basternæ, a people of German original, manners, and language; who extended themſelves a great way to the eaſt of the Viſtula, the eaſt boundary of Germany, among the Sarmatæ, as far as the mouth of the Iſter and the Euxine; and were divided into ſeveral nations.

BASTARNICÆ alpes, (anc. geog.), mountains extending between Poland, Hungary, and Tranſylvania, called alſo the *Carpates*, and now the *Carpathian* mountains.

BASTI (anc. geog.), a town of the province of Bætica Spain, ſituated to the weſt of the Campus Spartarius. Now *Baza* in Granada.

BASTIA, a ſea-port town of Albania in Turkey in Europe, over againſt the iſland of Corfu, at the mouth of the river Calamu. E. Long. 10. 35. N. Lat. 39. 40.

Bastia, the capital of the iſland of Corſica in the Mediterranean. It has a good harbour; and is ſeated on the eaſtern part of the coaſt, in E. Long. 9. 42. N. Lat. 42. 35.

BASTILE, denotes a ſmall antique caſtle, fortified with turrets. Such was the baſtile of Paris, which ſeems the only caſtle that retained the name: it was begun to be built in 1369 by order of Charles V. and was finiſhed in 1383 under the reign of his ſucceſſor.—Its chief uſe was for the cuſtody of ſtate-priſoners; or, more properly ſpeaking, for the clandeſtine purpoſes of unfeeling deſpotiſm.

“ The lieutenant-general of the police of Paris is the ſub-delegate of the miniſtry for the department of the Baſtile. He has under him a titular commiſſary, who is called the commiſſary of the Baſtile. He has a fixed ſalary for drawing up what are called inſtructions, but he does not this excluſively. He has no inſpection nor function but in caſes where he receives orders; the reaſon of which is, that all that is done in this caſtle is arbitrary.

“ Every priſoner on coming to the Baſtile has an inventory made of every thing about him. His trunks, cloaths, linen, and pockets are ſearched, to diſcover whether there be any papers in them relative to the matter for which he is apprehended. It is not uſual to ſearch perſons of a certain rank; but they are aſked for their knives, razors, ſciſſars, watches, canes, jewels, and money. After this examination, the priſoner is conducted into an apartment, where he is locked up with three doors. They who have no ſervants make their own bed and fire. The hour of dining is eleven, and of ſupping ſix.

“ At the beginning of their confinement, they have neither books, ink or paper; they go neither to maſs, nor on the walks; they are not allowed to write to any one, not even to the lieutenant of the police, on whom all depends, and of whom permiſſion muſt firſt be aſked by means of the major, who ſeldom refuſes. At firſt they go to maſs only every other Sunday. When a perſon has obtained leave to write to the lieutenant of the police, he may aſk his permiſſion to write to his family, and to receive their anſwers; to have with him his ſervant or an attendant, &c. which requeſts are either granted or refuſed according to circumſtances. Nothing can be obtained but through this channel.

“ The officers of the ſtaff take the charge of conveying the letters of the priſoners to the police. They are ſent regularly at noon and at night: but if they deſire it, their letters are ſent at any hour by expreſſes, who are paid out of the money of thoſe who are confined. The anſwers are always addreſſed to the major, who communicates them to the priſoner. If no notice is taken of any requeſt contained in the letter of the priſoner, it is a refuſal. The attendants whom they appoint for thoſe who are not allowed their own ſervants, or who have none of their own, are commonly invalid ſoldiers. Theſe people lie near the priſoners, and wait upon them. A perſon ought always to be upon his guard with theſe men, as well as with the turnkeys; for all his words are noticed, and carried to the officers, who report them to the police: it is thus they ſtudy the characters of the priſoners. In this caſtle, all is myſtery, trick, artifice, ſnare, and treachery. The officers, attendants, turnkeys, and valets, often attempt to draw a man on to ſpeak againſt the government, and then inform of all.

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† Du Cange. Gloſſ. Lat. T.1.p.502.

“ Sometimes a priſoner obtains permiſſion of having books, his watch, knife, and razors, and even paper and ink. He may aſk to ſee the lieutenant of the police when he comes to the Baſtile. This officer commonly cauſes priſoners to be brought down ſome days after their arrival. Sometimes he goes to viſit them in their chambers; eſpecially the ladies.

“ When the lieutenant of the police ſees a priſoner, the converſation turns upon the cauſe of his confinement. He ſometimes aſks for written and ſigned declarations. In general, as much circumſpection ſhould be uſed in theſe conferences as in the examination itſelf, ſince nothing that a perſon may have ſaid or written is forgotten.

“ When a priſoner wants to tranſmit any thing to the lieutenant of the police, it is always by means of the major. Notes may be ſent to this officer by the turnkeys. A perſon is never anticipated in any thing—he muſt aſk for every thing; even for permiſſion to be ſhaved. This office is performed by the ſurgeon; who alſo furniſhes ſick or indiſpoſed priſoners with ſugar, coffee, tea, chocolate, confections, and the neceſſary remedies.

“ The time for walking is an hour a-day; ſometimes an hour in the morning and an hour in the evening, in the great court.

“ A priſoner may be interrogated a few days after his entrance into the Baſtile, but frequently this is not done till after ſome weeks. Sometimes he is previouſly informed of the day when this is to be done: often he is only acquainted with it the moment he is brought down to the council-chamber. This commiſſion of interrogatory is executed by the lieutenant of the police, a counſellor of ſtate, a maſter of requeſts, a counſellor or a commiſſioner of the Chatelet. When the lieutenant of the police does not himſelf interrogate, he uſually comes at the end of the examination.

“ Theſe commiſſioners are purely paſſive beings. Frequently they attempt to frighten a priſoner; they lay ſnares for him, and employ the meaneſt artifices to get a confeſſion from him. They pretend proofs, exhibit papers without ſuffering him to read them; aſſerting that they are inſtruments of unavoidable conviction. Their interrogatories are always vague. They turn not only on the priſoner's words and actions, but on his moſt ſecret thoughts, and on the diſcourſe and conduct of perſons of his acquaintance, whom it is wiſhed to bring into queſtion.

“ The examiners tell a priſoner that his life is at ſtake; that this day his fate depends upon himſelf; that if he will make a fair declaration, they are authoriſed to promiſe him a ſpeedy releaſe; but if he refuſes to confeſs, he will be given up to a ſpecial commiſſion; that they are in poſſeſſion of deciſive documents, of authentic proofs, more than ſufficient to ruin him; that his accomplices have diſcovered all; that the government has unknown reſources, of which he can have no ſuſpicion. They fatigue priſoners by varied and infinitely multiplied interrogatories. According to the perſons, they employ promiſes, careſſes, and menaces. Sometimes they uſe inſults, and treat the unhappy ſufferers with an inſolence that fills up the meaſure of that tyranny of which they are the baſe inſtruments.

“ If the priſoner makes the required confeſſion, the commiſſioners then tell him that they have no preciſe authority for his enlargement, but that they have every reaſon to expect it; that they are going to ſolicit it, &c. The priſoner's confeſſions, far from bettering his condition, give occaſion to new interrogatories, often lengthen his confinement, draw in the perſons with whom he has had connections, and expoſe himſelf to new vexations.

“ Although there are rules for all occaſions, yet every thing is ſubject to exceptions ariſing from influence, recommendations, protection, intrigue, &c. becauſe the firſt principle in this place is arbitrary will. Very frequently, perſons confined on the ſame account are treated very differently, according as their recommendations are more or leſs conſiderable.

“ There is a library, founded by a foreign priſoner who died in the Baſtile in the beginning of the preſent century. Some priſoners obtain leave to go to it; others, to have the books carried to their chambers.

“ The falſeſt things are told the priſoners with an air of ſincerity and concern. “ It is very unfortunate that the king has been prejudiced againſt you. His majeſty cannot hear your name mentioned without being irritated. The affair for which you have loſt your liberty is only a pretext—they had deſigns againſt you before—you have powerful enemies.” Theſe diſcourſes are the etiquette of the place.

“ It would be in vain for a priſoner to aſk leave to write to the king—he can never obtain it.

“ The perpetual and moſt inſupportable torment of this cruel and odious inquiſition, are vague, indeterminate, falſe, or equivocal promiſes, inexhauſtible and conſtantly deceitful hopes of a ſpeedy releaſe, exhortations to patience, and blind conjectures, of which the lieutenant of the police and officers are very laviſh.

“ To cover the odium of the barbarities exerciſed here, and ſlacken the zeal of relations or patrons, the moſt abſurd and contradictory ſlanders againſt a priſoner are frequently publiſhed. The true cauſes of impriſonment, and real obſtacles to releaſe, are concealed. Theſe reſources, which are infinitely varied, are inexhauſtible.

“ When a priſoner who is known and protected has entirely loſt his health, and his life is thought in danger, he is always ſent out. The miniſtry do not chooſe that perſons well known ſhould die in the Baſtile. If a priſoner does die there, he is interred in the pariſh of St Paul, under the name of a domeſtic; and this falſity is written in the regiſter of deaths, in order to deceive poſterity. There is another regiſter in which the true names of the deceaſed are entered; but it is not without great difficulty that extracts can be procured from it. The commiſſary of the Baſtile muſt firſt be informed of the uſe the family intends to make of the extract."

In 1674 the baggage of Louis chevalier de Rohan, grand huntſman of France, having been taken and rummaged in a ſkirmiſh, ſome letters were found which cauſed a ſuſpicion that he had treated with the Engliſh for the ſurrender of Havre de Grace. He was arreſted and put into the Baſtile. The Sieur de la Tuanderie, his agent, concealed himſelf. The proof was not ſufficient. A commiſſion was named to proceed againſt the accuſed for treaſon. La Tuanderie was diſcovered at Rouen: an attempt was made to arreſt him; but he fired on the aſſailants, and obliged them to kill him on the ſpot. Perſons attached to the chevalier de Rohan went every evening round the Baſtile, crying through a ſpeaking trumpet, "La Tuanderie is dead, and has ſaid nothing:" but the chevalier did not hear them. The commiſſioners, not being able to get any thing from him, told him, "that the king knew all, that they had proofs, but only wiſhed for his own confeſſion, and that they were authoriſed to promiſe him pardon if he would declare the truth." The chevalier, too credulous, confeſſed the whole. Then the perfidious commiſſioners changed their language. They ſaid, "that with reſpect to the pardon, they could not anſwer for it; but that they had hopes of obtaining it, and would go and ſolicit it." This they troubled themſelves little about, and condemned the criminal to loſe his head. He was conducted on a platform to the ſcaffold, by means of a gallery raiſed to the height of the window of the armoury in the arſenal, which looks towards the little ſquare at the end of the *Rue des Tournelles*. He was beheaded on November 27. 1674.

The Jeſuits of the college of Clermont, in the *Rue St Jacques* Paris, having this ſame year (1674) invited the king (Louis XIV.) to honour with his preſence a tragedy to be performed by their ſcholars, that prince accepted the invitation. Theſe able courtiers took care to inſert in the piece ſeveral ſtrokes of flattery, with which the monarch, greedy of ſuch incenſe, was greatly pleaſed. When the rector of the college was conducting the king home, a nobleman in the train applauded the ſucceſs of the tragedy. Louis ſaid, "Do you wonder at it? *this is my college.*" The Jeſuits did not loſe a word of this. The very ſame night they got engraved in large golden letters on black marble, *Collegium Lodovici Magni*, inſtead of the former inſcription which was placed beneath the name of Jeſus on the principal gate of the college (*Collegium Claramontanum Societatis Jeſus*); and in the morning the new inſcription was put up in place of the old one. A young ſcholar of quality, aged 13, who was witneſs to the zeal of the reverend fathers, made the two following verſes which he poſted up at night on the college gate:

Abſtulit hinc Jeſum, poſuitque inſignia regis
Impia gens: alium non colit illa Deum.

The Jeſuits did not fail to cry out ſacrilege: the young author was diſcovered, taken up, and put into the Baſtile. The implacable ſociety cauſed him, as a matter of *favour*, to be condemned to perpetual impriſonment; and he was transferred to the citadel of the iſle Sainte Marguerite. Several years after, he was brought back to the Baſtile. In 1705 he had been a priſoner 31 years. Having become heir to all his family, who poſſeſſed great property, the Jeſuit Riquelet, then confeſſor of the Baſtile, remonſtrated to his brethren on the neceſſity of reſtoring the priſoner to liberty. The golden ſhower which forced the tower of Danae had the ſame effect on the caſtle of the Baſtile. The Jeſuits made a merit with the priſoner of the protection they granted him; and this man of rank, whoſe family would have become extinct without the aid of the ſociety, did not fail to give them extenſive proofs of his gratitude.

Nowhere elſe on earth, perhaps, has human miſery, by human means, been rendered ſo laſting, ſo complete, or ſo remedileſs. This the following caſe may ſuffice to evince; the particulars of which are tranſlated from that elegant and energetic writer M. Mercier. The heinous offence which merited an impriſonment ſurpaſſing torture and rendering death a bleſſing, though for obvious reaſons not ſpecified by our author, is known from other ſources to have conſiſted in ſome unguarded expreſſions implying diſreſpect concerning the late Gallic monarch Louis XV.

"Upon the acceſſion of Louis XVI. to the throne, the miniſters now in office, and moved by humanity, begun their adminiſtration with an act of clemency and juſtice; they inſpected the regiſters of the Baſtile, and ſet many priſoners at liberty. Among thoſe there was an old man who had groaned in confinement for 47 years between four thick and cold ſtone-walls. Hardened by adverſity, which ſtrengthens both the mind and the conſtitution, when they are not overpowered by it, he had reſiſted the horrors of his long impriſonment with an invincible and manly ſpirit. His locks white, thin, and ſcattered, had almoſt acquired the rigidity of iron; whilſt his body, environed for ſo long a time by a coffin of ſtone, had borrowed from it a firm and compact habit. The narrow door of his tomb, turning upon its grating hinges, opened not as uſual by halves; and an unknown voice announced his liberty, and bade him depart. Believing this to be a dream, he heſitated; but at length roſe up and walked forth with trembling ſteps, amazed at the ſpace he traverſed: The ſtairs of the priſon, the halls, the court, ſeemed to him vaſt, immenſe, and almoſt without bounds. He ſtopped from time to time, and gazed around like a bewildered traveller: His viſion was with difficulty reconciled to the clear light of day: He contemplated the heavens as a new object: His eyes remained fixed, and he could not even weep. Stupified with the newly acquired power of changing his poſition, his limbs, like his tongue, refuſed in ſpite of his efforts, to perform their office; at length he got through the formidable gate.

"When he felt the motion of the carriage prepared to tranſport him to his former habitation, he ſcreamed out, and uttered ſome inarticulate ſounds; and as he could not bear this new movement, he was obliged to deſcend, ſupported by a benevolent arm, he ſought out the ſtreet where he had formerly reſided: he found it, but no trace of his houſe remained; one of the public edifices occupied the ſpot where it had ſtood. He now ſaw nothing that brought to his recollection, either that particular quarter, the city itſelf, or the objects with which he had formerly been acquainted. The houſes of his neareſt neighbours, which were freſh in his memory, had aſſumed a new appearance. In vain were his looks directed to all the objects around him; he could diſcover nothing of which he had the ſmalleſt remembrance. Terrified, he ſtopped and fetched a deep ſigh. To him, what did it import that the city was peopled with living creatures? None of them were alive to him; he was unknown to all the world, and he knew nobody: And whilſt he wept, he regretted his dungeon.

"At the name of the Baſtile, which he often pronounced and even claimed as an aſylum, and the ſight of his clothes that marked a former age, the crowd gathered round him: curioſity, blended with pity, excited their attention. The moſt aged aſked him many queſtions, but had no remembrance of the circumſtances he recapitulated. At length accident brought in his way an ancient domeſtic, now a ſuperannuated porter, who, confined to his lodge for 15 years, had barely ſufficient ſtrength to open the gate:—Even he did not know the maſter he had ſerved; but informed him that grief and misfortune had brought his wife to the grave 30 years before, that his children were gone abroad to diſtant climes, and that of all his relations and friends none now remained. This recital was made with the indifference which people diſcover for events long paſſed, and almoſt forgot. The miſerable man groaned, and groaned alone. The crowd around, offering only unknown features to his view made him feel the exceſs of his calamities even more than he would have done in the dreadful ſolitude that he had left.

"Overcome with ſorrow, he preſented himſelf before the miniſter to whoſe humanity he owed that liberty which was now a burden to him. Bowing down, he ſaid, "Reſtore me again to that priſon from which you have taken me: I cannot ſurvive the loſs of my neareſt relations; of my friends; and, in one word, of a whole generation: Is it poſſible in the ſame moment to be informed of this univerſal deſtruction, and not to wiſh for death? This general mortality, which to the reſt of mankind comes ſlowly and by degrees, has to me been inſtantaneous, the operation of a moment. Whilſt ſecluded from ſociety, I lived with myſelf only; but here I can neither live with myſelf nor with this new race, to whom my anguiſh and deſpair appear only as a dream. There is nothing terrible in dying; but it is dreadful indeed to be the laſt." The miniſter was melted; he cauſed the old domeſtic to attend this unfortunate perſon, as only he could talk to him of his family. This diſcourſe was the ſingle conſolation that he received: for he ſhunned all intercourſe with a new race, born ſince he had been exiled from the world; and he paſſed his time in the midſt of Paris in the ſame ſolitude as he had done whilſt confined in a dungeon for almoſt half a century. But the chagrin and mortification of meeting no perſon who could ſay to him, We were formerly known to one another, ſoon put an end to his exiſtence." This formidable engine of *Deſpotic Cruelty* was demoliſhed in 1789. See FRANCE.

BASTIMENTOS, the name of ſome ſmall iſlands near Terra Firma in South-America, at the the mouth of the bay of Nombre de Dios.

BASTINADO. See BASTONADO.

BASTION, in the modern fortification, a huge maſs of earth, faced uſually with ſods, ſometimes with brick, and rarely with ſtone, ſtanding out from a rampart whereof it is a principal part, and is what, in the ancient fortification, was called a *bulwark*.

Solid BASTIONS, are thoſe that have the void ſpace within them filled up entirely, and raiſed of an equal height with the rampart.

Void and Hollow BASTIONS, are thoſe that are only ſurrounded with a rampart and parapet, having the ſpace within void and empty, where the ground is ſo low, that, if the rampart be taken, no retrenchment can be made in the centre, but what will lie under the fire of the beſieged.

Flat BASTION, is a baſtion made in the middle of the curtain, when it is too long to be defended by the baſtion in its extremes.

Cut BASTION, is that whoſe point is cut off, and inſtead thereof has a re-entering angle, or an angle inwards, with two points outwards; and is uſed either when without ſuch a contrivance the angle would be too acute, or when water or ſome other impediment hinders the carrying on the baſtion to its full extent.

Compoſed BASTION, is when two ſides of the interior polygon are very unequal, which makes the gorges alſo unequal.

Deformed BASTION, is when the irregularity of the lines and angles makes the baſtion out of ſhape; as when it wants one of its demigorges, one ſide of the interior polygon being too ſhort.

Demi BASTION, is compoſed of one face only, and but one flank, and a demigorge.

Double BASTION, is that which is raiſed on the plane of another baſtion.

Regular BASTION, is that which has its true proportion of faces, flanks, and gorges.

BASTION of France, a fortreſs on the coaſt of Barbary, belonging to the French.

BASTITANI (anc. geog.), a people of the province of Bætica in Spain. See BÆTICA.

BASTOIGNE, a ſmall town of the Netherlands, in the duchy of Luxemburgh. E. Long. 6. 0. N. Lat. 50. 10.

BASTON, in law, one of the ſervants to the warden of the Fleet-priſon, who attended the king's courts, for taking into cuſtody ſuch as are committed by the court.

BASTON, or *Batoon*, in architecture, a moulding in the baſe of a column, called alſo a *tore*. See Plate 40. fig. 3.

BASTON, *Baton*, or *Batune*. This word is French, and ſignifies a ſtaff or cudgel: it ſhould be ſpelt *Bâton*; but is, by moſt Engliſh writers, corruptly ſpelt as above. It is only borne in Engliſh coats of arms, as a badge of illegitimacy; but French heralds introduce it in arms as a difference or mark of conſanguinity.

BASTON (Robert), a Carmelite monk, afterwards prior of the convent of that order, at Scarborough, and alſo poet laureat and public orator at Oxford, flouriſhed in the fourteenth century. King Edward I.

ward I. in his expedition into Scotland in 1304, took Robert Baſton with him, in order to celebrate his victories over the Scots; but our poet being taken priſoner, was obliged to change his note, and ſing the ſucceſſes of Robert Bruce. He wrote ſeveral books in Latin, on the Wars of Scotland, the Luxury of Prieſts, Synodical Sermons, &c.; and alſo a volume of tragedies and comedies, in Engliſh. He died about the year 1310.

BASTONADO, Bastonade, the puniſhment of beating or drubbing a criminal with a ſtick. The word is formed of the French *baſton*, a "ſtick" or "ſtaff." The baſtonade was a puniſhment uſed among the ancient Greeks, Romans, and Jews, and ſtill obtains among the Turks. The Romans called it *fuſtigatio*, *fuſtium admonitio*, or *fuſtibus cædi*; which differed from the *flagellatio*, as the former was done with a ſtick, the latter with a rod, or ſcourge. The fuſtigation was a lighter puniſhment, and inflicted on freemen; the flagellation a ſeverer, and reſerved for ſlaves. It was alſo called *tympanum*, becauſe the patient here was beat with ſticks, like a drum.—The puniſhment is much in uſe in the eaſt to this day. The method there practiſed is thus: the criminal being laid on his belly, his feet are raiſed, and tied to a ſtake, held faſt by officers for the purpoſe; in which poſture he is beaten by a cudgel on the ſoles of his feet, back, chine, &c. to the number of 100 or more blows.

BASTWICK (Dr John), born at Writtle in Eſſex, in 1593; practiſed phyſic at Colcheſter; but being a man of warm imagination, and a good Latin ſcholar, applied himſelf to writing books againſt popery. About the year 1633, he printed in Holland a Latin treatiſe intitled, *Elenchus religionis Papiſticæ*, with *Flagellum pontificis et epiſcoporum Latialium*, in which the Engliſh prelates thinking themſelves alſo aimed at, he was fined L. 1000 in the high commiſſion court, excommunicated, prohibited practiſing phyſic, his books ordered to be burnt, and himſelf to remain in priſon until he made a recantation. Inſtead of recanting, he wrote in priſon, *Apologeticus ad præſules Anglicanos*, and another book called, *The Litany*; wherein he ſeverely exclaimed againſt the proceedings of that court, and taxed the biſhops with an inclination towards popery. Prynne and Burton coming under the laſh of the ſtar-chamber court at the ſame time, they were all cenſured as ſcandalous ſeditious perſons, condemned to a fine of L. 5000 each, to be pilloried, to loſe their ears, and to perpetual impriſonment in three remote parts of the kingdom. The parliament in 1640 reverſed theſe proceedings; and ordered Dr Baſtwick a reparation of L. 5000 out of the eſtates of the commiſſioners and lords who had proſecuted him, which the enſuing confuſions prevented his receiving: however, his wiſe had, in 1644, an allowance ordered for her and her huſband's maintenance. What became of him afterward is not known.

BAT, in zoology. See Vespertilio.

Bat-Fowling, a method of catching birds in the night, by lighting ſome ſtraw, or torches, near the place where they are at rooſt; for upon beating them up, they fly to the flame, where, being amazed, they are eaſily caught in nets, or beat down with buſhes fixed to the end of poles, &c.

Bat, *Bate*, or *Batz*, a ſmall copper coin, mixed with a little ſilver, current in ſeveral cities of Germany: it is worth four cruitzers. It is alſo a coin in Switzerland, current at five livres, or 100 ſols, French money.

BATABLE, or Debatable, ground, that land which lay between Scotland and England, when the kingdoms were diſtinct, to which both nations pretended a right.

BATACALA, a ſmall kingdom on the coaſt of Malabar in the Eaſt Indies. It had a very large town of the ſame name; but there is nothing now left, except 11 or 12 ſmall pagods covered with copper and ſtone. The country produces a good deal of pepper: the Engliſh formerly had a factory here; but were all maſſacred by the natives, becauſe one of their bull-dogs had killed a conſecrated cow.

Batacala, a fortified town and caſtle on the eaſt coaſt of the iſland of Ceylon in the Eaſt Indies. The Dutch drove away the Portugueſe, and poſſeſſed themſelves of part of the adjacent country. E. Long. 81. 3. N. Lat. 7. 55.

BATANISTS, or Batenites. See Batenites.

BATASEK, a town of lower Hungary, ſeated on the Danube, in E. Long. 19. 50. N. Lat. 46. 30.

BATAVA, (*Caſtra* underſtood), a citadel of Vindelicia, ſo called from the Cohors Batava, in garriſon under the commander in Rhætia: now *Paſſau*; being firſt called *Batau*, from the Batavi; then *Baſſau*, and *Paſſau*; ſituated in Bavaria at the confluence of the Danube, Inn, and Ills. See Passau.

BATAVIA, the capital of the Dutch ſettlements in the Eaſt Indies; a city of the kingdom of Bantam in the iſland of Java. See Java.

BATAVORUM insula, the iſland of the Batavians, (anc. geog.). Of this iſland Tacitus gives the following deſcription. "The Rhine flowing in one channel, or only broken by ſmall iſlands, is divided at its entering Batavia, as it were into two rivers. One continues its courſe through Germany, retaining the ſame name, and violent current, till it falls into the ocean. The other waſhing the coaſt of Gaul, with a broader and more gentle ſtream, is called by the inhabitants *Vahalis*; which name it ſoon changes for that of *Moſa* by the immenſe mouth of which river it diſcharges itſelf into the ſame ocean." According to Tacitus, therefore, the iſland of the Batavians was bounded by the ocean, the Rhine, and the Vahalis, now the *Wale*. Cæſar extends it to the Moſa, or *Meuſe*; but Pliny agrees with Tacitus. However, this iſland was of greater extent in Tacitus's time than in Cæſar's; Druſus, the father of Germanicus, having by a new canal conveyed the waters of the Rhine into the ocean a conſiderable way north of the former mouth of that river. The Batavi were a branch of the Catti, who in a domeſtic ſedition, being expelled their country, occupied the extremity of the coaſt of Gaul, at that time uninhabited, together with this iſland ſituated among ſhoals. Their name *Batavi* they carried with them from Germany; there being ſome towns in the territory of the Catti called *Battenburg*, and *Battenhauſen*. The bravery of the Batavi, eſpecially the horſe, procured them not only great honour from the Romans, being called their *brothers* and *friends*; but an exemption from taxes, being obliged only to furniſh men and arms. The modern name of this iſland is *Betu*, or *Betaw*.

BATAVORUM Oppidum (anc. geog.), a town in the iſland of the Batavi, mentioned by Tacitus, without any particular name; which has given riſe to ſeveral ſurmiſes about it, ſome ſuppoſing it to be *Nimeguen*, but Cluverius, *Batavadurum* or *Batemburg*, both without the iſland; which ſituation renders both theſe places inadmiſſible, ſince Tacitus places this nameleſs town within the iſland.

BATCHELOR. See BACHELOR.

BATE (George), an eminent phyſician, born at Maid's Morton, near Buckingham, in the year 1608. In 1629 he obtained a licence, and for ſome years practiſed in and about Oxford: his practice was chiefly amongſt the putritans, who at that time conſidered him as one of their party. In 1637, he took his degree of doctor in phyſic, and became very eminent in his profeſſion, ſo that when king Charles kept his court at Oxford, he was his principal phyſician. When the king's affairs declined, Dr Bate removed to London, where he accommodated himſelf ſo well to the times, that he became phyſician to the Charter-houſe, fellow of the college of phyſicians, and afterwards principal phyſician to Oliver Cromwell. Upon the reſtoration, he got into favour with the royal party, was made principal phyſician to the king, and fellow of the Royal Society; and this, we are told, was owing to a report raiſed on purpoſe by his friends, according to Mr Wood, that he gave the protector a doſe which haſtened his death. Dr Bate wrote in Latin an account of the late commotions in England, and ſome other pieces. He died at his houſe in Hatton-garden, and was buried at Kingſton upon Thames in Surry.—There was another George Bate, who wrote a work intitled, "The Lives, Actions, and Execution, of the prime actors and principal Contrivers of that horrid Murther of our late pious and ſacred king Charles I."

BATENITES, a ſect of apoſtates from Mahometaniſm diſperſed through the Eaſt, who profeſſed the ſame abominable practices with the Iſmaelians and Karmatians. The word properly ſignifies *eſoteric*, or people of inward or hidden light.

BATES (William), D. D. an eminent preſbyterian divine, born in November 1625. He was admitted in Emanuel college, Cambridge, and from thence removed to King's college in 1644. He was one of the commiſſioners, at the conference in the Savoy, for reviewing the public liturgy, and was concerned in drawing up the exceptions againſt the common Prayer: however, ſoon after the reſtoration, he was appointed chaplain to king Charles II. and became miniſter of St Dunſtan's in the weſt, but was deprived of that benefice for nonconformity. Dr Bates bore a good and amiable character; and was honoured with the friendſhip of the lord keeper Bridgman, the lord chancellor Finch, the earl of Nottingham, and archbiſhop Tillotſon. He was offered, at the reſtoration, the deanery of Litchfield; which he refuſed. He publiſhed Select Lives of illuſtrious and pious perſons, in Latin; and ſince his death all his works, except his Select Lives, have been printed in one volume in folio. He died in July 14. 1699, in the 74th year of his age.

BATH, a city of Somerſetſhire in England, ſeated in W. Long. 2. 30. N. Lat. 51. 27. All the different names that this city has borne in different ages and languages have been taken from its medicinal waters, as the υδατα ϑερμα, or "hot waters," of Ptolemy; the *Aquæ Solis*, or "waters of the ſun," of Antoninus; the *Caer Baden*, and *Caer Ennant*, i. e. "the city of baths," and "the city of ointment," of the Britons; and the *Ackmancheſter*, i. e. "the city of valetudinarians," of the Saxons. The baths conſiſt of the King's bath, the Queen's-bath, the Croſs-bath, the Hot-bath, the Leper's bath, and the duke of Kingſton's-bath. This place was of old a reſort only for cripples and diſeaſed perſons; but now it is more frequented by the ſound for pleaſure than by the ſick for health. The waters are very pleaſant to the taſte; and impregnated with a vitriolic principle, yielding, upon evaporation, a little neutral ſalt and a calcarious earth and iron. They are very efficacious in ſtrengthening the bowels and ſtomach, bracing the relaxed fibres, and invigorating the circulation. In bilious complaints they are counted ſpecific; and prove ſerviceable in moſt nervous, paralytic, rheumatic, and gouty, complaints. At the King's bath is a handſome pump-room, where the gentlemen and ladies go in a morning to drink the waters; and there is a band of muſic that plays all the time. In the Croſs-bath is a monument of marble, repreſenting the deſcent of the Holy Ghoſt attended by angels, erected by the earl of Melfort (who was ſecretary of ſtate for Scotland) when king James II. met his queen here. The King's-Bath is a large baſon of 65 feet 10 inches by 40 feet 10 inches, containing 346 tuns 2 hogſheads and 36 gallons of water when filled to its uſual height. In the middle is a wooden building with niches and ſeats for the accommodation of the bathers. There are alſo iron rings all round for them to hold by; and guides, both male and female, to attend them in the bath. The perſon intending to bathe puts on, at his own lodgings, a bathing dreſs of brown canvas hired for the purpoſe; and is carried in a cloſe chair, of a particular make, to one of the ſlips which open into the bath. There he deſcends by ſteps into the water, where he is attended by a guide. Having ſtaid his ſtated time in the bath, he aſcends again into the ſlip, where he puts off his bathing-dreſs, and being wrapt up in blankets, is carried home to bed, where he lies for ſome time to encourage perſpiration. The King's-bath is overlooked by the company in the pump-room; and adjoining to it are places furniſhed with pumps to pour the hot ſtreams on any particular part of the body. The Queen's-bath communicates with the King's, from which it is filled; therefore the water of it is not ſo hot, being at a greater diſtance from the ſource. As the heat is here more moderate, the bathers deſcend firſt into the Queen's bath, and advance gradually to the centre of the other. In the year 1755, the abbey-houſe, or priory, belonging to the duke of Kingſton, was taken down, in order to erect a more commodious pile of building; and in digging for the foundation, the workmen diſcovered, about twenty feet below the ſurface of the earth, the remains of Roman baths and ſudatories conſtructed upon an elegant plan, with floors ſuſpended on pillars, and ſurrounded with tubulated bricks, for the conveyance of heat and vapour. Theſe were ſupplied by a ſpring of hot water, of the ſame properties and temperature with thoſe of the

Bath.

the King's-bath; and the ſewer was found ſtill entire, that conveyed the waſte water into the river. The duke, having cleared the ſpring and the ſewer, has erected ſeveral convenient baths and ſudatories on the ſpot, where invalids may be accommodated at all hours, by night as well as by day. The two ſeaſons are the ſpring and fall; but thoſe who take the waters purely for their health do not regard the ſeaſons, but drink them all the year round. There are a number of genteel ſedan chairs, which carry people to any diſtance, not exceeding half a mile, for ſix pence. The company aſſemble in the afternoon alternately, at two ſtately rooms, to converſe together, or play at cards. At a very pretty new theatre near the parades, plays are acted every other night; and there are balls twice a-week; for which and the rooms, and books at the libraries, the gentry generally ſubſcribe. The city is ſurrounded with hills on all ſides, except a little opening to the eaſt and weſt, through which the Avon runs. This river, which has been made navigable to Briſtol by act of parliament, waſhes the city on the eaſt and ſouth ſides, and there is an elegant bridge over it. This city had formerly had a ſlight wall, of which ſome part ſtill remains, as well as one or two of its gates; but almoſt all the new buildings, and much the greateſt and fineſt part of the city, is without the walls, particularly the fine ſquare called *Queen's-ſquare*, in the middle of which is a ſmall garden, with gravel walks, and an obeliſk in the centre. But the greateſt ornament at Bath is the circus: it is of a circular form conſiſting of houſes built on an uniform plan, with three openings at equal diſtances to the ſouth, eaſt, and weſt, leading into as many ſtreets. The fronts of the houſes, which are all three ſtories high, are adorned with three rows of columns in pairs, of the Doric, Ionic, and Corinthian orders, the frize is embelliſhed with ſculpture. The whole has an air of magnificence, which cannot fail to ſtrike the moſt indifferent ſpectator. In the centre of the area is a reſervoir, or baſon, filled by two or three ſprings riſing in the neighbouring hills; whence the ſtreets in this diſtrict are ſupplied with water. On the ſouth ſide of the town are the north and ſouth parades, two noble walks, paved with hewn ſtone, raiſed upon arches, facing each an elegant row of houſes on one ſide, and having a ſtone baluſtrade on the other. Theſe, with the two ſtreets that join them, were planned and executed by one Mr Wood, an able architect, who likewiſe built the ſquare and projected the circus. The two public rooms ſtand betwixt the north parade and Orange-grove; which laſt is a ſquare planted with trees, having in the middle a ſtone obeliſk, inſcribed in Latin to the late prince of Orange, who recovered his health in conſequence of drinking the Bath waters, and gave his name to this part of the town. Several new ſtreets and rows have of late years been built on the north-ſide of Bath, in the neighbourhood of the ſquare, ſuch as Gay-ſtreet, Milſom-ſtreet, Edgar-row, Harlequin-row, Bladud's-buildings, King's-mead-ſtreet, and Brock-ſtreet. Their advantages for building here are very great, having excellent free-ſtone, limeſtone, and ſlate, in the neighbourhood. One ſort of their lime is as white as ſnow. The guild-hall of Bath ſtands in the market-place, and is ſaid to be built on a plan of Inigo Jones, which however, exhibits nothing worthy of that great architect: beſides, one end of it has been rebuilt in a different ſtyle. The hall is ornamented with ſome potraits of the late prince of Wales and other remarkable perſonages: but the greateſt curioſity of the place is a Minerva's head in bronze, a real antique, dug up in Stall-ſtreet, in the year 1725. Bath boaſts a noble infirmary, or general hoſpital, for the reception of the ſick and lame from all parts of the three kingdoms. It extends 100 feet in front, and 90 in depth, being capable of receiving 150 patients. Here was anciently a monaſtery, of which the preſent cathedral was the church. It is a venerable pile; the principal front of which is adorned with angels aſcending and deſcending. There are three other churches in Bath, and ſeveral chapels and meeting-houſes. Beſides the infirmary, there are ſeveral other hoſpitals, alms-houſes, and charity ſchools. The corporation conſiſts of a mayor; eight aldermen, of whom two are juſtices of the peace: and 24 common-council men. The city is extremely well provided with ſtage-coaches, poſt-coaches, chaiſes, machines, and waggons. Bath is the general hoſpital of the nation, and a great number of invalids find benefit from the waters: but as the city lies in a bottom ſurrounded by very high hills, the air is conſtantly ſurcharged with damps; and indeed this place is more ſubject to rain than any other part in England. The markets are remarkably well ſupplied with proviſions of all kinds at reaſonable rates, particularly fiſh and poultry. They alſo afford excellent mutton fed upon Lanſdown, one of the higheſt hills that overlook the city. This down, remarkable for its pure air, extends about three miles; and at the extremity of it there is a ſtone monument, with an inſcription, erected to the memory of Sir Beville Granville, who was here killed in a battle which he fought with the parliament's army in the reign of Charles I. Bath ſends two members to parliament. The earldom of Bath was beſtowed on William Pultney in the end of Sir Robert Walpole's adminiſtration as a reward for his patriotiſm, but is now extinct for want of heirs-male.

Bath is joined with Wells to form a biſhopric, called the dioceſe of Bath and Wells. The biſhop's ſeat is at Wells, whoſe cathedral church was built by Ina, king of the Weſt Saxons in 704, and by him dedicated to St Andrew. Several other of the Weſt-Saxon kings endowed it, and was erected into a biſhopric in 905, during the reign of king Edward the Elder. The preſent church was begun by Robert the 18th biſhop of this ſee, and completed by his immediate ſucceſſor. John de Villula, the 16th biſhop, having purchaſed the city of Bath for 500 merks of king Henry I. transferred his ſeat to that city in 1088. From this, diſputes aroſe between the monks of Bath and the canons of Wells, about the election of a biſhop; but they were at laſt compromiſed by Robert the 18th biſhop, who decreed, that from henceforward the biſhop ſhould be ſtyled from both places, and that the precedency ſhould be given to Bath; that in the vacancy of the ſee, the biſhop ſhould be elected by a certain number of delegates from both churches; and that he ſhould be inſtalled in them both; both of them to conſtitute the biſhop's chapter; and all his grants and patents to be confirmed in both. So it ſtood till the reformation. But in the 35th of king Henry VIII. an act of Parliament paſſed for the dean and chapter of Wells to make one ſole chapter for the biſhop. This dioceſe hath yielded to the church of Rome one cardinal, and to the civil ſtate of England ſix lord chancellors, five lord treaſurers, one lord privy ſeal, one lord preſident of Wales, and principal ſecretary of ſtate. The dioceſe contains the whole county of Somerſet, except a few churches in the city of Briſtol: the number of pariſhes amounting to 388, and the churches and chapels to 503. Of the pariſhes 160 are impropriate. It is valued in the king's books at L. 535 : 1 : 3, and computed to be worth annually L. 2200. The clergy's tenth is L. 353 : 11 : 0¼. To the cathedral belong a biſhop, a dean, three archdeacons, a chancellor, a treaſurer, a ſub-dean, fifty-nine prebendaries, four prieſt-vicars, eight lay-vicars, an organiſt, ſix choriſters, and other officers.

Knights of the Bath, a military order in England, concerning the origin of which antiquaries differ in their accounts. The moſt probable deduction ſeems to be the following.

The knighthood of the Bath is ſuppoſed to have been practiſed by the ancient Franks, the inhabitants of Lower Germany, with whom it is highly probable the Saxons, who invaded England, had the ſame common deſcent, and, with other cuſtoms, upon their ſettling here, introduced the ſame method of knighthood. Theſe ancient Franks, when they conferred knighthood, obſerved, amongſt other ſolemn rites, bathing before they performed their vigils; which cuſtom continues to be practiſed in England: they were from thence denominated *Knights of the Bath*.

In the reign of Henry IV. there was a degree of knighthood ſpecified under the expreſs appellation of *the Bath*. That king, on the day of his coronation in the tower of London, conferred the ſame upon 46 eſquires, who had watched all the night before, and had bathed themſelves. From that time it was cuſtomary with the kings to confer this dignity preceding their coronations, the coronations of their queens, the birth and marriage of the royal iſſue, and their firſt advancement to honours, upon their deſigned expeditions againſt their foreign enemies, upon inſtallations of knights of the garter, and when ſome grand anniverſary feſtivals were celebrated. The laſt knights of the Bath ſo made were at the coronation of King Charles II. in 1661; after which the order was neglected until the year 1725, when George I. was pleaſed to revive it, and to order a book of ſtatutes for the government of the order. By this the number of knights is fixed to 38, viz. the Sovereign, and 37 knights-companions.

The apparel of a knight of the Bath is a red ſurcoat, lined and edged with white, girded about with a white girdle, without any ornament thereon; the mantle is of the ſame colour and lining, made faſt about the neck with a lace of white ſilk, having a pair of white gloves tied therein, with taſſels of ſilk and gold at the end; which mantles are adorned upon the left ſhoulders with the enſign of the order, being three imperial crowns, *or*, ſurrounded with the ancient motto of this knighthood, *Tria juncta in uno*, wrought upon a circle *gules*, with a glory or rays iſſuing from the centre, and under it the lace of white ſilk heretofore worn by the knights of the Bath. They have red breeches and ſtockings, and have white hats, with a plume of white feathers thereon. The king allowed the chapel of King Henry VII. to be the chapel of the order, and ordered that each knight's banner, with plates of his arms and ſtyles, ſhould be placed over their ſeveral ſtalls, in like manner as the knights of the Garter in St George Chapel in the caſtle of Windſor; and he allowed them ſupporters to their arms. His Royal Highneſs Prince William, ſecond ſon to the Prince of Wales, on this occaſion, was made the firſt knight-companion, and his Grace the Duke of Montagu grand maſter of the order, the dean of Weſtminſter (for the time being) dean of the order; the other officers of which are, Bath king of arms, a genealogiſt, regiſter and ſecretary, gentleman uſher, and meſſenger.

Bath, *Balneum*, a convenient receptacle of water for perſons to waſh or plunge in, either for health or pleaſure.—Baths are diſtinguiſhed into *hot* and *cold*; and theſe again are either natural or artificial. The natural hot baths are formed of the water of hot ſprings, of which there are many in different parts of the world; eſpecially in thoſe countries where there are or have evidently been volcanoes. The artificial hot baths conſiſt either of water or of ſome other fluid made hot by art. The cold bath conſiſts of water, either freſh or ſalt, in its natural degree of heat; or it may be made colder by art, as by a mixture of nitre, ſal ammoniac, &c. The chief hot baths in England are thoſe of Bath and Briſtol, in Somerſetſhire; and thoſe others of Buxton and Matlock, in Derbyſhire; which latter, however, are rather warm or tepid than hot. The uſe of theſe baths is found beneficial in diſeaſes of the head, as palſies, &c. in cuticular diſeaſes, as leproſies, &c. obſtructions and conſtipations of the bowels, the ſcurvy and ſtone, and in moſt diſeaſes of women and children. The baths have performed many cures, and are commonly uſed as a laſt remedy in obſtinate chronic diſeaſes; where they ſucceed well, if they agree with the conſtitution of the patient: but whether they will agree or not, cannot be known without trial.

As to the origin of thoſe hot waters, of which the natural hot baths are formed, we are very much in the dark. All that can be affirmed with certainty is, that where there are volcanoes, there alſo there are hot ſprings in great abundance; but how the heat of the volcano ſhould be conſtantly communicated to the waters of a ſpring for many ages, during a great part of which the volcano itſelf has lain in a dormant ſtate, ſeems almoſt beyond the reach of inveſtigation. Another thing that creates a great difficulty is, that the fire of a volcano muſt certainly lie very deep in the earth, and moſt probably ſhifts from place to place; but the waters of a ſpring muſt always iſſue from a place ſituated lower than the origin of the ſpring itſelf. Beſides, though we ſhould ſuppoſe the water to come from the top of a volcano itſelf, and conſequently boiling hot, it could not be ſuppoſed to percolate far through cold earth, without loſing all the heat it acquired from the volcano. From ſome obſervations, however, it certainly does appear, that there are ſome ſpots on the earth which have a power of producing heat within themſelves, independent of any thing foreign; and that water is ſo far from being able to deſtroy this power, that it ſeems rather to promote and continue it. We know that water hath this effect upon a mixture of iron filings and ſulphur; but whatever quantities of ſimilar ſubſtances we may ſuppoſe to be contained in the earth, we muſt alſo ſuppoſe to be deſtroyed by one great conflagration ſoon after they have begun to act upon each other, ſo that by their means no laſting heat in waters could be produced. Dr Stukely indeed would ſolve this, and ſeveral other phenomena, by making the fire and ſmoke of volcanoes the effects of electricity: but here ſufficient proof is wanting; for electricity, even in its moſt powerful ſtate, is not very apt to ſet bodies on fire. The thought, however, deſerves attention; for if electricity is capable of ſetting a volcano on fire, it is undoubtedly capable of producing ſolfaterras where it meets with proper materials, and from them ſprings of any degree of heat.

The cold bath is found one of the moſt univerſal and innocent remedies yet diſcovered, though ſtill its uſe is not to be adopted without precautions.

Baths in vapour, the fume or ſteam of ſome decoction is received upon the body to promote a perſpiration.—Theſe are alſo by ſome called *Balnea Laconica*,

Vapour baths are, when the patient is not plunged into what is prepared for the bath, but only receives its ſteam upon thoſe parts of his body which require it: as in ſome diſtempers of the fundament and womb, where the patient ſits and receives the fumes of ſome proper fomentation, &c. To theſe may be added the bagnio; where people are made to ſweat by the heat of a room, and pouring on of hot water; after which they generally go into a hot bath or bagnio.

A peculiar ſort of vapour-bath was much uſed by the ancient Mexicans, and is ſtill in uſe among the preſent Indians their deſcendants. According to the Abbe Clavigero, theſe baths are built of raw bricks, and their form is ſimilar to that of ovens for baking bread: but with this difference, that the pavement of the bath is a little convex, and lower than the ſurface of the earth; whereas that of moſt ovens is plain, and a little elevated for the accommodation of the baker. The greateſt diameter of a bath is about eight feet, and its greateſt height ſix. The entrance, like the mouth of an oven, is wide enough to allow a man to creep eaſily in. In the place oppoſite to the entrance there is a furnace of ſtone or raw bricks, with its mouth outwards to receive the fire, and a hole above it to carry off the ſmoke. The part which unites the furnace to the bath, and which is about two feet and a half ſquare, is ſhut with a certain dry ſtone of a porous texture. In the upper part of the vault there is an air-hole, like that to the furnace. This is the uſual ſtructure of the temazcalli; but there are others that are without vault or furnace, mere little ſquare chambers, yet well covered and defended from the air.—When any perſon goes to bathe, he firſt lays a mat within the temazcalli, a pitcher of water, and a bunch of herbs or leaves of maize. He then cauſes a fire to be made in the furnace, which is kept burning until the ſtones which join the bath and furnace are quite hot. The perſon who is to uſe the bath enters commonly naked, and generally accompanied for the ſake of inconvenience, or on account of infirmity, by one of his domeſtics. As ſoon as he enters, he ſhuts the entrance cloſe, but leaves the air-hole at top for a little time open, to let out any ſmoke which may have been introduced thro' the chinks of the ſtone; when it is all out he likewiſe ſtops up the air-hole. He then throws water upon the hot ſtones, from which immediately ariſes a thick ſteam to the top of the temazcalli. While the ſick perſon lies upon the mat, the domeſtic drives the vapour downwards, and gently beats the ſick perſon, particularly on the ailing part, with the bunch of herbs, which are dipped for a little while in the water of the pitcher, which has then become a little warm. The ſick perſon falls immediately into a ſoft and copious ſweat, which is increaſed or diminiſhed at pleaſure, according as the caſe requires. When the evacuation deſired is obtained, the vapour is let off, the entrance is cleared, and the ſick perſon clothes himſelf, or is tranſported on the mat to his chamber; as the entrance to the bath is uſually within ſome chamber of his habitation.—This ſort of bath, called *temazcalli* by the natives, has been regularly uſed in ſeveral diſorders, particularly in fevers occaſioned by coſtiveneſs. The Indian women uſe it commonly after childbirth, and alſo thoſe perſons who have been ſtung or wounded by any poiſonous animal. It is undoubtedly a powerful remedy for all thoſe who have occaſion to carry off groſs humours; and certainly it would be moſt uſeful in Italy, where the rheumatiſm is ſo frequent and afflicting. When a very copious ſweat is deſired, the ſick perſon is raiſed up and held in the vapour; as he ſweats the more the nearer he is to it. The temazcalli is ſo common, that in every place inhabited by the Indians there are many of them.

Baths (Dry), are thoſe made of aſhes, ſalt, ſand, ſhreds of leather, and the like.—The ancients had divers ways of ſweating by a dry heat; as by the means of a hot ſand, ſtove-rooms, or artificial bagnios, and certain natural hot ſteams of the earth, received under a proper arch, or hot-houſe, as we learn from Celſus. They alſo had another kind of bath by inſolation, where the body was expoſed to the ſun for ſome time, in order to draw forth the ſuperfluous moiſture from the inward parts; and to this day it is a practice in ſome nations to cover the body over with horſe-dung, eſpecially in chronical diſeaſes, to digeſt and breathe out the humor that cauſes the diſtemper. In ſome places they make a kind of ſtoves of turf, wherein the ſick are ſhut up to bathe or ſweat.

The ſame name is ſometimes alſo given to another kind of bath, made of kindled coals, or burning ſpirit of wine; the patient being placed in a convenient cloſe chair for the reception of the fume, which riſes and provokes ſweat in a plentiful manner: care is here taken to keep the head out, and to ſecure reſpiration. This bath has been found very effectual in removing old obſtinate pains in the limbs, and venereal complaints; and will often complete a cure left unperformed by ſalivation.

Some authors ſpeak of bloody baths, *balnea ſanguinolenta*, prepared eſpecially of the blood of infants, anciently ſuppoſed to be a kind of ſpecific for the leproſy.

Baths (Metalline), thoſe made of water impregnated with the *ſcoriæ* of metals. The moſt common and uſeful of this kind are thoſe prepared with the *ſcoriæ* of iron, which abound with the earthy, ſaline, and ſulphureous ſubſtance of the metal; and theſe are of excellent ſervice for ſtrengthening and bracing up the part to which they are applied, and recovering weak and decayed limbs; ſtopping various kinds of bleeding; and reſtoring the menſtrual and hemorrhoidal flux where obſtructed; inſomuch, that they may well be ſubſtituted for the natural iron baths.

Adjacent to the ſmelting huts where metals are run from their ore, are to be found large quantities of the ſlag of copper, antimony, and cobalt, which abounding with ſulphur, vitriolic ſalt, and an earthy principle, make ſerviceable baths for ſtrengthening the loſt tone of the fibres, and relaxing them when they are too ſtiff. Theſe baths have likewiſe a deterſive and cleanſing virtue; ſo that with prudence, and due regard to circumſtances, they may be uſed on many occaſions. The way of making theſe artificial baths is, either to take the ſlags as they come hot from the furnace, or elſe to heat them afreſh, and throw them into hot water; which is afterwards to be uſed either in the way of bath, or fomentation, occaſionally. There are other artificial baths, prepared of alum and quicklime, by boiling them together in fine rain-water. Such baths are highly ſerviceable in paralytic diſorders and weakneſs of the limbs.

The pepper bath, or peffer waſſer, on the Alps, is one of the moſt celebrated in Europe, and has been the ſubject of treatiſes expreſs, beſides what has been ſaid of it occaſionally by Scheuchzer and others. It was firſt diſcovered in the year 1240, and is of the periodical kind. The water breaks forth in a dreadful place, ſcarce acceſſible to the ſun-beams, or indeed to men, unleſs of the greateſt boldneſs, and ſuch as are not in the leaſt ſubject to dizzineſs. Theſe baths have this ſingularity above all others, that they commonly break forth in May, and that with a ſort of impetuoſity, bringing with them beech-leaves, crabs, or other wood-fruit: and that their courſe deſiſts in September or October. Scheuchzer profeſſes himſelf of opinion, that theſe waters are not impregnated with any minerals, or if they do contain any, that their virtues in curing diſtempers and preſerving health do not proceed from them. They are exceeding clear, deſtitute of colour, taſte, or ſmell.

Baths, (*Balnea*), in architecture, denote large pompous buildings among the ancients, erected for the ſake of bathing. Baths made a part of the ancient *gymnaſia*, though they were frequented more for the ſake of pleaſure than health.

The moſt magnificent baths were thoſe of Titus, Paulus Æmilius, and Diocleſian, of which there are ſome ruins ſtill remaining. It is ſaid that at Rome there were 856 public baths. Fabricius adds, that the exceſſive luxury of the Romans appeared in nothing more viſible than in their baths. Seneca complains, that the baths of plebeians were filled from ſilver pumps; and that the freedmen trod on gems. Macrobius tells us of one Sergius Oratus, a voluptuary, who had pendant baths hanging in the air.

According to Dion, Mæcenas was the firſt who made a bath at Rome: yet there are inſtances of public baths prior to this; but they were of cold water, ſmall, and poorly decorated. Agrippa, in his ædilate, built 160 places for bathing, where the citizens might be accommodated, either with hot or cold, *gratis*. After this example, Nero, Veſpaſian, Titus, Domitian, Severus, Gordian, Aurelian, Maximian, Diocleſian, and moſt of the emperors who ſtudied to gain the affections of the people, erected baths laid with the richeſt marble, and wrought according to the rules of the moſt delicate architecture. The rich had baths at home, and frequently very magnificent ones, eſpecially after the time that the practice of pillaging the provinces had begun; but they only uſed them on extraordinary occaſions. The great men, and even emperors themſelves, ſometimes bathed in public with the reſt of the people. Alexander Severus was the firſt who allowed the public baths to be opened in the night-time during the heats of ſummer.

The Greek baths were uſually annexed to *paleſtræ* or *gymnaſia*, of which they were conſidered as a part. Theſe baths conſiſted of ſeven different apartments, uſually ſeparated from each other, and intermixed with other buildings belonging to the other ſorts of exerciſes. Theſe were, firſt, the cold bath, *frigida lavatio*; 2dly, The *elæotheſium*, or room where they were anointed with oil; 3dly, The *frigidarium*, or cooling room; 4thly, The *propnigeum*, or entrance of the *hypocauſtum*, or ſtove; 5thly, The vaulted room for ſweating in, or vapour-bath, called *concamerata ſudatio*, or *tepidarium*; 6thly, The *laconicum*, or dry ſtove; 7thly, The hot bath, called *callida lavatio*.

As for the baths ſeparate from the *paleſtræ*, they appear to have been uſually double, one for men, the other for women; but ſo near, that the ſame furnace heated both. The middle part was poſſeſſed by a large baſon that received water by ſeveral pipes, and was ſurrounded by a baluſtrade, behind which there was an area for the reception of thoſe who waited to uſe the bath. They were vaulted over, and only received light from the top.

In the Roman baths, the firſt part that appeared was a large baſon, called κολυμϐηθρα in Greek, and *natatio* or *piſcina* in Latin. In the middle was the *hypocauſtum*, which had a row of four apartments on each ſide, called *balneari*: theſe were the ſtove, the bath, cold bath, and *tepidarium*. The two ſtoves, called *laconicum* and *tepidarium*, were circular and joined together. Their floor was hollow and ſuſpended, in order to receive the heat of a large furnace, which was communicated to the ſtoves through the vacuities of their floor. This furnace alſo heated another room called *vaſarium*, in which were three large brazen veſſels called *milliaria*, reſpectively containing hot, warm, and cold water; which were ſo diſpoſed, that the water might be made to paſs by ſyphons and pipes out of one or other of them into the bath, in order to adjuſt its temperature. The deſcription is given by Vitruvius. At three in the afternoon, which is what Pliny calls *hora octava et nona*, the Romans all repaired to the baths, either the public or the private ones: this was called the *bath hour*, *hora balnei*, which in winter was at nine, in ſummer at eight. The public baths were all opened by the ſound of a bell, and always at the ſame hour. Thoſe who came too late, ſtood a chance for bathing in cold water.

They began with hot water; after which, as the pores were now opened, and might give room for too plentiful a perſpiration, they though it neceſſary for their health to cloſe them again, either with the cold bath, or at leaſt with a ſprinkling of cold water. During the bath, the body was ſcraped with a kind of knives, or ſmall ſtrigils, ſuch as are ſtill found in the cabinets of the curious. After bathing ſucceeded unction and perfuming, from which they went freſh to ſupper.

The Romans, when they found their ſtomachs overcharged with meat, went to the bath, as we learn from Juvenal, who inveighs againſt thoſe who, having gorged themſelves with eating, were forced to go into the baths to give themſelves relief. They found alſo that a bath was good to refreſh themſelves after ſome conſiderable fatigue or travel, as Celſus tells us; which makes Plautus ſay, that all the baths in this world were not ſufficient to remove the wearineſs he felt. After Pompey's time, the humour of bathing was carried to great exceſs, by which many were ruined, ſeveral having brought themſelves to ſuch a pitch, that they could not bear food without bathing firſt. The emperor Titus is ſaid to have loſt his life thereby. Hence Pliny inveighs ſeverely againſt thoſe phyſicians who held, that hot baths digeſted the food. The emperor Hadrian firſt laid a reſtraint on the immoderate humour of bathing, by a public edict, prohibiting all perſons to bathe before the eighth hour.

Baths *of Agrippa (thermæ Agrippinæ,)* were built of brick, but painted in enamel: thoſe of Nero, *thermæ Neronianæ*, were not only furniſhed with freſh water, but even had the ſea brought into them: thoſe of Caracalla were adorned with 200 marble columns, and furniſhed with 1600 ſeats of the ſame matter. Lipſius aſſures us they were ſo large, that 1800 perſons might conveniently bathe in them at the ſame time. But the baths of Diocleſian, *thermæ Diocleſianæ*, ſurpaſſed all the reſt in magnificence. One hundred and forty thouſand men were employed many years in building them. Great part of theſe, as well as thoſe of Caracalla, are ſtill ſtanding; and with the vaſt high arches, the beautiful and ſtately pillars, the extraordinary plenty of foreign marble, the curious vaulting of the roofs, the prodigious number of ſpacious apartments, and a thouſand other ornaments, make one of the greateſt curioſities of modern Rome.

Bath, in chemiſtry. Several matters employed to tranſmit heat are called baths; but the ſubſtances moſt frequently uſed by chemiſts for this purpoſes, are water and ſand. When water is employed, it is called *Balneum Mariæ*, or *water bath;* which is very much uſed, very convenient for many operations, and may be employed ſucceſsfully for all degrees of heat inferior to that of boiling water. As water, when expoſed to fire in any veſſel from which it can evaporate, does only receive a determinate degree of heat, which always remains the ſame when once it has arrived to the boiling heat, it follows that by the water bath, a degree of heat always equal may be tranſmitted with certainty. Farther, this degree of heat being incapable of burning, or of communicating an empyreumatic quality to matters ſuſceptible of it, the water bath has alſo the advantage of not expoſing ſubſtances to this inconvenience. When veſſels in which diſtillations and digeſtions are made, are placed in ſand, then a ſand bath is formed. This intermediate ſubſtance of ſand is very convenient to moderate the too great activity of the naked fire, and to tranſmit any degree of heat, from the weakeſt to a red heat. As this bath is attended with leſs trouble, and requires leſs apparatus than the water bath, it is much uſed in laboratories. Nothing is requiſite for the ſand bath, but an earthen or iron veſſel filled with fine ſand, which is fitted into a furnace, and capable of containing the cucurbits, retorts, matraſſes or other veſſels containing the matter to be operated upon.

Bath, in metallurgy, is uſed to ſignify the fuſion of metallic matter in certain operations. In refining or cupelling, for example, the metals are ſaid to be in bath when they are melted. When gold is purified by antimony, this ſemi-metal melted, is called by ſome the *bath of gold;* alchemiſts, who conſider gold as the king of metals, call antimony the *bath of the king only;* becauſe in fact gold only can reſiſt the action of antimony.

Bath, in Hebrew antiquity, a meaſure of capacity, containing the fourth part of an omer, or ſeven gallons and four pints, as a meaſure for things liquid; or three pecks and three pints, as a meaſure for things dry.

Bath-Kol, the daughter of a voice. So the Jews call one of their oracles, which is frequently mentioned in their books, eſpecially the Talmud; being a fantaſtical way of divination invented by the Jews themſelves, though called by them a revelation from God's will, which he made to his choſen people, after all verbal prophecies had ceaſed in Iſrael. It was in fact a method of divination ſimilar to the *ſortes virgilianæ* of the Heathens. For as, with them, the firſt words they happened to dip into, in the works of that poet, were a kind of oracle whereby they predicted future events; ſo, with the Jews, when they appealed to Bath-kol, the firſt words they heard from any man's mouth were looked upon as a voice from heaven, directing them in the matter they enquired about. The Chriſtians were not quite free from this ſuperſtition, making the ſame uſe of the book of the Scriptures as the Pagans did of the works of Virgil. It was practiſed by Heraclius, emperor of the Eaſt, in the beginning of the ſeventh century: for, being at war with Choſroes king of Perſia, and in doubt, after a ſucceſsful campaign, where to take up his winter quarters, he conſulted the book of the Scriptures in this way of divination, and was determined thereby. In France, it was the practice for ſeveral ages to uſe this kind of divination at the conſecration of a biſhop, in order to diſcover his life, manners, and future behaviour. This uſage came into England with the Norman conqueſt; for we are told, that at the conſecration of William the ſecond Norman biſhop of the dioceſe of Norwich, the words which firſt occurred on dipping into the Bible were, *Not this man, but Barabbus:* ſoon after which, William died, and Herbert de Lozinga, chief ſimony-broker to King William Rufus, ſucceeded him; at whoſe conſecration the words at which the Bible opened were the ſame which Jeſus ſpoke to Judas the traitor; *Friend, wherefore art thou come?* This circumſtance ſo affected Herbert, that it brought him to a thorough repentance of his crime; in expiation of which he built the cathedral church or Norwich, the firſt ſtone of which he laid in the year 1096.

BATHA, **Bath**, or *Bachia*, a town of Hungary, and capital of a county of the ſame name, ſeated on the Danube. E. Long. 20. 40. N. Lat. 46. 40.

BATHING, the act of uſing or applying a bath; that is of immerging the body, or part of it, in water, or other fluid

Bathing is a practice of great antiquity. The Greeks, as early as the heroic age, are ſaid to have bathed themſelves in the ſea, in rivers, &c. We even find mention in Homer, of hot baths in the Trojan times; but theſe ſeem to have been very rare, and only uſed on extraordinary occaſions. Athenæus ſpeaks of hot baths as unuſual even in his age. In reality, public baths appear to have been diſcouraged, and even prohibited, by the ancient Greeks, who were contented to waſh themſelves at home in a ſort of bathing-tubs. The method of bathing among the ancient Greeks was, by heating water in a large veſſel with three feet, and thence pouring it on the head and ſhoulders of the perſon ſeated in the tub for that purpoſe, who at coming out was anointed with oil.

The Romans were alſo long before they came into the uſe of baths; the very name of which, *thermæ*, ſhows they borrowed it from the Greeks. As the ancient Romans were chiefly employed in agriculture, their cuſtom was every evening after work to waſh their arms and legs, that they might ſit down to ſupper with more decency: for it is to be obſerved, the uſe of linen was then unknown; and the people of that age went with their arms and legs bare, and conſequently expoſed to duſt and filth. But this was not all; for every ninth day, when they repaired to the city, either to the nundinæ or to attend at the aſſemblies of the people, they bathed all over in the Tiber, or ſome other river which happened to be neareſt them. This ſeems to have been all the bathing known till the time of Pompey, when the cuſtom began of bathing every day.

The Celtic nations were not without the uſe of bathing: the ancient Germans bathed every day in warm water in winter, and in ſummer in cold. In England, the famous bath in Somerſetſhire is ſaid by ſome to have been in uſe 800 years before Chriſt. Of this, however, it muſt be owned, we have but very ſlender evidence: but Dr Muſgrave makes it probable that it was a place of conſiderable reſort in Geta's time; there being ſtill the remains of a ſtatue erected to that general, in gratitude for ſome benefactions he had conferred upon it.

Although bathing, among the ancients, made, as it were, a part of diet, and was uſed as familiarly as eating or ſleep; yet it was in high eſteem among their phyſicians for the cure of diſeaſes, as appears from Strabo, Pliny, Hippocrates, and Oribaſius; whence frequent exhortations to waſhing in the ſea, and plunging into cold water. The firſt inſtance of cold bathing, as a medicine, is Melampus's bathing the daughters of the king of Argos; and the firſt inſtance of warm bathing is Medea's uſe of it, who was ſaid to boil people alive, becauſe Pelias king of Theſſaly died in a warm bath under her hands. The cold bath was uſed with ſucceſs by Antoninus Muſa, phyſician to the emperor Auguſtus, for the recovery of that prince; but fell into neglect after the death of Marcellus, who was thought to have been deſtroyed by the improper uſe of it. It was again brought into requeſt towards the cloſe of the reign of Nero, by means of a phyſician at Marſeilles named *Charmis*; but during the ignorance of the ſucceeding ages, the practice was again baniſhed for a long time.—Both hot and cold bathing are now preſcribed in many caſes by the phyſicians, though they are not agreed as to the manner in which they operate on the human body. See MEDICINE-*Index*

Bathing among the Turks, as among the ancients, makes a part of diet and luxury; and in every town, and even village, there is a public bath. Indeed, the neceſſity of cleanlineſs, in a climate where one perſpires ſo copiouſly, has rendered bathing indiſpenſable; the comfort it produces preſerves the uſe of it; and Mahomet, who knew its utility, has reduced it to a precept. Of theſe baths, and the manner of bathing particularly at Cairo, the following account is given by M. Savary in his Letters on Egypt.

“The firſt apartment one finds in going to the bath, is a large hall, which riſes in the form of a rotunda. It is open at the top, to give a free circulation to the air. A ſpacious eſtrade, or raiſed floor, covered with a carpet, and divided into compartments, goes around it, on which one lays one's clothes. In the middle of the building, a jet-d'eau ſpouts out from a baſon, and agreeably entertains the eye. When you are undreſſed, you tie a napkin round your loins, take a pair of ſandals, and enter into a narrow paſſage, where you begin to be ſenſible of the heat. The door ſhuts to; and, at 20 paces off, you open a ſecond, and go along a paſſage, which forms a right angle with the former. Here the heat increaſes. They who are afraid of ſuddenly expoſing themſelves to a ſtroger degree of it, ſtop in a marble hall, in the way to the bath properly ſo called. The bath is a ſpacious and vaulted apartment, paved and lined with marble, around which there are four cloſets. The vapour inceſſantly riſing from a fountain and ciſtern of hot water, mixes itſelf with the burning perfumes. Theſe, however, are never burnt except the perſons who are in the bath deſire it. They mix with the ſteam of the water, and produces a moſt agreeable effect.

“The bathers are not impriſoned here, as in Europe, in a ſort of tub, where one is never at one's eaſe. Extended on a cloth ſpread out, the head ſupported by a ſmall cuſhion, they ſtretch themſelves freely in every poſture, while they are wrapped up in a cloud of odoriferous vapours, which penetrate into all their pores. After repoſing there ſome time, until there is a gentle moiſture over the whole body, a ſervant comes, preſſes you gently, turns you over, and when the limbs are become ſupple and flexible he makes all the joints crack without any difficulty. He maſſes* and ſeems to knead the fleſh without making you feel the ſmalleſt pain. This operation finiſhed, he puts on a ſtuff glove, and rubs you a long time. During this operation, he detaches from the body of the patient, which is running with ſweat, a ſort of ſmall ſcales, and removes even the imperceptible dirt that ſtops the pores. The ſkin becomes ſoft and ſmooth like ſatin. He then conducts you into a cloſet, pours the lather of perfumed ſoap upon your head, and withdraws. The ancients did more honour to their gueſts, and treated them in a more voluptuous manner. Whilſt Telemachus was at the court of Neſtor, ‘the beautiful Polycaſta, the handſomeſt of the daughters of the king of Pylos, led the ſon of Ulyſſes to the bath; waſhed him with her own hands; and, after anointing his body with precious oils, covered him with rich habits and a ſplendid cloak.’ Piſiſtratus and Telemachus were not worſe treated in the palace of Menelaus. ‘When they had admired its beaties, they were conducted to baſons of marble, where a bath was prepared: Beautiful female ſlaves waſhed them; and, after anointing them with oil, covered them with rich tunics and ſuperb pellices.’

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* “Maſs” comes from the Arabic verb *maſs*, which ſignifies touching in a delicate manner.

“ The cloſet to which one is conducted is furniſhed with a ciſtern and two cocks; one for cold and the other for hot water. There you waſh yourſelf. Soon after the ſervant returns with a depilatory pomatum, which in an inſtant makes the hair fall off the places it is applied to. Both men and women make general uſe of it in Egypt. It is compoſed of a mineral called *ruſma*, which is of a deep brown. The Egyptians burn it lightly, knead it with water, mixing it with half the quantity of ſlaked lime. This greyiſh paſte applied to the hair, makes it fall off in two or three minutes, without giving the ſlighteſt pain.

“ After being well waſhed and purified, you are wrapped up in hot linen, and follow the guide through the windings that lead to the outer apartment. This inſenſible tranſition from heat to cold prevents one from ſuffering any inconvenience from it. On arriving at the eſtrade, you find a bed prepared for you; and ſcarcely are you laid down before a child comes to preſs every part of your body with his delicate fingers, in order to dry you thoroughly. You change linen a ſecond time, and the child gently grates the calloſity of your feet with pumice ſtone. He then brings you a pipe and Moka coffee.

“ Coming out of a ſtove where one was ſurrounded by a hot and moiſt fog, where the ſweat guſhed from every limb, and tranſported into a ſpacious apartment open to the external air, the breaſt dilates, and one breathes with voluptuouſneſs. Perfectly maſſed, and as it were regenerated, one experiences an univerſal comfort. The blood circulates with freedom; and one feels as if diſengaged from an enormous weight, together with a ſuppleneſs and lightneſs to which one has been hitherto a ſtranger. A lively ſentiment of exiſtence diffuſes itſelf to the very extremities of the body. Whilſt it is loſt in delicate ſenſations, the ſoul, ſympathiſing with the delight, enjoys the moſt agreeable ideas. The imagination, wandering over the univerſe, which it embelliſhes, ſees on every ſide the moſt enchanting pictures, every where the image of happineſs. If life be nothing but the ſucceſſion of our ideas, the rapidity with which they then recur to the memory, the vigour with which the mind runs over the extended chain of them, would induce a belief that in the two hours of that delicious calm that ſucceeds the bath, one has lived a number of years.”

Such are the baths, the uſe of which were ſo ſtrongly recommended by the ancients, and which are ſtill the delight of the Egyptians. It is by means of them that they prevent or diſpel rheumatiſms, catarrhs, and ſuch cutaneous diſorders as are produced by want of perſpiration. Hence likewiſe they find a radical cure for that fatal evil which attacks the ſources of generation, the remedy for which is ſo dangerous in Europe. By the ſame reſource they get rid of that uncomfortable feeling ſo common to all nations who do not pay ſo much attention to the cleanlineſs of their bodies.—Mr Tournefort, indeed, who had uſed ſteam baths at Conſtantinople, where there is leſs refinement in them than at Cairo, is of opinion that they injure the breaſt. But, according to Mr Savary, this is an error which further experience would have corrected. There are no people who make more frequent uſe of them than the Egyptians, and there is no country where there are fewer aſthmatic people. The aſthma is ſcarcely known there.

The women are paſſionately fond of theſe baths. They frequent them at leaſt once a-week, and take with them ſlaves properly qualified for the purpoſe. More luxurious than the men, after undergoing the uſual preparations, they waſh their bodies, and above all their heads, with roſe-water. It is there that female head dreſſers form their long black hair into treſſes, which they mix with precious eſſences inſtead of powder and pomatum. It is there that they blacken the edge of their eye-lids, and lengthen their eye-brows with cohel, a preparation of tin burnt with gall-nuts; it is there they ſtain the finger and toe nails with the leaves of henne, a ſhrub common in Egypt, and which gives them a golden colour. The linen and clothing they make uſe of are paſſed through the ſweet ſteam of the wood of aloes; and when the work of the toilet is at an end, they remain in the outer apartment, and paſs the day in entertainments. Females entertain them with voluptuous ſongs and dances, or tell them tales of love.

BATHURST (Ralph), M. D. an eminent phyſician, poet and divine, born in the year 1620. He ſtudied divinity in Trinity college, Oxford; but the times of confuſion coming on, he changed the courſe of his ſtudies, and applied himſelf to phyſic. He took a doctor's degree in that faculty; in which he roſe to ſuch eminence, that he was, in the time of the uſurpation, appointed phyſician to the ſtate. Upon the reſtoration, he quitted his profeſſion of phyſic; was elected a fellow of the Royal Society, and preſident of his college; and having entered into holy orders, he was made chaplain to the king, and afterwards dean of Wells. Soon after, he ſerved the office of vice-chancellor of Oxford, and was nominated by King William and Queen Mary to the ſee of Briſtol which he refuſed to accept. His learning and talents were various. He was an orator, a philoſopher, and a poet: he poſſeſſed an inexhauſtible fund of wit, and was a facetious companion at 80 years of age. Ridicule was the weapon with which he uſed to correct the delinquents of his college: and he was ſo abſolute a maſter of it, that he had it always at hand. His poetical pieces in the *Muſæ Anglicanæ* are excellent in their kind. He wrote ſeveral poems, both in Engliſh and Latin; and died June 14. 1704, in the 84th year of his age.

BATHURST (Allen), Earl of Bathurſt, one of the laſt worthies of Queen Anne's reign, that ſhining period of triumphs, taſte, genius, and elegance, was born in the year 1684. His ſtudies and his education were equally conducive to the brilliant figure he was deſtined to make in ſocial life and in the ſenate, as a polite ſcholar, a patriot, and a ſtateſman. Theſe talents he had an opportunity to diſplay as early as the year 1705; when, at the requeſt of his father Sir Benjamin Bathurſt, and the ſolicitation of the conſtituents of Cirenceſter, he ſerved in parliament for that borough, his native ſoil, with reputation and integrity. He diſtinguiſhed himſelf particularly in the ſtruggles and debates relative to the union between the two kingdoms, firmly ſupporting this meaſure, calculated to ſtrengthen the vigour of government by uniting its force. Though he was contented to act a ſubordinate character in the great oppoſition planned by Mr Harley and Mr St John, his intimate friends, to ſap the credit of the Duke of Marlborough and his adherents, he was of infinite ſervice to his party in arraigning, with ſpirit and eloquence, the conduct of the General and the Earl of Godolphin, who had long governed the Queen, and laviſhed the treaſures of the nation on conqueſts more ſplendid than ſerviceable. The loſs of the battle of Almanza ſeconded his efforts to diſpel the intoxication of former ſucceſſes. His perſonal regard for Lord Somers, preſident of the council, was never altered, though they were of different opinions in politics; and when he was diveſted of his office, Mr Bathurſt acted with ſuch tenderneſs and delicacy, as to preſerve the eſteem of Lord Somers in a private ſtation. In conſideration of his zeal and ſervices, the Queen advanced him, in 1711, to the dignity of a peer, by the title of Baron Bathurſt, of Battleſden, in Bedfordſhire.

His Lordſhip continued to ſpeak his ſentiments with an undaunted freedom in the upper houſe; and ſtept forth as a formidable opponent to the court-meaſures in the reign of George I. and during Sir Robert Walpole's adminiſtration. The acrimony of the proſecution carried on againſt the Earl of Oxford, Lord Bolingbroke, and the duke of Ormond, ſtimulated his indignation and his eloquence againſt ſuch vindictive proceedings; and he obſerved, "that the king of a faction was but the ſovereign of half his ſubjects."

The ſouth-ſea ſcheme having infected the whole nation with a ſpirit of avaricious enterprize, the people awaked from their delirium, and an infinite number of families was involved in ruin. Lord Bathurſt publicly impeached the directors, whoſe arts had enabled them by theſe vain expectations to amaſs ſurpriſing fortunes: he repreſented that the national honour was concerned in ſtripping them of their ill acquired wealth; and moved for having all the directors of the ſouth-ſea company puniſhed by a forfeiture of their eſtates, for ſuch a notorious act of ſordid knavery.

When the bill was brought into the houſe of Lords againſt Dr Atterbury biſhop of Rocheſter, that learned prelate, who joined to the graces of ſtyle and elocution all the elegance of a juſt delivery; among the many friends the biſhop's eloquence, politeneſs, and ingenuity had procured him, was Lord Bathurſt. He ſpoke againſt the bill with great vehemence and propriety; obſerving, "that if ſuch extraordinary proceedings were countenanced, he ſaw nothing remaining for him and others to do, but to retire to their country-houſes, and there, if poſſible, quietly enjoy their eſtates within their own families, ſince the leaſt correſpondence, or intercepted letter, might be made criminal." Then turning to the biſhops, he ſaid, "he could hardly account for the inveterate hatred and malice ſome perſons bore the ingenious biſhop of Rocheſter, unleſs it was that they were infatuated like the wild Americans, who fondly believe they inherit not only the ſpoils, but even the abilities, of the man they deſtroy." He was one of the Lords who entered his proteſt againſt the bill.

His Lordſhip was entirely averſe to continental connections; and animadverted ſeverely upon the monarch whoſe thoughts were turned to foreign concerns and alliance which could never be uſeful; complaining of the immenſe ſums laviſhed in ſubſidies to needy and rapacious princes.

The directors of the charitable corporation having embezzled 500,000l. of the proprietors capital, Lord Bathurſt declared, in the Houſe of Lords, his abhorrence of this moſt iniquitous ſcene of fraud; aſſerting, that not one ſhilling of the money was ever applied to the proper ſervice, but became the reward of avarice and venality.

His lordſhip concurred, with all his power, in the oppoſition to Sir Robert Walpole, who now tottered on the brink of ruin. This miniſter, after obſtinate ſtruggles, having been forced to reſign all his employments, Lord Bathurſt was ſworn of the privy council, and made captain of the gentlemen penſioners, which poſt he reſigned in 1744. He was appointed treaſurer to the preſent king, then Prince of Wales, in 1757, and continued in the liſt of privy-counſellors at his acceſſion to the throne; but, on account of his great age, he choſe to enjoy *otium cum dignitate*.

Lord Bathurſt's integrity gained him the eſteem even of his opponents; and his humanity and benevolence, the affection of all that knew him more intimately. He added to his public virtues all the good breeding, politeneſs, and elegance, of ſocial intercourſe. Dr. Freind, Congreve, Vanbrugh, Swift, Prior, Rowe, Addiſon, Pope, Arbuthnot, Gay, and moſt men of genius in his own time, cultivated his friendſhip, and were proud of his correſpondence.

Pope, in his Epiſtle to him on the Uſe of Riches: thus addreſſes him:

> The ſenſe to value riches, with the art
> T' enjoy them, and the virtue to impart;
> To balance fortune by a juſt expence,
> Join with œconomy magnificence;
> With ſplendor, charity; with plenty, health:
> O teach us, Bathurſt, yet unſpoil'd by wealth!
> That ſecret rare, between th' extremes to move,
> Of mad good-nature, and of mean ſelf-love.

And Sterne, in his letters to Eliza, thus ſpeaks of him: "This nobleman is an old friend of mine; he was always the protector of men of wit and genius; and has had thoſe of the laſt century always at his table. The manner in which his notice began of me, was as ſingular as it was polite.—He came up to me one day as I was at the Princeſs of Wales's court, 'I want to know you, Mr. Sterne; but it is fit you ſhould know alſo who it is that wiſhes this pleaſure: you have heard (continued he) of an old Lord Bathurſt, of whom your Popes and Swifts have ſung and ſpoken ſo much: I have lived my life with geniuſes of that caſt, but have ſurvived them; and deſpairing ever to find their equals, it is ſome years ſince I have cloſed my accounts, and ſhut up my books, with thoughts of never opening them again: but you have kindled a deſire in me of opening them once more before I die, which I now do; ſo go home, and dine with me.' This nobleman, I ſay, is a prodigy: for at 85 he has all the wit and promptneſs of a man of 30; a diſpoſition to be pleaſed, and a power to pleaſe others beyond whatever I knew! added to which, a man of learning, courteſy, and feeling."

His Lordſhip, in the latter part of his life, preſerved his natural cheerfulneſs and vivacity, always acceſſible, hoſpitable, and beneficent. Lately he delighted in rural amuſements; and enjoyed, with a philoſophical ſatisfaction, the ſhade of the lofty trees he had planted himſelf. Till within a month of his death he conſtantly rode out on horſeback two hours before dinner, and conſtantly drank his bottle of claret or Madeira after dinner. He uſed to declare, in a jocoſe manner, he never could think of adopting Dr Cadogan's method, as Dr Cheyne had aſſured him, 50 years ago, he would never live ſeven years longer unleſs he abriged himſelf of his wine. Purſuant to this maxim, his Lordſhip having, ſome years ago, invited ſeveral of his friends to ſpend a few cheerful days with him at his ſeat at Cirenceſter, and being one evening very loth to part with them; on his ſon the late chancellor's objecting to their ſitting up any longer, and adding that health and long life were beſt ſecured by regularity, he ſuffered him to retire: but, as ſoon as he was gone, the cheerful father ſaid, "Come, my good friends, ſince the old gentleman is gone to bed, I think we may venture to crack another bottle."

His Lordſhip was advanced to the dignity of Earl in 1772; and lived to ſee the above nobleman, his eldeſt ſon, ſeveral years Lord High chancellor of Great Britain, and promoted to the peerage in 1771 by the title of Baron Apſley. Lord Bathurſt married Catherine daughter of Sir Peter Apſley, by whom he had two other ſons, and five daughters. His death happened, after a few days illneſs, at his ſeat near Cirenceſter, in the 91ſt year of his age, and on the 16th of September 1775.

BATHYLLUS *and* PYLADES, inventors of pantomime entertainments on the ſtage. Bathyllus ſucceeded in repreſenting comedy; Pylades, in tragedy. The art conſiſted in expreſſing the paſſions by geſtures, attitudes, and dumb ſhew; not, as in modern times, in machinery, and the fooleries of Harlequin. They flouriſhed at Rome, under Auguſtus, about A. D. 10. Each of them kept ſcholars, who perpetuated their maſter's name: for the followers of Bathyllus, who excelled in the comic part, called themſelves *Bathylli*; and thoſe of Pylades, who excelled in the tragic, called themſelves *Pyladæ*.

BATILLUS, a muſical inſtrument made of metal, in the form of a ſtaff, furniſhed with metalline rings, which being ſtruck, yielded a kind of harmonical ſounds; uſed by the Armenians in their church-ſervice.

BATIS; a genus of the tetrandria order, belonging to the diæcia claſs of plants, the characters of which are: Of the male, the amentum is four ways imbricated, and both the calyx and corolla are wanting: of the female, the amentum is ovate, the involucrum diphyllous; calyx and corolla wanting; the ſtigma is bilobate and ſeſſile; the berries condunate and four ſeeded. There is but one ſpecies, the mantima, a native of Jamaica.

BATISTE, in commerce, a fine white kind of linen cloth, manufactured in Flanders and Picardy.

There are three kinds of batiſte; the firſt very thin; the ſecond leſs thin; and the third much thicker, called *Holland batiſte*, as coming very near the goodneſs of Hollands. The chief uſe of Batiſte is for neck-cloths, head-cloths, ſurplices, &c.

BATMAN, in commerce, a kind of weight uſed at Smyrna, containing ſix okes of 400 drams each, which amount to 16 pounds 6 ounces and 15 drams of Engliſh weight.

BATMANSON, (John), prior of the Carthuſian monaſtery, or Charter-houſe in the ſuburbs of London. He was ſome time a ſtudent at Oxford, but it does not appear that he took any degree in that univerſity. He was intimately acquainted with Edward Lee archbiſhop of York, at whoſe requeſt he wrote againſt Eraſmus and Luther. He died in the year 1531, and was buried in the chapel belonging to the charter-houſe. According to Bale, he was a proud forward perſon; and he ſays that Eraſmus, in one of his letters to the biſhop of Wincheſter, calls him an ignorant fellow. Pits, on the contrary, gives him the character of a man of ſingular genius, zeal, piety, and learning. He wrote, 1. *Animadverſiones in annotationes Eraſmi in Nov. Teſtamentum.* 2. *A treatiſe againſt ſome of Luther's works.* Theſe two he afterwards retracted. 3. *Commentaria in proverbia Solomonis.* 4. *In cantica canticorum.* 5. *De unica Magdalena.* 6. *Inſtitutiones noviciorum.* 7. *De contemptu mundi.* 8. *De Chriſto duodenni.* 9. *On the words,* Miſſus eſt, &c.

BATON, or BASTON. See BASTON.

BATRACHOMYOMACHIA, the battle of the frogs and the mice, the title of a fine burleſque poem generally aſcribed to Homer. The ſubject of the work is the death of Pſycharpax, a mouſe, ſon to Toxartes, who being mounted on the back of Phyſignathus, a frog, on a voyage to her palace, to which ſhe had invited him, was ſeized with fear when he ſaw himſelf in the middle of the pond, ſo that he tumbled off and was drowned. Phyſignathus being ſuſpected to have ſhaken him off with deſign, the mice demanded ſatisfaction, and unanimouſly declared war againſt the frogs.

BATTÆ, (anc. geog.), a people of Germany, formerly inhabitants of what is now called *Heſſe*. Being diſſatisfied with their ſituation there, they ſettled on the iſland formed by the Vahalis and Rhine, which from them took the name of *Batavia*, or *Batavorum Inſula*. Their government was a mixture of monarchy, ariſtocracy, and democracy. Their chief was, properly ſpeaking, nothing more than a principal citizen, whoſe buſineſs was rather to adviſe than to command. The principal men who exerciſed juriſdiction, and commanded the troops, in their reſpective diſtricts, were choſen, as well as the kings, in an aſſembly of the people. A hundred perſons ſelected from among the people preſided over every county, and acted as chiefs in the different hamlets. The whole nation was, in ſome meaſure, an army always in readineſs. Each family compoſed a body of militia, which ſerved under a captain of their own chooſing. See BATAVORUM *Inſula*.

BATTALIA, an army ranged in order of battle, or ready for engagement. The word ſeems formed from the Latin *batualia*, ſometimes alſo written *batalia*, denoting a ſort of military or gladiatorial exerciſe, as fighting with foils, or tilting at a poſt. In this ſenſe, we meet with the depth of a battalia; to march in battalia, with the baggage in the middle; to break the battalia, &c. In the Roman battalia, the *haſtati* made the front.

BATTALION, a ſmall body of infantry, ranged in form of battle, and ready to engage.

A battalion uſually contains from 500 to 800 men; but the number it conſiſts of is not determined. They are armed with firelocks, ſwords and bayonets; and divided into 13 companies, one of which is genadiers They are uſually drawn up three men deep. Some regiments conſiſt of but one battalion, others are divided into four or five.

BATTATAS, the Indian name of the potatoe. See CONVOLVULUS.

BATTEL, a town of Suſſex, five miles north-weſt of Haſtings, ſituated in E. Long. 0. 35. N. Lat. 50. 55. It was formerly called *Epiton*; and is the place where William the Conqueror vanquiſhed Harold king of England on October 14th 1066. William, in memory of this victory, erected an abbey, which he called *Battel Abbey*; and if a criminal could but reach this abbey, he was diſmiſſed from thence, and was afterwards in no danger for his paſt faults. The abbey was a large and noble ſtructure, as may be judged by the gateway which is ſtill entire, as well as from the other remains. This place is noted for making gunpowder equal to that of Dantzick; and the beſt goes by the name of of *Battel gunpowder*.

BATTEL, in law, or *Trial by wager of Battel*, a ſpecies of trial of great antiquity, but now much diſuſed. It ſeems to have owed its original to the military ſpirit of our anceſters, joined to a ſuperſtitious frame of mind; it being in the nature of an appeal to Providence, under an apprehenſion and hope (however preſumptuous and unwarrantable), that heaven would give the victory to him who had the right. The deciſion of ſuits, by this appeal to the God of battels, is by ſome ſaid to have been invented by the Burgundi, one of the northern or German clans that planted themſelves in Gaul. And it is true, that the firſt written injunction of judiciary combats that we meet with, is in the laws of Gundebald, A. D. 501, which are preſerved in the Burgundian code. Yet it does not ſeem to have been merely a local cuſtom of this or that particular tribe, but to have been the common uſage of all thoſe warlike people from the earlieſt times. And it may alſo ſeem, from a paſſage in Velleius Paterculus, that the Germans, when firſt they became known to the Romans, were wont to decide all conteſts of right by the ſword: for when Quintilius Varus endeavoured to introduce among them the Roman laws and method of trial, it was looked upon (ſays the hiſtorian) as a *novitas incognitæ diſciplinæ, ut ſolita armis decerni jure terminarentur*. And among the ancient Goths in Sweden we find the practice of judiciary duels eſtabliſhed upon much the ſame footing as they formerly were in our own country.

This trial was introduced in England among other Norman cuſtoms by William the Conqueror: but was only uſed in three caſes, one military, one criminal, and the third civil. The firſt in the court-martial, or court of chivalry and honour; the ſecond in appeals of felony; and the third upon iſſue joined in a writ of right, the laſt and moſt ſolemn deciſion of real property. For in writs of right the *jus proprietatis*, which is frequently a matter of difficulty, is in queſtion; but other real actions being merely queſtions of the *jus poſſeſſionis*, which are uſually more plain and obvious, our anceſtors did not in them appeal to the deciſion of Providence. Another pretext for allowing it, upon theſe final writs of right, was alſo for the ſake of ſuch claimants as might have the true right, but yet by the death of witneſſes or other defect of evidence be unable to prove it to a jury. But the moſt curious reaſon of all is given in the Mirror, that it is allowable upon warrant of the combat between David for the people of Iſrael of the one party, and Goliah for the Philiſtines of the other party: a reaſon which Pope Nicholas I. very ſeriouſly decides to be inconcluſive. Of battel, therefore, on a writ of right we ſhall firſt ſpeak: and although the writ of right itſelf, and of courſe this trial thereof, be at preſent diſuſed; yet, as it is law at this day, it may be matter of curioſity, at leaſt, to inquire into the forms of this proceeding, as we may gather them from ancient authors.

1. The laſt trial by battel that was waged in the court of common pleas at Weſtminſter (though there was afterwards one in the court of chivalry in 1631, and another in the county palatine of Durham in 1638) was in the 13th year of Queen Elizabeth, A. D. 1571, as reported by Sir James Dyer; and was held in Tothill-fields, Weſtminſter, "*non ſine magna juris conſultorum perturbatione*," ſaith Sir Henry Spelman, who was himſelf a witneſs of the ceremony. The form, as appears from the authors before cited, is as follows:

When the tenant in a writ of right pleads the general iſſue, viz. that he hath more right to hold than the demandant hath to recover; and offers to prove it by the body of his champion, which tender is accepted by the demandant; the tenant in the firſt place muſt produce his champion, who, by throwing down his glove as a gage or pledge, thus wages or ſtipulates battel with the champion of the demandant; who, by taking up the gage or glove, ſtipulates on his part to accept the challenge. The reaſon why it is waged by champions, and not by the parties themſelves, in civil actions, is becauſe, if any party to the ſuit dies, the ſuit muſt abate and be at an end for the preſent; and therefore no judgment could be given for the lands in queſtion, if either of the parties were ſlain in battel: and alſo that no perſon might claim an exemption from this trial, as was allowed in criminal caſes, where the battel was waged in perſon.

A piece of ground is then in due time ſet out, of 60 feet ſquare, incloſed with liſts, and on one ſide a court erected for the judges of the court of common pleas, who attend there in their ſcarlet robes; and alſo a bar is prepared for the learned ſerjeants at law. When the court ſits, which ought to be by ſunriſing, proclamation is made for the parties and their champions; who are introduced by two knights, and are dreſſed in a coat of armour, with red ſandals, barelegged from the knee downwards, bareheaded, and with bare arms to the elbows. The weapons allowed them are only batons, or ſtaves, of an ell long, and a four-cornered leather target; ſo that death very ſeldom enſued this civil combat. In the court military, indeed, they fought with ſword and lance, according to Spelman and Ruſhworth; as likewiſe in France, only villeins fought with the buckler and baton, gentlemen armed at all points. And upon this, and other circumſtances, the preſident Monteſquieu hath with great ingenuity not only deduced the impious cuſtom of private duels upon imaginary points of honour, but hath alſo traced the heroic madneſs of knight-errantry from the ſame original of judicial combats. But to proceed:

When the champions, thus armed with batons, arrive within the liſts or place of combat, the champion of the tenant then takes his adverſary by the hand, and makes oath that the tenements in diſpute are not the right of the demandant; and the champion of the demandant, then taking the other by the hand, ſwears in the ſame manner that they are; ſo that each champion is, or ought to be, thoroughly perſuaded of the truth of the cauſe he fights for. Next an oath againſt ſorcery and enchantment is to be taken by both the champions, in this or a ſimilar form: "Hear this, ye juſtices, that I have this day neither eat, drank, nor have upon me neither bone, ſtone, ne graſs; nor any inchantment, ſorcery, or withcraft, whereby the law of God may be abaſed, or the law of the devil exalted. So help me God and his ſaints."

The battel is thus begun, and the combatants are bound to fight till the ſtars appear in the evening: and, if the champion of the tenant can defend himſelf till the ſtars appear, the tenant ſhall prevail in his cauſe; for it is ſufficient for him to maintain his ground, and make it a drawn battle, he being already in poſſeſſion; but, if victory declares itſelf for either party, for him is judgment finally given. This victory may ariſe from the death of either of the champions: which indeed hath rarely happened; the whole ceremony, to ſay the truth, bearing a near reſemblance to certain rural athletic diverſions, which are probably derived from this original. Or victory is obtained if either champion proves *recreant*, that is, yields, and pronounces the horrible word of *craven*; a word of diſgrace and obloquy, rather than of any determinate meaning. But a horrible word it indeed is to the vanquiſhed champion; ſince, as a puniſhment to him for forfeiting the land of his principal by pronouncing that ſhameful word, he is condemned as a recreant, *amittere liberam legem*, that is, to become infamous, and not to be accounted *liber et legalis homo*; being ſuppoſed by the event to be proved forſworn, and therefore never to be put upon a jury, or admitted as a witneſs in any cauſe.

This is the form of a trial by battel; a trial which the tenant, or defendant in a writ of right, has it in his election at this day to demand; and which was the only deciſion of ſuch writ of right after the conqueſt, till Henry II. by conſent of parliament introduced the *grand aſſiſe*, a peculiar ſpecies of trial by jury, in concurrence therewith; giving the tenant his choice of either the one or the other. Which example, of diſcountenancing theſe judicial combats, was imitated about a century afterwards in France, by an edict of Louis the Pious, A. D. 1260, and ſoon after by the reſt of Europe. The eſtabliſhment of this alternative, Glanvil, chief juſtice to Henry II. and probably his adviſer herein, conſiders as a moſt noble improvement, as in fact it was, of the law.

2. In appeals * of felony, the trial by battel may be demanded, at the election of the appellee, in either an appeal or an approvement; and it is carried on with equal ſolemnity as that on a writ of right; but with this difference, that there each party hires a champion, but here they muſt fight in their proper perſons. And therefore, if the appellant or approver be a woman, a prieſt, an infant, or of the age of 60, or lame, or blind he or ſhe may counterplead or refuſe the wager of battel; and compel the appellee to put himſelf upon the country. Alſo peers of the realm, bringing an appeal, ſhall not be challenged to wage battel, on account of the dignity of their perſons; nor the citizens of London, by ſpecial charter, becauſe fighting ſeems foreign to their education and employment. So likewiſe, if the crime be notorious; as if the thief be taken with the *mainour*, or the murderer in the room with a bloody knife, the appellant may refuſe the tender of battel from the appellee; and it is unreaſonable an innocent man ſhould ſtake his life againſt one who is already half-convicted.

The form and manner of waging battel upon appeals are much the ſame as upon a writ of right; only the oaths of the two combatants are vaſtly more ſtriking and ſolemn. The appellee, when appealed of felony, pleads *not guilty*; and throws down his glove, and declares he will defend the ſame by his body: the appellant takes up the glove; and replies that he is ready to make good the appeal, body for body. And thereupon, the appellee taking the book in his right hand, and in his left the right hand of his antagoniſt, ſwears to this effect: *Hoc audi, homo, quem per manum teneo*, &c. "Hear this, O man, whom I hold by the hand, who calleſt thyſelf *John* by the name of baptiſm, that I, who call myſelf *Thomas* by the name of baptiſm, did not feloniouſly murder thy father, *William* by name, nor am any way guilty of the ſaid felony. So help me God, and the ſaints; and this I will defend againſt thee by my body, as this court ſhall award." To which the appellant replies, holding the Bible and his antagoniſt's hand in the ſame manner as the other: "Hear this, O man, whom I hold by the hand, who calleſt thyſelf *Thomas* by the name of baptiſm, that thou art perjured; and therefore perjured, becauſe that thou feloniouſly didſt murder my father, *William* by name. So help me God, and the ſaints: and this I will prove againſt thee by my body, as this court ſhall award." The battel is then to be fought, with the ſame weapons, *viz.* batons, the ſame ſolemnity, and the ſame oaths againſt amulets and ſorcery, that are uſed in the civil combat: and if the appellee be ſo far vanquiſhed that he cannot or will not fight any longer, he ſhall be adjudged to be hanged immediately; and then, as well as if he be killed in battel, Providence is deemed to have determined in favour of the truth, and his blood ſhall be attainted. But if he kills the appellant, or can maintain the fight from ſunriſing till the ſtars appear in the evening, he ſhall be acquited. So alſo, if the appellant becomes recreant, and pronounces the horrible word *craven*, he ſhall loſe his *liberam legem*, and became infamous; and the appellee ſhall recover his damages, and alſo be for ever quit, not only of the appeal, but of all indictments likewiſe for the ſame offence.

BATTEN, a name that workmen give to a ſcantling of wooden ſtuff, from two to four inches broad, and about one inch thick; the length is pretty conſiderable, but undetermined.—This term is chiefly uſed in ſpeaking of doors and windows of ſhops, &c. which are not framed of whole deal, &c. with ſtiles, rails, and pannels like wainſcot; but are made to appear as if they were by means of theſe battens bradded on the plain board round the edges, and ſometimes croſs them, and up and down.

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* See *Appeals.*

BATTENBURG, a town of Dutch Guelderland, ſeated on the north banks of the Meuſe, almoſt oppoſite to Ravenſtein. E. Long. 5. 35. N. Lat. 50. 55.

BATTERING, the attacking a place, work, or the like, with heavy artillery.

To batter in breach, is to play furiouſly on a work, as the angle of a half-moon, in order to demoliſh and make a gape therein. In this they obſerve never to fire a piece at the top, but all at the bottom, from three to ſix feet from the ground.

The battery of a camp is uſually ſorrounded with a trench, and palliſadoes at the bottom, with two redoubts on the wings, or certain places of arms, capable of covering the troops which are appointed for their defence. See BATTERY.

Battering-Ram, in antiquity, a military engine uſed to batter and beat down the walls of places beſieged. It is ſaid to have been invented by Artemanes of Clazomene, a Greek architect who flouriſhed 441 B. C.—The machine is thus deſcribed by Joſephus: It is a vaſt beam, like the maſt of a ſhip, ſtrengthened at the one end with a head of iron, ſomething reſembling that of a ram, whence it took its name. This was hung by the middle with ropes to another beam, which lay acroſs two poſts; and hanging thus equally balanced, it was by a great number of men drawn backwards and puſhed forwards, ſtriking the wall with its iron head. But this engine did moſt execution when it was mounted on wheels, which is ſaid to have been firſt done at the ſiege of Byzantium under Philip of Macedon.

Plutarch informs us, that Marc Anthony, in the Parthian war, made uſe a ram fourſcore feet long: and Vitruvius tells us, that they were ſometimes 106, and ſometimes 120, feet in length; and to this perhaps the force and ſtrength of the engine was in a great meaſure owing. The ram was managed at one time by a whole century of ſoldiers; and they being ſpent were ſeconded by another century, ſo that it played continually without any intermiſſion.

Plate XCV. fig. 1. repreſents the battering-ram ſuſpended. 2. The ram. 3. The form of its head, faſtened to the enormous beam by three or four bands of iron, four feet in breadth. At the extremity of each of theſe bands (4) was a chain (5) of the ſame metal, the end of which was faſtened to a hook (6), and at the other extremity of each of theſe chains was a cable firmly bound to the laſt link. Theſe cables ran the whole length of the beam to the end of the ram (7), where they were all bound together as faſt as poſſible with ſmall ropes. To the end of theſe cables another was fixed, compoſed of ſeveral ſtrong cords platted together to a certain length, and then running ſingle (8). At each of theſe ſeveral men were placed, to balance and work the machine. 10. The chain or cable by which it hung to the croſs beam (11), fixed on the top of the frame. 12. The baſe of the machine.—The unſuſpended ram differed from this only in the manner of working it: for inſtead of being ſlung by a chain or cable, it moved on ſmall wheels on another large beam.

Battering-Rams, in heraldry, a bearing or coat of arms reſembling the military engine of the ſame name.

BATTERY, in the military art, a parapet thrown up to cover the gunners and men employed about the guns from the enemy's ſhot. This parapet is cut into embraſſures, for the cannon to fire through. The height of the embraſſures on the inſide is about three feet; but they go ſloping lower to the outſide. Their wideneſs is two or three feet, but open to ſix or ſeven on the outſide. The maſs of earth that is betwixt two embraſſures, is called the *merlon*. The platform of a battery is a floor of planks and ſleepers, to keep the wheels of the guns from ſinking into the earth; and is always made ſloping towards the embraſſures, both to hinder the reverſe, and to facilitate the bringing back of the gun.

Battery of Mortars differs from a battery of guns; for it is ſunk into the ground, and has no embraſſures.

Croſs-Batteries, are two batteries which play athwart one another upon the ſame object, forming there an angle, and beating with more violence and deſtruction; becauſe what one bullet ſhakes, the other beats down.

Battery ſunk or *buried*, is when its platform is ſunk or let down into the ground, ſo that there muſt be trenches cut in the earth, againſt the muzzles of the guns, for them to fire out at, and to ſerve for embraſſures.

Battery d' Enfilade, is one that ſcours or ſweeps the whole length of a ſtraight line.

Battery en Echarpe is that which plays obliquely.

Battery de Reverſe, that which plays upon the enemy's back.

Camerade Battery is when ſeveral guns play at the ſame time upon one place.

BATTERY, in law, is the unlawful beating of another. The leaſt touching of another's perſon wilfully, or in anger, is a battery, for the law cannot draw the line between different degrees of violence, and therefore totally prohibits the firſt and loweſt ſtage of it; every man's perſon being ſacred, and no other having a right to middle with it, in any the ſlighteſt manner. And therefore, upon a ſimilar principle, the Cornelian law *de injurii* prohibited *pulſation* as well as *verberation*; diſtinguiſhing verberation, which was accompanied with pain, from pulſation which was attended with none. But battery is in ſome caſes juſtifiable or lawful; as where one who hath authority, a parent or maſter, gives moderate correction to his child, his ſcholar, or his apprentice. So alſo on the principle of ſelf-defence: for if one ſtrikes me firſt, or even only aſſaults me, I may ſtrike in my own defence; and if ſued for it, may plead *ſon aſſault demeſne*, or that it was the plaintiff's own original aſſault that occaſioned it. So likewiſe in defence of my goods or poſſeſſion, if a man endeavours to deprive me of them, I may juſtify laying hands upon him to prevent him; and in caſe he perſiſts with violence, I may proceed to beat him away. Thus too in the exerciſe of an office, as that of church warden or beadle, a man may lay hands upon another to turn him out of church, and prevent his diſturbing the congregation. And if ſued for this or the like battery, he may ſet forth the whole caſe, and plead that he laid hands upon him gently, *molliter*

Plate XCV.

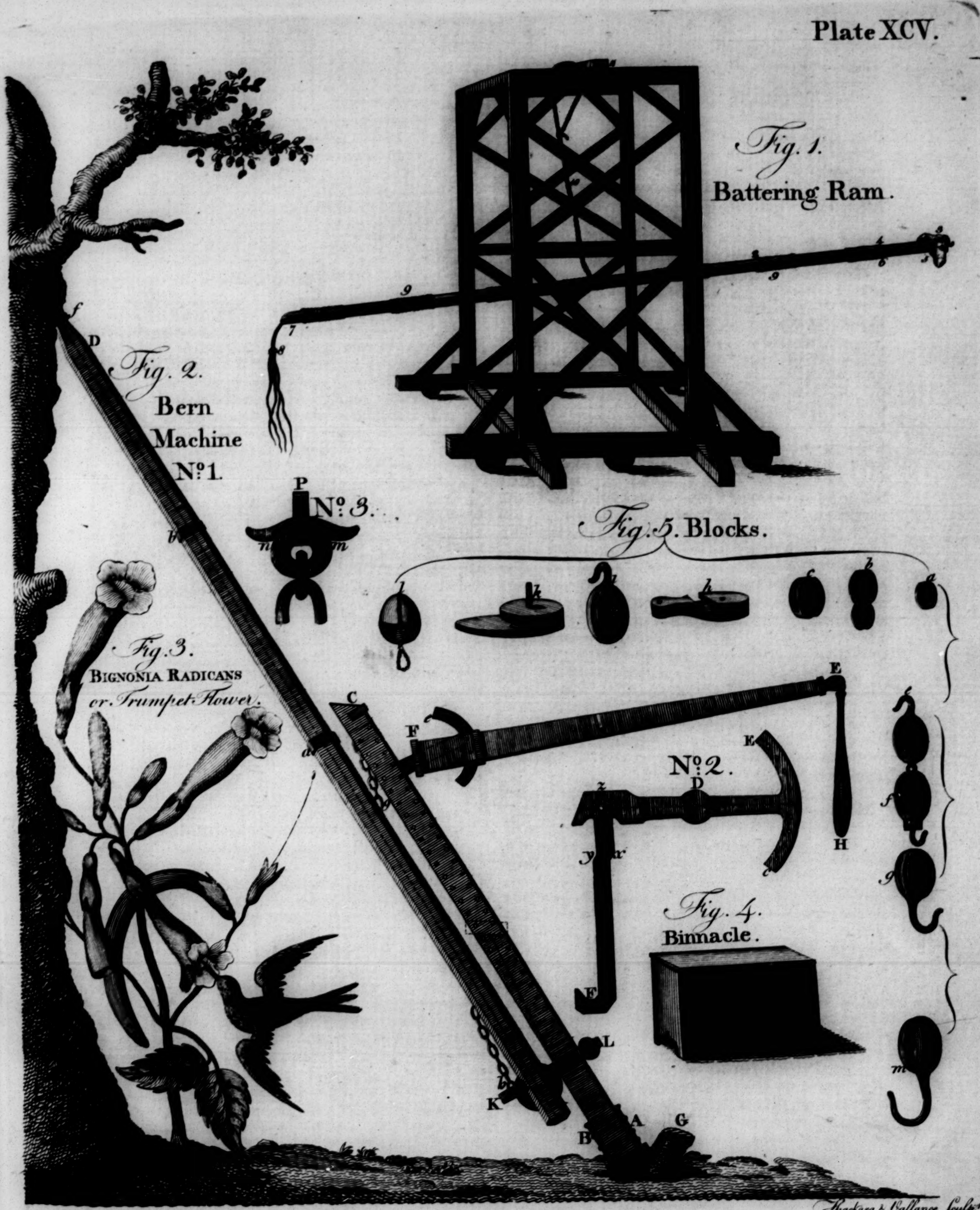

Fig. 1.
Battering Ram.
1
2
3
4
5
6
7
8
9
9
9
Fig. 2.
Bern
Machine
No. 1.
No. 3.
P
n
m
No. 2.
f
D
b
C
d
E
F
D
E
z
y
x
e
E
H
L
h
K
B
A
G
Fig. 3.
BIGNONIA RADICANS
or Trumpet Flower.
Fig. 4.
Binnacle.
Fig. 5. Blocks.
a
b
c
d
h
k
l
e
f
g
m

Thackara & Vallance Sculp.t

BRITISH MUSEUM

manus impoſuit, for this purpoſe. On account of theſe cauſes of juſtification, battery is defined to be the unlawful beating of another ; for which the remedy is, as for aſſault, by action of *treſpaſs vi et armis* ; wherein the jury will give adequate damages.

BATTISTA (Franco) a celebrated painter, born at Venice, was one of the diſciples of Michael Angelo, whoſe manner he followed ſo cloſely, that, in the correctneſs of his out-lines, he ſurpaſſed moſt of the maſters of his time. His paintings are pretty numerous, and diſperſed all over Italy and other parts of Europe ; but his colouring being very dry, they are not much more eſteemed than the prints etched by his hand. He died in 1561.

BATTLE, a general engagement between two armies, in a country ſufficiently open for them to encounter in front and at the ſame time (ſee WAR). The word is alſo written *battel*, *battell*, and *battail*. It is formed from the French *bataille*, of the Latin verb *batuere*, to *fence* or *exerciſe with arms* ; whence *batualia* and *batalia*, which properly denoted the action or exerciſe of thoſe who learned to fence, and who were hence alſo denominated *batuatores*.

The ancients never joined battle without much ceremony and preparation ; as taking auguries, offering ſacrifice, haranguing the ſoldiers, giving the word or a *teſſera*, &c. The ſignals of battle were, ſounding the *claſſicum* or general charge, and diſplaying a peculiar flag called by Plutarch a *Purple robe*. To which may be added, ſinging pæans, raiſing military ſhouts, and the like. A Roman legion, ranged in order of battle, conſiſted of *haſtati*, placed in the front ; of *principes*, who were all old experienced ſoldiers, placed behind the former ; and of *triarii*, heavy armed with large bucklers, behind the *principes*. The *haſtati* were ranked cloſe ; the ranks of the *principes* were much opener, ſo that they could receive the *haſtati* ; and thoſe of the *triarii* opener ſtill, inſomuch that they could receive both the *principes* and the *haſtati* within them, without any diſorder, and ſtill facing the enemy. When therefore the *haſtati* found themſelves unable to ſtand the enemy's charge, they retired gently within the *principes*, where joining with them, they renewed the combat. If theſe found themſelves too weak to ſuſtain the enemy, both retired among the *triarii*, where rallying, they formed a new corps, and charged with more vigour than ever. If theſe failed, the battle was loſt ; the Romans had no farther reſource. The moderns are unacquainted with this method of inſerting or embattling one company into another ; without which the former cannot be well ſuccoured or defended, and their places taken by others ; which was a thing the Romans practiſed with great exactneſs. For the *velites*, and in later times the archers and ſlingers, were not drawn up in this regular manner, but either diſpoſed of before the front of the *haſtati*, or ſcattered up and down among the void ſpaces of the *haſtati*, or ſometimes placed in two bodies in the wings. Theſe always began the combat, ſkirmiſhing in flying parties with the foremoſt troops of the enemy. If they were repulſed, which was uſually the caſe, they fell back to the flanks of the army, or retired again in the rear. When they retired, the *haſtati* advanced to the charge. As to the cavalry, it was poſted at the two corners of the army, like the wings on a body ; and fought ſometimes on foot, ſometimes on horſeback. The auxiliary forces compoſed the two points of the battle, and covered the whole body of the Romans.—Other leſs uſual forms of battle among the Romans were the *cuneus*, or wedge ; *globus* or round form ; *forſex*, or pair of ſheers ; *turris*, or an oblong ſquare figure ; *ſerra*, or ſaw. The Greeks were inferior to the Romans in marſhalling their armies for battle, as they drew up their whole army in front, and truſted the ſucceſs of the day to a ſingle force. They had three forms of battle for the horſe, viz. the ſquare, the wedge, and the rhombus or diamond form. The firſt held beſt for the defenſive ; the latter for the offenſive ; the wedge being preferred as bringing moſt hands to fight.

The Greeks notified the places of their battles and victories by adding the word Νικη ; whence Nicomedia, Nicopolis, Theſſalonica, &c. The ancient Britons did the like, by adding the word *Mais* ; whence Maiſſeveth, Malmaiſbury, &c. The Engliſh by the word *Field*.—The Romans had their particular days, called *præliares dies*, wherein alone it was lawful to join battle ; and others wherein it was unlawful, called *dies atri*. The Athenians, by the ancient laws of their country, were not to draw out their forces for battle till after the ſeventh day of the month : And Lucian relates of the Lacedemonians, that by the laws of Lycurgus, they were not to fight before full moon. Among the Germans, it was reputed an impiety to fight in the wane of the moon ; and Cæſar tells us, that Arioviſtus was beaten by him, becauſe, contrary to the laws of his country, he had fought when the moon was in her wane. The German ſoldiers were intimidated with the apprehenſion, and afforded Cæſar an eaſy victory : *acie commiſſa, impeditos religione hoſtes vicit.* It is well known that Jeruſalem was taken by Pompey in an attack on the ſabbath-day, when by the Jewiſh ſuperſtitious notions, they were not allowed to fight, or even to defend themſelves. The Romans did not carry their ſuperſtition ſo far : their *atri dies* were only obſerved in reſpect of attacking ; no day was too holy for them to defend themſelves in. Among the ancients, we find frequent inſtances of battles in the night ; it was by the moonlight that Pompey beat Mithridates, and Scipio Aſdrubal and Syphax.

The firſt pitched battle, of which we have any diſtinct account, is that between Crœſus and Cyrus, deſcribed by Xenophon, concerning which we have a diſſertation expreſsly by M. Freret, wherein ſeveral points of the ancient tactics are well explained. In the modern war, we find few pitched or ſet battles : the chief view of the great commanders of late days is rather to haraſs or ſtarve the enemy by frequent alarms, cutting off his proviſions, carrying off his baggage, ſeizing his poſts, &c. than to join iſſue with him, and put the whole on the event of one day ; a battle generally deciding the fate of a campaign, ſometimes of a whole war. Hence it is a rule, never to venture a general battle, unleſs either you fight to advantage, or be forced to it. Joining or giving battle ſhould always be by deſign : a general ſhould never ſuffer himſelf to be forced to fight. All the meaſures, movements, encampments, he makes, are to lead to the execution of his great deſign, which is to fight to advantage, till by ſome miſtake of the enemy, he at length find the favourable opportunity. It is in this that a ſuperior genius will at length prevail over an inferior: in the courſe of a campaign, he will take a number of advantages over him, which together are equivalent to a battle, the event of which is ever doubtful.

Battle-Axe, an ancient military weapon. Axes were a principal part of the offenſive armour of the Celtæ. At the ſiege of the Roman Capitol by the Gauls under Brennus, we find one of the moſt diſtinguiſhed of their warriors armed with a battle-axe. And Ammiannus Marcellinus, many centuries afterwards, deſcribing a body of Gauls, furniſhes them all with battle-axes and ſwords. Some of theſe weapons have been found in the ſepulchres of the Britons, on the downs of Wiltſhire, and in the north of Scotland. Within theſe four or five centuries the Iriſh went conſtantly armed with an axe. At the battle of Bannockburn, king Robert Bruce clave an Engliſh champion down to the chine at one blow with a battle-axe. The axe of Lochaber hath remained a formidable implement of deſtruction in the hands of the Highlanders, even nearly to the preſent period; and it is ſtill uſed by the city-guard of Edinburgh in quelling mobs, &c.

BATTLEMENTS, in architecture, are indentures or notches in the top of a wall or other building, in the form of embraſſures, for the ſake of looking through them.

BATTOLOGY, in grammar, a ſuperfluous repetition of ſome words or things.

BATTON, in merchandiſe, a name given to certain pieces of wood or deal for flooring or other purpoſes.

BATTORY, a name given by the Hans Towns to their magazines or factories abroad. The chief of theſe battories are thoſe at Archangel, Novogrod, Berghmen, Liſbon, Venice, and Antwerp.

BATUA, Butua, *Buthoe*, or *Buthoece* (anc. geog.), a town of Dalmatia ſituated on the Adriatic; now *Budoa*; which ſee.

BATTUS, an order of penitents at Avignon and in Provence, whoſe piety carries them to exerciſe ſevere diſcipline upon themſelves both in public and private.

BATZ, a copper coin mixed with ſome ſilver, and current at different rates, according to the alloy, in Nuremburg, Baſil, Fribourg, Lucerne, and other cities of Germany and Switzerland.

BAVARIA, a duchy and formerly electorate of Germany. This duchy was once a kingdom, which extended from the mountains of Franconia to the frontiers of Hungary and the Adriatic Gulph. It comprehended the countries of Tirol, Carinthia, Carniola, Stiria, Auſtria, and other ſtates, which are now fallen to different princes. At preſent it is bounded on the eaſt by Bohemia and Auſtria, on the weſt by Suabia, on the north by Franconia, and on the ſouth by Tirol. But the Duke of Bavaria is not abſolute maſter of all this country; for within its bounds are ſituated many free cities, among which is Ratiſbon, and ſeveral lordſhips both eccleſiaſtical and ſecular. It is divided into Upper and Lower Bavaria; and theſe two provinces conſiſt of 12 counties, which formerly ſufficed to make a duchy, according to the laws of Franconia. The country is watered by five navigable rivers, beſides ſeveral ſmaller ones, and 16 lakes.—It contains 35 cities, of which Munich is the capital; 94 towns; 720 caſtles; 4700 villages; eight great abbeys; and 75 cloiſters or monaſteries, beſides thoſe of the mendicants.—It is divided into four great bailliages called *governments*. Theſe are Munich, Landſhut, Straubing, and Burkhauſen. The principal cities are Ingolſtadt, Donawert, Landſberg, Freiburg, Straubingen, Wilſhauſen, Waſlerberg, Eling, Rain, &c.

Beſides theſe two provinces, the Duke of Bavaria poſſeſſes the upper palatinate of Weſtphalia, which has been united to Bavaria, and comprehends ſeveral counties, cities, towns, and villages. On the other ſide of this province is Chamb, the chief city of the county of the ſame name, belonging likewiſe to the Duke of Bavaria. He alſo poſſeſſes the landgraviate of Leitchtenberg, which fell to him by the death of Maximilian Adam, in conſequence of family pacts made between the houſe of Bavaria and that of Leitchtenberg for their mutual ſucceſſion. In 1567, the county of Kaag fell to the Duke of Bavaria by the death of Ladiſlaus the laſt count of that name. There are likewiſe family pacts of mutual ſucceſſion eſtabliſhed betwixt the houſe of Bavaria and the Palatine of the Rhine.—The inhabitants of this country are ſtrong and laborious, exerciſing themſelves in ſhooting with rifled muſkets at a mark, in order to render themſelves more expert in war.

The houſe of Bavaria is univerſally allowed to be one of the moſt ancient in Germany. The Counts of Scheyren, whoſe caſtle at preſent is a cloiſter, gave them the name. At that place are ſhown the tombs of more than 26 lords of Scheyren. The Emperor Otho I. eſtabliſhed as counts-palatine of Bavaria and landgraves of Scheyren, Arnolph, and Herman, ſons of Arnolph brother to the Duke of Berchtold of Carinthia, marquis of the county upon the Ens. After the death of Berchtold, the ſame emperor, inſtead of giving Bavaria to his ſon, gave it to Duke Henry his brother, who had married Judith ſiſter to Arnolph and Herman. This Duke Henry of Bavaria had by his marriage Henry Hezillon, who was ſucceeded by his ſon Henry, afterwards choſen emperor by the name of Henry II. This emperor having no children by Saint Cunegond his wife, Bavaria paſſed again to the family of Franconia, and afterwards to that of Suabia under Henry IV. who poſſeſſed it till the year 1071, when this laſt emperor gave that county to Count Wolf, or Guelph, of Ravenſburg in Suabia. To this Guelph, who died in the iſland of Cyprus, ſucceeded Guelph II. and to him his brother Duke Henry IX. who was ſucceeded by his ſon Henry the Proud. This laſt had married the only daughter of the emperor Lotharius, and after the death of his father-in-law became alſo Duke of Saxony; but refuſing to deliver up the imperial ornaments of his father-in-law to the emperor Conrad III. Duke of Suabia, or to acknowledge him for emperor, he was put to the ban of the empire, and loſt his ſtates. After the death of Henry, Conrad made his brother Leopold Marquis of Auſtria and Duke of Bavaria; who, dying without iſſue, was ſucceeded by his brother Henry XI. whom the Emperor Frederic I. made Duke of Auſtria, joining together the two counties above and below the Ens, and declaring them free and independent of the government of Bavaria. The ſame emperor gave Bavaria thus diſmembered, with Saxony, to Henry the Lion, ſon of Henry the Proud. But Henry the Lion afterwards loſing the favour of this emperor, was put to the ban of the empire; and loſt all his poſſeſſions except Brunſwick and Lunenburg, which ſtill remain to his deſcendants. In 1180, the duchy of Bavaria was given by the emperor to Otho the Landgrave of Wittelſbach, count-palatine of the houſe of Bavaria. In the time of this Otho, the caſtle of Scheyren was changed into a monaſtery, in which the Duke was buried. From him are deſcended the two great families that remain to this day in Germany, viz. the counts-palatine of the Rhine, and till lately electors of Bavaria. The elector of Bavaria is now extinct, and ſunk in the elector-palatine; ſo that there are now only eight inſtead of nine electoral princes in Germany.

BAVAY, a ſmall town of the province of Hainault, in French Flanders; which has been often ruined by the wars of the Low Countries. E. Long. 3. 45. N. Lat. 50. 25.

BAUCIS, in fabulous hiſtory, an old woman who lived with Philemon her huſband in a cottage in Phrygia. Jupiter and Mercury, travelling over that country, were well received by them, after having been refuſed entertainment by every body elſe. To puniſh the people for their inhumanity, theſe gods laid the country waſte with water; but took Baucis and Philemon with them to the top of a mountain, where they ſaw the deluge, and their own little hut above the waters, turned into a temple. Having a wiſh granted them, they deſired to officiate in this temple as prieſt and prieſteſs, and alſo that they might die both together; which was granted them.

BAUCONIA (anc. geog.), a town of the Vangiones in Gallia Belgica: nine miles from Mogontiacum, and eleven from Barbitomagum; and therefore ſuppoſed to be *Oppenheim*, a town in the palatinate of the Rhine, and ſituated on that river.

BAUDELOT (Charles Cæſar), a learned advocate in the parliament of Paris, diſtinguiſhed himſelf by his ſkill in ancient monuments, and was received into the Academy of Belles Lettres in 1705. He wrote a Treatiſe on the Advantages of Travelling; many Letters and Diſſertations on Medals, &c.; and died in 1722, aged 74.

BAUDIER (Michael), a gentleman of Languedoc, lived in the reign of Louis XIII. and publiſhed ſeveral books, which procured him the character of a copious and laborious author; among which are, 1. An Inventory of the General Hiſtory of the Turks. 2. The Hiſtory of the Seraglio. 3. That of the Religion of the Turks. 4. That of the Court of the King of China. 5. The Life of Cardinal Ximenes, &c.

BAUDIUS (Dominic), profeſſor of hiſtory in the univerſity of Leyden, born at Liſle the 8th of Auguſt 1561. He began his ſtudies at Aix la Chapelle, and continued them at Leyden. He removed from thence to Geneva, where he ſtudied divinity. After reſiding here ſome time, he returned to Ghent, and from thence to Leyden, where he applied to the civil law, and was admitted doctor of law in June 1585. Soon after his admiſſion, he accompanied the ambaſſadors from the States to England; and during his reſidence here became acquainted with ſeveral perſons of diſtinction, particularly the famous Sir Philip Sidney. He was admitted advocate at the Hague the 5th of January 1587; but being ſoon tired of the bar, went to travel in France, where he remained 10 years. He was much eſteemed in that kingdom, and gained many friends there. Achilles de Harlai, firſt preſident of the parliament of Paris, got him to be admitted advocate of the parliament of Paris, in the year 1592. In 1602, he went to England with Chriſtopher de Harlai, the preſident's ſon, who was ſent ambaſſador to the court of London, by Henry the Great. This ſame year Baudius having been named profeſſor of eloquence at Leyden, went and ſettled in that univerſity. He read lectures on hiſtory after the death of Morula, and was permitted alſo to do the ſame on the civil law. In 1611, the States conferred upon him the office of hiſtoriographer in conjunction with Meurſius; and in conſequence thereof he wrote The Hiſtory of the Truce. Baudius is an elegant proſe writer, as appears from his Letters, many of which were publiſhed after his death. He was alſo an excellent Latin poet. The firſt edition of his poems was printed in the year 1587: they conſiſt of verſes of all the different meaſures. He publiſhed ſeparately a book of iambics in 1591, dedicated to Cardinal Bourbon. Some of his poems he dedicated to the King of England; others to the Prince of Wales, in the edition of 1607, and went over to England to preſent them. He died at Leyden in 1613.

BAUDOBRIGA (anc. geog.), a town of the Treviri in Germany; now *Boppart*, in the electorate of Triers. See BOPPART.

BAUDRAND (Michael Anthony), a celebrated geographer, born at Paris July 18th, 1633. He travelled into ſeveral countries; and then applied himſelf to the reviſal of Ferrarius's Geographical Dictionary, which he enlarged by one half. He wrote, 1. Notes to Papirius Maſſo's deſcription of the rivers of France. 2. A Geographical and Hiſtorical Dictionary. 3. Chriſtian Geography, or an Account of the Arbiſhoprics and Biſhoprics of the whole World; and made ſeveral maps. He died at Paris May 29th 1700.

BAUHIN (John), a great botaniſt, was born about the middle of the 16th century. He took his doctor's degree in phyſic in 1562, and afterwards became principal phyſician to Frederick Duke of Wirtemberg. The moſt conſiderable of his works is his Univerſal Hiſtory of Plants.

BAUHIN (Caſpar or Gaſpar), younger brother to the preceding, was born at Baſil, 1550; and diſtinguiſhed himſelf by his ſkill in anatomy and botany. In 1580, he was choſen firſt profeſſor of theſe ſciences at Baſil; and in 1614, was made firſt profeſſor of phyſic and firſt phyſician of that city, which he held till his death, which happened in 1623, at the age of 63. He wrote, 1. Anatomical Inſtitutions; 2. *Prodromus Theatri Botanici;* and other works.

BAUGE, a drugget manufactured in Burgundy, with thread ſpun thick and coarſe wool.

BAUGE, a ſmall town of Anjou in France, ſeated on the river Coeſnon. E. Long. 0. 10. N. Lat. 47. 30.

BAUGE, a town of Breſſe in France, with the title of a marquiſate. It is pleaſantly ſituated on a fruitful hill. E. Long. 4. 54. N. Lat. 46. 20.

BAUHINIA, MOUNTAIN EBONY: A genus of the monogynia order, belonging to the decandria claſs of plants; and in the natural method ranking under the 33d order, *Lomentaceæ*. The calyx is quinquefid and deciduous: the petals are oblong, expanded, and clawed, the ſuperior one more diſtant, all inſerted on the calyx; the capſule is a legumen.

Species. 1. The aculeata, with a prickly ſtalk, is very common in Jamaica and other American ſugar-iſlands, where it riſes to the height of 16 or 18 feet, with a crooked ſtem, and divides into many irregular branches armed with ſtrong ſhort ſpines, garniſhed with compound winged leaves, each having two or three pair of lobes ending with an odd one, which are oblique, blunt, and indented at the top. The ſtalks are terminated by ſeveral long ſpikes of yellow flowers, which are ſucceeded by bordered pods about three inches long, containing two or three ſwelling ſeeds. Theſe pods are glutinous, and have a ſtrong balſamic ſcent, as have alſo the leaves when bruiſed. It is called in America the *ſavin-tree*, from its ſtrong odour ſomewhat reſembling the common ſavin. 2. The tomentoſa, with heart-ſhaped leaves, is a native of Campeachy; and riſes to the height of 12 or 14 feet, with a ſmooth ſtem dividing into many branches, garniſhed with heart-ſhaped leaves, having two ſmooth-pointed lobes. The extremity of every branch is terminated by a long ſpike of yellow flowers, ſo that when theſe trees are in flower they make a fine appearance. 3. The acuminata, with oval leaves, is a native of both the Indies; and riſes with ſeveral pretty ſtrong, upright, ſmooth ſtems, ſending out many ſlender branches, garniſhed with oval leaves deeply divided into two lobes. The flowers come out at the extremities of the branches, three or four in a looſe bunch; ſome of the petals are red, or ſtriped with white, but others are plain upon the ſame branch; the ſtamina and ſtyle are white, and ſtand out beyond the petals. Theſe flowers are ſucceeded by long pods of a dark brown colour, each containing five or ſix roundiſh compreſſed ſeeds. The wood of this tree is very hard, and veined with black; whence its name of *mountain ebony*. 3. The variegata, with heart-ſhaped leaves, and lobes joining together; this is likewiſe a native of both the Indies. It riſes with a ſtrong ſtem upwards of 20 feet high, dividing into many ſtrong branches, garniſhed with heart-ſhaped leaves, having obtuſe lobes which cloſe together. The flowers are large, and grow in looſe panicles at the extremity of the branches. They are of a purpliſh red colour marked with white, and have a yellow bottom. The flowers have a very agreeable ſcent, and are ſucceeded by compreſſed pods about ſix inches long, and three quarters of an inch broad, containing three or four compreſſed ſeeds in each. 5. The divaricata, with oval leaves whoſe lobes ſpread different ways. This grows naturally in great plenty on the north ſide of the iſland of Jamaica. It is a low ſhrub, ſeldom riſing more than five or ſix feet high, but divides into ſeveral branches garniſhed with oval leaves dividing into two lobes that ſpread out from each other. The flowers grow in looſe panicles at the end of the branches, have a white colour, and a very agreeable ſcent. The flowers appear the greateſt part of the ſummer, ſo the plant is one of the greateſt beauties of the hot-houſe. The flowers are ſucceeded by taper pods about four inches long, each containing four or five roundiſh compreſſed ſeeds of a dark colour. Beſides theſe, five other ſpecies of bauhinia are enumerated, but the above are the moſt remarkable. All the ſpecies of this plant are propagated by ſeeds, which muſt be ſown on hot-beds, and the plants reared in a bark-ſtove.

BAVINS, in war, bruſh faggots, made with the bruſh at length. See FASCINES; and FIRE-SHIP, note D.

BAUM, in botany. See MELISSA.

BAUME (St), a mountain of Provence in France, between Marſeilles and Toulon. Here Mary Magdalen is ſaid to have died, on which account it is much frequented.

BAUME-les-Nones, a town of Franche Comte, with a rich nunnery, ſeated on the river Doux, in E. Long. 6. 20. N. Lat. 47. 12. Five miles from this town is a remarkable cavern, whoſe entrance is 20 paces wide; and after deſcending 300 paces, the gate of a grotto is ſeen, twice as large as that of a city. The grotto is 35 paces deep, 60 wide, and is covered with a kind of a vaulted roof, from which water continually drops. There is alſo a ſmall brook, ſaid to be frozen in ſummer, but not in winter; and at the bottom are ſtones that exactly reſemble candied citron-peel. When the peaſants perceive a miſt riſing out of this cave, they aſſirm that it will certainly rain the next day.

BAUMEN, or BAUMAN, a cave of Lower Saxony, in Germany, about a mile from Wermigerode, and 18 from Goſlar. The entrance is through a rock; and ſo narrow, that not above one perſon can paſs at a time. There are ſeveral paths in it, which the peaſants have turned up, in ſearching for the bones of animals which they ſell for unicorn's horns. Some think this cave reaches as far as Goſlar; but be this as it will, the ſkeletons of men have been found in it, who are ſuppoſed to have been loſt in the turnings and windings.

BAUR (William), an eminent Flemiſh painter, was born at Straſburg, and was the diſciple of Brendel. He was ſome time at Rome, where his ſtudies were wholly employed about architecture and landſcapes, which prevented his ſtudying the antiqne. He painted ſmall figures in diſtemper on vellum. He etched with great ſpirit. His largeſt works are in the hiſtorical way. He has given us many of the ſieges and battles, which waſted Flanders in the 16th century. They may be exact, and probably they are: but they are rather plans than pictures; and have little to recommend them but hiſtoric truth, and the freedom of the execution. His beſt prints are ſome characters he has given us of different nations, in which the peculiarities of each are very well preſerved. His Ovid is a poor performance. He died at Vienna in 1640.

BAUSK, or BAUTKO, a ſmall but important town in the duchy of Courland, on the frontiers of Poland, with a ſtrong caſtle built on a rock. It was taken by the Swedes in 1625, and by the Ruſſians in 1705, after a bloody battle between them and the Swedes. It is ſeated on the river Muſa, in E. Long. 24. 44. N. Lat. 56 30.

BAUTRY, or BAWTRY, a town in the Weſt Riding of Yorkſhire, on the road from London to York. It has long been noted for millſtones and grindſtones brought hither by the river Idle, on which it is ſeated. W. Long. 1. 0. N. Lat. 53. 27.

BAUTZEN, or BUDISSEN, a conſiderable town of Germany, and capital of Upper Luſatia, ſubject to the elector of Saxony, with a ſtrong citadel. The Proteſtants, as well as Papiſts have here the free exerciſe of their religion. E. Long. 14. 42. N. Lat. 51. 10.

BAUX, a town of Provence in France, with the title of a marquiſate, ſeated on a rock, at the top of which is a ſtrong caſtle. E. Long. 5. 0. N. Lat. 43. 42.

BAWD, a perſon who keeps a place of proſtitution, or makes a trade of debauching women, and procuring or conducting criminal intrigues. Some think the word is derived from the old French *baude*, bold or impudent; though Verſtegan has a conjecture which would carry it higher, viz. from *bathe* anciently written *bade*. In which ſenſe *bawd* originally imported no more than bath-holder, as if bagnios had anciently been the chief ſcenes of ſuch proſtitution.

The Romans had their male as well as female bawds; the former denominated *lenones* and *proagogi*, among us *panders*; the latter, *lenæ*. Donatus, ſpeaking of the habits of the ancient characters in comedy, ſays, *Leno paliis vari coloris utitur*. But the ancient *lenones*, it is to be obſerved, furniſhed boys as well as girls for venereal ſervice. Another ſort of theſe merchants or dealers in human fleſh, were called *mangones*, by the Greeks ανδροκαπηλοι, who ſold eunuchs, ſlaves, &c. By a law of Conſtantine, bawds were to be puniſhed by pouring melted lead down their throats. See the next article.

Bawdy-Houſe, a houſe of ill fame, to which lewd perſons of both ſexes reſort, and there have criminal converſation.

The keeping a bawdy-houſe is a common nuiſance, not only on account that it endangers the public peace by drawing together debauched and idle perſons, and promoting quarrels, but likewiſe for its tendency to corrupt the manners of the people. And therefore perſons convicted of keeping bawdy-houſes, are puniſhable by fine and impriſonment; alſo liable to ſtand in the pillory, and to ſuch other puniſhment as the court at their diſcretion ſhall inflict. Perſons reſorting to a bawdy-houſe are likewiſe puniſhable, and they may be bound to their good behaviour.—It was always held infamous to keep a bawdy-houſe; yet ſome of our hiſtorians mention bawdy-houſes publicly allowed here in former times till the reign of Henry VIII. and aſſign the number to be 18 thus allowed on the bank-ſide in Southwark. See Stews and Brothel.

Bawdy-houſes are licenſed in Holland, and pay a conſiderable tax to the ſtate.

BAWLING, among the ſportſmen, is ſpoke of the dogs when they are too buſy before they find the ſcent good.

BAXTER (Richard), an eminent divine among the nonconformiſts, was born at Rowton in Shropſhire, November 12. 1615; and diſtinguiſhed himſelf by his exemplary life, his pacific and moderate principles, and his numerous writings. He was remarkable for his piety even when he was very young. Upon the opening of the long parliament, he was choſen vicar of Kidderminſter. In the heat of the civil wars he withdrew from that town to Coventry, and preached to the garriſon and inhabitants. When Oliver Cromwell was made protector, he would by no means comply with his meaſures, though he preached once before him. He came to London juſt before the depoſing of Richard Cromwell, and preached before the parliament the day before they voted the return of king Charles II. who upon his reſtoration appointed him one of his chaplains in ordinary. He aſſiſted at the conference in the Savoy, as one of the commiſſioners for ſtating the fundamentals in religion, and then drew up a reformed liturgy. He was offered the biſhoprick of Hereford; which he refuſed; affecting no higher preferment than the liberty of continuing miniſter of Kidderminſter; which he could not obtain, for he was not permitted to preach there above twice or thrice after the reſtoration. Whereupon he returned to London, and preached occaſionally about the city, till the act of uniformity took place. In 1662, Mr Baxter was married to Margaret Charleton, daughter to Francis Charleton, Eſq. of the county of Salop, who was eſteemed one of the beſt juſtices of the peace in that county. She was a woman of great piety, and entered thoroughly into her huſband's views concerning religion. During the plague in 1665 he retired into Buckinghamſhire; but afterward returned to Acton, where he ſtaid till the act againſt conventicles expired; and then his audience was ſo large that he wanted room. Upon this he was committed to priſon; but procuring an habeas corpus, he was diſcharged. After the indulgence in 1672, he returned to London; and in 1682 he was ſeized for coming within five miles of a corporation. In 1684 he was ſeized again; and in the reign of king James II. was committed priſoner to the king's bench, and tried before the lord chief juſtice Jefferies for his Paraphraſe on the New Teſtament, which was called a *ſcandalous ſeditious* book againſt the government. He continued in priſon two years; from whence he was at laſt diſcharged, and had his fine remitted by the king. He died December the 8th 1691; he was buried in Chriſt-Church.

Mr. Sylveſter ſays, that Mr Baxter's "perſon was tall and ſlender, and ſtooped much; his countenance compoſed and grave, ſomewhat inclining to ſmile. He had a piercing eye, a very articulate ſpeech, and deportment rather plain than complimental." There is an original portrait of him at Dr Williams's library, founded for the uſe of proteſtant Diſſenting Miniſters, in Red-croſs-ſtreet. Mr Sylveſter alſo ſays, that "he had a great command over his thoughts. He had that happy faculty, ſo as to anſwer the character that was given of him by a learned man diſſenting from him, after diſcourſe with him; which was, that *he could ſay what he would, and he could prove what he ſaid*. He was moſt intent upon the neceſſary things. Rational learning he moſt valued, and was a very extraordinary maſter of. And as to his expreſſive faculty, he ſpake properly, plainly, pertinently, and pathetically. He could ſpeak ſuitably, both to mens capacities and to the things inſiſted on. He was a perſon wonderful at extemporate preaching." But his common practice appears to have been to preach with notes; though he ſaid, "That he thought it very needful for a miniſter to have a body of divinity in his head." He was honoured with the friendſhip of ſome of the greateſt and beſt men in the kingdom (as the Earl of Lauderdale, the Earl of Balcarras, Lord Chief Juſtice Hales, Dr Tillotſon, &c. and held correſpondence with ſome of the moſt eminent foreign divines.—He wrote above 120 books, and had above 60 written againſt him. The former, however, it ſhould ſeem, were greatly preferable to the latter; ſince Dr Barrow, an excellent judge, ſays, that "his practical writings were never mended, his controverſial ſeldom confuted."

Mr Granger's character of him is too ſtriking to be omitted. "Richard Baxter was a man famous for weakneſs of body and ſtrength of mind; for having the ſtrongeſt ſenſe of religion himſelf, and exciting a ſenſe of it in the thoughtleſs and profligate; for preaching more ſermons, engaging in more controverſies, and writing more books, than any other Nonconformiſt of his age. He ſpoke, diſputed, and wrote with eaſe; and diſcovered the ſame intrepidity when he reproved Cromwell and expoſtulated with Charles II. as when he preached to a congregation of mechanics. His zeal for religion was extraordinary; but it ſeems never to have prompted him to faction, or carried him to enthuſiaſm. This champion of the Preſbyterians was the common butt of men of every other religion, and of thoſe who were of no religion at all. But this had very little effect upon him: his preſence and his firmneſs of mind on no occaſion forſook him. He was juſt the ſame man before he went into a priſon, while he was in it, and when he came out of it; and he maintained an uniformity of character to the laſt gaſp of his life. His enemies have placed him in hell; but every man who has not ten times the bigotry that Mr Baxter himſelf had, muſt conclude that he is in a better place. This is a very faint and imperfect ſketch of Mr. Baxter's character: men of his ſize are not to be drawn in miniature. His portrait, in full proportion, is in his *Narrative of his own Life and Times*; which though a rhapſody, compoſed in the manner of a diary, contains a great variety of memorable things, and is itſelf, as far as it goes, a Hiſtory of Nonconformity."—Among his moſt famous works were, 1. The Saints Everlaſting Reſt. 2. Call to the Unconverted, of which 20,000 were ſold in one year; and it was tranſlated not only into all the European languages, but into the Indian tongue. 3. Poor Man's Family Book. 4. Dying Thoughts: and, 5. A Paraphraſe on the New Teſtament. His practical works have been printed in four volumes folio.

Baxter (William), nephew and heir to the former, was an eminent ſchoolmaſter and critic. He was born at Lanlugany in Shropſhire, in the year 1650; and it is remarkable, that at the age of 18, when he firſt went to ſchool, he knew not one letter nor underſtood one word of any language but Welſh; but he ſo well improved his time, that he became a perſon of great and extenſive knowledge. His genius led him chiefly to the ſtudy of antiquities and philology, in which he compoſed ſeveral books. The firſt he publiſhed was a Grammar, in 1679, intitled *De Analogia ſeu Arte Latinæ Linguæ Commentariolus.* He alſo publiſhed a new and correct edition of Anacreon, with Notes; an edition of Horace; a Dictionary of the Britiſh antiquities, in Latin; and ſeveral other books. He was a great maſter of the ancient Britiſh and Iriſh tongues, was particularly ſkilled in the Latin and Greek, and in the northern and eaſtern languages. He died May 31. 1723, after being above 20 years maſter of Mercer's School in London.

Baxter (Andrew), a very ingenious metaphyſical writer, was born in 1686 or 1687, at Old Aberbeen (where his father was a merchant), and educated in King's College there. His principal employment was that of a private tutor to young gentlemen; and among others of his pupils were Lord Grey, Lord Blantyre, and Mr. Hay of Drummelzier. About 1724 he married the daughter of a clergyman in the ſhire of Berwick. A few years after he publiſhed in 4to, "An Inquiry into the Nature of the human Soul, wherein its immateriality is evinced from the principles of reaſon and philoſophy;" without date. In 1741 he went abroad with Mr Hay, and reſided ſome years at Utrecht; having there alſo Lord Blantyre under his care. He made excurſions from thence into Flanders, France, and Germany; his wife and family reſiding, in the mean time, chiefly at Berwick-upon-Tweed. He returned to Scotland in 1747, and reſided till his death at Whittingham, in the ſhire of Eaſt Lothian. He drew up, for the uſe of his pupils and his ſon, a piece intitled *Matho: ſive, Coſmotheoria puerilis, Dialogus. In quo prima elementa de mundi ordine et ornatu proponuntur, &c.* This was afterwards greatly enlarged, and publiſhed in Engliſh, in two volumes, 8vo. In 1750 was publiſhed, "An Appendix to his Inquiry into the Nature of the human Soul;" wherein he endeavours to remove ſome difficulties which had been ſtarted againſt his notions of the *vis inertiæ* of matter by Maclaurin, in his "Account of Sir Iſaac Newton's Philoſophical Diſcoveries." To this piece Mr Baxter prefixed a dedication to Mr. John Wilkes, with whom he had commenced an acquaintance abroad. He died this year, April the 23d, after ſuffering for ſome months under a complication of diſorders, of which the gout was the chief. He left a wife, three daughters, and one ſon, Mr Alexander Baxter; from which laſt the authors of Biographia Britannica received, as they inform us, ſundry particulars of his life.

His learning and abilities are ſufficiently diſplayed in his writings. He was extremely ſtudious, and ſometimes ſat up whole nights in reading and writing. His temper at the ſame time was very cheerful, and he was a friend to innocent merriment. It is informed by his ſon, that he entered with much good humour into the converſation and pleaſures of young people, when they were of an innocent nature: and that he preſided, all the time of his abode at Utrecht, at the ordinary which was frequented by all the young Engliſh gentlemen there, with much gaiety and politeneſs, and in ſuch a manner as gave univerſal ſatisfaction. He alſo frequented the moſt polite aſſemblies in that city, and his company and converſation were particularly acceptable to the ladies. So that Mr Baxter appears to have ſtudied the graces, though without neglecting more valuable acquiſitions and accompliſhments. He was at once the ſcholar and the gentleman. In converſation he was modeſt, and not apt to make much ſhow of the extenſive knowledge of which he was poſſeſſed. In the diſcharge of the ſeveral ſocial and relative duties of life, his conduct was exemplary. He had the moſt reverential ſentiments of the Deity, of whoſe preſence and immediate ſupport he had always a ſtrong impreſſion upon his mind; and the general tenor of his life appears to have been conformable to the rules of virtue. Mr Baxter paid a ſtrict attention to œconomy, though he dreſſed elegantly, and was not parſimonious in his other expences. It is known alſo, that there were ſeveral occaſions on which he acted with remarkable diſintereſtedneſs; and ſo far was he from courting preferment, that he has repeatedly declined conſiderable offers of that kind which were made him, if he would have taken orders in the church of England. The French, German, and Dutch languages were ſpoken by him with much eaſe, and the Italian tolerably; and he wrote and read them all, together with the Spaniſh. His friends and correſpondents were numerous and reſpectable; and among them are particularly mentioned Mr Pointz, preceptor to the late Duke of Cumberland, and Dr Warburton, biſhop of Glouceſter. He was a man alſo of great benevolence and candour; which appears moſt ſtrikingly from this, inaſmuch as though Mr Wilkes had made himſelf ſo very obnoxious to the Scottiſh nation in general, yet Mr Baxter kept up with him an affectionate correſpondence to the laſt, even after he was unable to write with his own hand. He left many manuſcripts behind him; he would gladly have finiſhed his work upon the human ſoul: "I own," ſays he, in a letter to Mr Wilkes, "if it had been the will of heaven, I would gladly have lived till I had put in order the ſecond part of the Enquiry, ſhowing the immortality of the human ſoul; but Infinite Wiſdom cannot be miſtaken in calling me ſooner. Our blindneſs makes us form wiſhes." It was, indeed, what he conſidered it, his capital work: a ſecond edition of it was publiſhed in two volumes 8vo in 1737, and a third in 1745. In another letter, ſpeaking of his endeavours to eſtabliſh the particular providence of the Diety, and to ſhow his inceſſant influence and action on all the parts of matter, through the wide univerſe, from the inactivity of this dead ſubſtance; expreſſes his hope, that when the preſent party-zeal ſubſides a little, men will come more eaſily in to own ſuch a plain truth. "His prediction," the editors of the Biographia Britannica obſerve, "hath not yet been accompliſhed. Several eminent names ſeem rather diſpoſed to increaſe than to leſſen the powers of matter; and they have expreſsly maintained that the ſoul of man is material. However, other names equally eminent have aſſerted the eſſential diſtinction between the mind and the body. Perhaps, in the revolutions of opinion, the doctrine of immateriality may again obtain the general ſuffrage of metaphyſical and philoſophical inquiry.

BAY, in geography, an arm of the ſea ſhooting up into the land, and terminating in a nook. It is a kind of leſſer gulph bigger than a creek, and is larger in its middle within than at its entrance. The largeſt and moſt noted bays in the world are thoſe of Biſcay, Bengal, Hudſon's, Panama, &c.

Bay denotes likewiſe a pond-head made to keep in ſtore of water for driving the wheels of the furnace or hammer belonging to an iron-mill, by the ſtream that comes thence through a flood-gate called the *pen-ſtock*.

Bay-Colour denotes a ſort of red inclining to cheſnut, chiefly uſed in ſpeaking of horſes. In this ſenſe, the word *bay* is formed from the Latin *baius*, or *badius*, and that from the Greek βαιος, a *palm branch*; ſo that *badius* or *bay* properly denotes *color phœniceus*. Hence alſo among the ancients, thoſe now called *bay* horſes, were denominated *equi palmati*. We have divers ſorts and degrees of bays; as a light bay, a dapple bay, &c. All bay horſes are ſaid to have black manes; which diſtinguiſhes them from ſorrels, which have red or white manes.

Bay, among huntſmen, is when the dogs have earthed a vermin, or brought a deer, boar, or the like, to turn head againſt them. In this caſe, not only the deer, but the dogs, are ſaid to bay. It is dangerous going in to a hart at bay, eſpecially at rutting-time; for then they are fierceſt. There are bays at land, and others in the water.

Bay-Tree. See Laurus.

Bay-Salt. See Salt.

BAYA, or **Baja**, a town of Lower Hungary, in the county of Bath, ſituated near the Danube. E. Long. 19. 30. N. Lat. 46. 25.

BAYARD (Peter du Terrail de), eſteemed by his contemporaries, the model of ſoldiers and men of honour, and denominated *The knight without fear and without reproach*, was deſcended from an ancient and noble family in Dauphiné. He was with Charles VIII. at the conqueſt of the kingdom of Naples; where he gave remarkable proofs of his valour, eſpecially at the battle of Fornoue. He was dangerouſly wounded at the taking of the city of Breſcia; and there reſtored to the daughters of his hoſt 2000 piſtoles, which their mother had directed them to give him in order to prevent the houſe from being plundered; an action that has been celebrated by many hiſtorians. At his return to France, he was made lieutenant-general of Dauphiné. He fought by the ſide of Francis I. at the battle of Marignan; and that prince afterwards inſiſted on being knighted by his hand, after the manner of the ancient knights. The chevalier Bayard defended Meziers during ſix weeks, againſt Charles V.'s army. In 1524, at the retreat of Rebec † (the general Bonivet having been wounded and obliged to quit the field), the conduct of the rear was committed to the chevalier Bayard, who, though ſo much a ſtranger to the arts of a court that he never roſe to the chief command, was always called, in times of real danger, to the poſts of greateſt difficulty and importance. He put himſelf at the head of the men at arms; and animating them by his preſence and example to ſuſtain the whole ſhock of the enemy's troops, he gained time for the reſt of his countrymen to make good their retreat. But in this ſervice he received a wound which he immediately perceived to be mortal; and being unable to continue any longer on horſeback, he ordered one of his attendants to place him under a tree, with his face towards the enemy; then fixing his eyes on the guard of his ſword, which he held up inſtead of a croſs, he addreſſed his prayers to God; and in this poſture, which became his character both as a ſoldier and as a Chriſtian, he calmly waited the approach of death. Bourbon, who led the foremoſt of the enemy's troops, found him in this ſituation, and expreſſed regret and pity at the ſight. "Pity not me," cried the high-ſpirited chevalier, "I die as a man of honour ought, in the diſcharge of "my duty: they indeed are objects of pity, who fight "againſt their king, their country, and their oath." The marquis de Peſcara, paſſing ſoon after, manifeſted his admiration of Bayard's virtue, as well as his ſorrow for his fate, with the generoſity of a gallant enemy; and finding that he could not be removed with ſafety from that ſpot, ordered a tent to be pitched there, and appointed proper perſons to attend him. He died, notwithſtanding their care, as his anceſtors for ſeveral generations had done, in the field of battle. Peſcara

† *Hiſt. of Charles V.* Book iii.

ordered his body to be embalmed, and ſent to his relations; and ſuch was the reſpect paid to military merit in that age, that the duke of Savoy commanded it to be received with royal honours in all the cities of his dominions: in Dauphiné, Bayard's native country, the people of all ranks came out in a ſolemn proceſſion to meet it.

BAYEUX, a conſiderable town of France in Normandy, and capital of Beſſin, with a rich biſhop's ſee. The cathedral church is accounted the fineſt in that province; and its front and three high ſteeples are ſaid to be the beſt in France. W. Long. 0. 33. N. Lat. 49. 16.

BAYLE (Peter), author of the Hiſtorical and Critical Dictionary, was born November 18. 1657, at Carla, a village in the county of Foix, in France, where his father John Bayle was a Proteſtant miniſter. In 1666, he went to the Proteſtant univerſity at Puylaurens, where he ſtudied with the greateſt application, and in 1669, removed to the univerſity of Toulouſe, whether the Proteſtants at that time frequently ſent their children to ſtudy under the Jeſuits: but here, to the great grief of his father, he embraced the Romiſh religion; however, being ſoon ſenſible of his error, he left that univerſity, and went to ſtudy at Geneva. After which he was choſen profeſſor of philoſophy at Sedan: but that proteſtant univerſity being ſuppreſſed by Lewis XIV. in 1681, he was obliged to leave the city; and was ſoon after choſen profeſſor of philoſophy and hiſtory at Rotterdam, with a ſalary of about L. 45 a-year. The year following he publiſhed his Letter concerning Comets. And Father Maimbourg having publiſhed about this time his Hiſtory of Calviniſm, wherein he endeavours to draw upon the Proteſtants the contempt and reſentment of the Catholics, Mr Bayle wrote a piece to confute his hiſtory. The reputation which he had now acquired, induced the States of Friezland, in 1684, to offer him a prefeſſorſhip in their univerſity; but he wrote them a letter of thanks, and declined the offer. This ſame year he began to publiſh his *Nouvelles de la republique des lettres*.

In 1686, he was drawn into a diſpute in relation to the famous Chriſtina queen of Sweden. In his Journal for April, he took notice of a printed letter, ſuppoſed to have been written by her Swediſh majeſty to the chevalier de Terlon, wherein ſhe condemns the perſecution of the Proteſtants in France. He inſerted the letter itſelf in his Journal for May; and in that of June following he ſays, “What we hinted at in our laſt month, is confirmed to us from day to day, that Chriſtina is the real author of the letter concerning the perſecutions in France, which is aſcribed to her: it is a remainder of Proteſtantiſm.” Mr Bayle received an anonymous letter; the author of which ſays, that he wrote to him of his own accord, being in duty bound to it as a ſervant of the queen. He complains that Mr Bayle, ſpeaking of her majeſty, called her only *Chriſtina*, without any title; he finds alſo great fault with his calling the letter “a remainder of Proteſtantiſm.” He blames him likewiſe for inſerting the words “I am,” in the concluſion of the letter. “Theſe words (ſays this anonymous writer) are not her majeſty's; a queen, as ſhe is, cannot employ theſe words but with regard to a very few perſons, and Mr de Terlon is not of that number.” Mr Bayle wrote a vindication of himſelf as to theſe particulars, with which the author of the anonymous letter declared himſelf ſatisfied, excepting what related to “the remainder of Proteſtantiſm.” He would not admit of the defence with regard to that expreſſion; and in another letter, adviſed him to retract that expreſſion. He adds in a poſtſcript. “You mention, in your Journal of Auguſt, a ſecond letter of the queen, which you ſcruple to publiſh. Her majeſty would be glad to ſee that letter; and you will do a thing agreeable to her if you would ſend it to her. You might take this opportunity of writing to her majeſty. This council may be of ſome uſe to you; do not neglect it.” Mr Bayle took the hint, and wrote a letter to her majeſty, dated the 14th of November 1686; to which the queen, on the 14th of December, wrote the following anſwer:—“Mr Bayle, I have received your excuſes; and am willing you ſhould know by this letter, that I am ſatisfied with them. I am obliged to the zeal of the perſon who gave you occaſion of writing to me: for I am very glad to know you. You expreſs ſo much reſpect and affection for me, that I pardon you ſincerely; and I would have you know, that nothing gave me offence but that *remainder of Proteſtantiſm*, of which you accuſed me. I am very delicate on that head, becauſe nobody can ſuſpect me of it, without leſſening my glory, and injuring me in the moſt ſenſible manner. You would do well if you ſhould even acquaint the public with the miſtake you have made, and with your regret for it. This is all that remains to be done by you, in order to deſerve my being entirely ſatisfied with you. As to the letter which you have ſent me, it is mine without doubt; and ſince you tell me that it is printed, you will do me a pleaſure if you ſend me ſome copies of it. As I fear nothing in France, ſo neither do I fear any thing at Rome. My fortune, my blood, and even my life, are entirely devoted to the ſervice of the church; but I flatter nobody, and will never ſpeak any thing but the truth. I am obliged to thoſe who have been pleaſed to publiſh my letter, for I do not at all diſguiſe my ſentiments. I thank God, they are too noble and too honourable to be diſowned. However, it is not true that this letter was written to one of my miniſters. As I have every where enemies and perſons who envy me, ſo in all places I have friends and ſervants; and I have poſſibly as many in France, notwithſtanding of the court, as any where in the world. This is purely the truth, and you may regulate yourſelf accordingly. But you ſhall not get off ſo cheap as you imagine. I will enjoin you a penance; which is, that you will henceforth take the trouble of ſending me all curious books that ſhall be publiſhed in Latin, French, Spaniſh, or Italian, on whatever ſubject or ſcience, provided they are worthy of being looked into; I do not even except romance or ſatires; and above all, if there are any books of chemiſtry, I deſire you may ſend them to me as ſoon as poſſible. Do not forget likewiſe to ſend me your Journal. I ſhall order that you be paid for whatever you lay out, do but ſend me an account of it. This will be the moſt agreeable and moſt important ſervice that can be done me. May God proſper you. CHRISTINA ALEXANDRA.”

It now only remained that Mr Bayle ſhould acquaint the public with the miſtake he had made, in order to merit that princeſs's entire ſatisfaction; and this he did in the beginning of his Journal of the month of January, 1687.

The perſecution which the Proteſtants at this time ſuffered in France affected Mr Bayle extremely. He made occaſionally ſome reflections on their ſufferings in his Journal; and he wrote a pamphlet alſo on the ſubject. Some time afterwards he publiſhed his *Commentaire Philoſophique* upon theſe words, "Compel them to come in:" but the great application he gave to this and his other works, threw him into a fit of ſickneſs, which obliged him to diſcontinue his Literary Journal. Being adviſed to try a change of air, he left Rotterdam on the 8th of Auguſt, and went to Cleves; whence after having continued ſome time, he removed to Aix la Chapelle, and from thence returned to Rotterdam on the 18th of October. In the year 1690, the famous book, intitled, *Avis aux Refugiez*, &c. made its appearance. Mr Jurieu, who took Mr Bayle for the author thereof, wrote a piece againſt it; and he prefixed an advice to the public, wherein he calls Mr Bayle a profane perſon, and a traitor engaged in a conſpiracy againſt the ſtate. As ſoon as Mr Bayle had read this libel againſt him, he went to the grand Schout of Rotterdam, and offered to go to priſon, provided his accuſer would accompany him, and undergo the puniſhment he deſerved if the accuſation was found unjuſt. He publiſhed alſo an anſwer to Mr Jurieu's charge; and as his reputation, nay his very life, was at ſtake in caſe the accuſation of treaſon was proved, he therefore thought himſelf not obliged to keep any terms with his accuſer, and attacked him with the utmoſt ſeverity. Mr Jurieu loſt all patience: he applied himſelf to the magiſtrates of Amſterdam; who adviſed him to a reconciliation with Mr Bayle, and enjoined them not to publiſh any thing againſt each other till it was examined by Mr Boyer, the penſioner of Rotterdam. But notwithſtanding this prohibition, Mr Jurieu attacked Mr Bayle again with ſo much paſſion, that he forced him to write a new vindication of himſelf.

In November 1690, Mr de Beauval advertiſed in his Journal *A ſcheme for a Critical Dictionary*. This was the work of Mr Bayle. The articles of the three firſt letters of the alphabet were already prepared; but a diſpute happening betwixt him and Mr de Beauval, obliged him for ſome time to lay aſide the work. Nor did he reſume it till May 1692, when he publiſhed his ſcheme: but the public not approving of his plan, he threw it into a different form; and the firſt volume was publiſhed in Auguſt 1695, and the ſecond in October following. The work was extremely well received by the public; but it engaged him in freſh diſputes, particularly with Mr Jurieu and the abbe Renaudot. Mr Jurieu publiſhed a piece, wherein he endeavoured to engage the eccleſiaſtical aſſemblies to condemn the dictionary; he preſented it to the ſenate ſitting at Delft, but they took no notice of the affair. The conſiſtory of Rotterdam granted Mr Bayle a hearing; and after having heard his anſwers to their remarks on his dictionary, declared themſelves ſatisfied, and adviſed him to communicate this to the public. Mr Jurieu made another attempt with the conſiſtory in 1698; and ſo far he prevailed with them, that they exhorted Mr Bayle to be more cautious with regard to his principles in the ſecond edition of his dictionary; which was publiſhed in 1702, with many additions and improvements.

Mr Bayle was a moſt laborious and indefatigable writer. In one of his letters to Maizeux, he ſays, that ſince his 20th year he hardly remembers to have had any leiſure. His intenſe application contributed perhaps to impair his conſtitution, for it ſoon began to decline. He had a decay of the lungs, which weakened him conſiderably; and as this was a diſtemper which had cut off ſeveral of his family, he judged it to be mortal, and would take no remedies. He died the 28th of December 1706, after he had been writing the greateſt part of the day. He wrote ſeveral books beſides what we have mentioned, many of which were in his own defence againſt attacks he had received from the abbe Renaudot, Mr Clerk, M. Jaquelot, and others. Among the productions which do honour to the age of Louis XIV. Mr Voltaire has not omitted the Critical Dictionary of our author: "It is the firſt work of the kind (he ſays) in which a man may learn to think." He cenſures indeed thoſe articles which contain only a detail of minute facts, as unworthy either of Bayle, an underſtanding reader, or poſterity. "In placing him (continues the ſame author) amongſt the writers who do honour to the age of Louis XIV. notwithſtanding his being a refugee in Holland, I only conform to the decree of the parliament of Tholouſe, which, when it declared his will valid in France, notwithſtanding the rigour of the laws, expreſsly ſaid, *that ſuch a man could not be conſidered as a foreigner*."

BAYLY (Lewis), author of that moſt memorable book, intitled *The Practice of Piety*. He was born at Caermarthen in Wales, educated at Oxford, made miniſter of Eveſham in Worceſterſhire about 1611, became chaplain to king James, and promoted to the ſee of Bangor in 1616. His book is dedicated to the high and mighty prince, Charles prince of Wales; and the author tells his highneſs, that "he had endeavoured to extract out of the chaos of endleſs controverſies the old practice of true piety, which flouriſhed before theſe controverſies were hatched." The deſign was good; and the reception this book has met with may be known from the number of its editions, that in 8vo, 1734, being the fifty-ninth. This prelate died in 1632.

BAYON, a town of France, in Lorrain, ſeated on the river Moſelle. E. Long. 14. 42. N. Lat. 48. 30.

BAYON, or *Bayona*, a town of Galicia, in Spain, ſeated on a ſmall gulph of the Atlantic ocean, about 12 miles from Tuy. It has a very commodious harbour, and the country about it is fertile. W. Long. 9. 30. N. Lat. 43. 3.

BAYONET, in the military art, a ſhort broad dagger, formerly with a round handle fitted for the bore of a firelock, to be fixed there after the ſoldier had fired; but they are now made with iron handles and rings, that go over the muzzle of the firelock, and are ſcrewed faſt, ſo that the ſoldier fires with his bayonet on the muzzle of his piece, and is ready to act againſt the horſe. This uſe of the bayonet faſtened on the muzzle of the firelock was a great improvement, firſt introduced by the French, and to which, according to M. Folard, they owed a great part of their victories in the laſt century; and to the neglect of this in the next ſucceeding war, and truſting to their fire, the ſame author attributes moſt of the loſſes they ſuſtained. At the ſiege of Malta, a weapon called *pila ignea* was contrived to oppoſe the bayonets, being in ſome meaſure the converſe thereof; as the latter conſiſts of a dagger added to a fire-arm, the former conſiſted of a fire-arm added to a pilum or pike.

Of late the bayonet has come into very general uſe; and battles have been won by it without firing a ſhot. This way of fighting was chiefly reſtored by the late king of Pruſſia, who made his troops ruſh forward at once with bayonets on the enemy.

BAYONNE, a city of Gaſcony, in France; ſeated near the mouth of the river Adour, which forms a good harbour. It is moderately large, and of great importance. It is divided into three parts. The great town is on this ſide the river Nive: the little town is between the Nive and the Adour; and the ſuburbs of Saint Eſprit is beyond this laſt river. Both the former are ſurrounded with an old wall and a dry ditch, and there is a ſmall caſtle in each. That of Great Bayonne is flanked with four round towers, and is the place where the governor reſides. The new caſtle is flanked with four towers, in the form of baſtions. The firſt incloſure is covered with another, compoſed of eight baſtions, with a great horn-work, and half-moon; all which are encompaſſed with a ditch, and a covered way. There is a communication between the city and the ſuburbs by a bridge, and the ſuburbs is well fortified. The citadel is ſeated beyond the Adour, on the ſide of the ſuburbs abovementioned. The public buildings have nothing remarkable; it is the only city in the kingdom that has the advantage of two rivers, wherein the tide ebbs and flows. The river Nive is deeper than the Adour, but leſs rapid, by which means ſhips come up into the middle of the city. There are two bridges over this river, by which the old and new town communicate with each other. The trade of this town is the more conſiderable, on account of its neighbourhood to Spain, and the great quantity of wines which are brought hither from the adjacent country. The Dutch carry off a great number of pipes in exchange for ſpices and other commodities, which they bring thither. The inhabitants have the privilege of guarding two of their three gates, and the third is kept by the king. W. Long. 1. 20. N. Lat. 43. 20.

BAYS, in commerce, a ſort of open woollen ſtuff, having a long nap, ſometimes frized, and ſometimes not. This ſtuff is without wale; and is wrought in a loom with two treddles, like flannel. It is chiefly manafactured at Colcheſter and Bockin in Eſſex, where there is a hall called the *Dutch-bay hall* or *raw-hall*. This manufacture was firſt introduced into England, with that of ſays, ſarges, &c. by the Flemings; who being perſecuted by the duke of Alva for their religion, fled thither about the fifth of Queen Elizabeth's reign; and had afterwards peculiar privileges granted them by act of parliament 12 Charles II. 1660, which the bays makers in the above places ſtill enjoy.—The exportation of bays was formerly much more conſiderable than at preſent when the French have learned to imitate them. However, the Engliſh bays are ſtill ſent in great quantities to Spain and Portugal, and even to Italy. Their chief uſe is for dreſſing the monks and nuns, and for linings, eſpecially in the army. The looking-glaſs makers alſo uſe them behind their glaſſes, to preſerve the tin or quickſilver; and the caſemakers, to line their caſes. The breadth of bays is commonly a yard and a half, a yard and three quarters, or two yards, by 42 to 48 in length. Thoſe of a yard and three quarters are moſt proper for the Spaniſh trade.

BAZADOIS, a province of Guienne in France, which makes part of Lower Gaſcony. It is a barren heathy country. Its capital is Bazas.

BAZAR, or BASAR, a denomination among the Turks and Perſians, given to a kind of exchanges, or places where their fineſt ſtuffs and other wares are ſold. Theſe are alſo called *bezeſtins*. The word *bazar* ſeems of Arabic orign, where it denotes ſale, or exchange of goods. Some of the eaſtern bazars are open, like the market-places in Europe, and ſerve for the ſame uſes, more particularly for the ſale of the bulky and leſs valuable commodities. Others are covered with lofty ceilings, or even domes, pierced to give light; and it is in theſe the jewellers, goldſmiths, and other dealers in the richer wares, have their ſhops. The bazar or maidan of Iſpahan is one of the fineſt places in Perſia, and even ſurpaſſes all the exchanges in Europe; yet, notwithſtanding its magnificence, it is excelled by the bazar of Tauris, which is the largeſt that is known, having ſeveral times held 30,000 men ranged in order of battle. At Conſtantinople, there is the old and the new bazar, which are large ſquare buildings, covered with domes, and ſuſtained by arches and pilaſtres; the former chiefly for arms, harneſſes, and the like; the latter for goldſmiths, jewellers, furriers, and all ſorts of manufacturers.

BAZAS, a town of Guienne in France, capital of the Bazadois, with a biſhop's ſee. It is built on a rock, in W. Long. 0. 30. N. Lat. 44. 20.

BAZAT, or BAZA, in commerce, a long, fine, ſpun cotton, which comes from Jeruſalem, whence it is alſo called *Jeruſalem-cotton*.

BAZGENDGES, in natural hiſtory, the name of a ſubſtance uſed by the Turks and other eaſtern nations in their ſcarlet-dying. They mix it for this purpoſe with cochineal and tartar; the proportions being two ounces of the bazgendges to one ounce of cochineal. Theſe are generally eſteemed a ſort of fruit, and are produced on certain trees in Syria and other places; and it is uſually ſuppoſed, that the ſcarcity and dearneſs of them is the only thing that makes them not uſed in Europe. But the bazgendges ſeem to be no other than the horns of the turpentine-tree in the eaſtern parts of the world; and it is not only in Syria that they are found, but China alſo affords them. Many things of this kind were ſent over to Mr Geoffroy at Paris from China as the ſubſtances uſed in the ſcarlet-dying of that country, and they all proved wholly the ſame with the Syrian and Turkiſh bazgendges, and with the common turpentine horns. The lentiſk, or maſtic-tree is alſo frequently found producing many horns of a like kind with theſe, and of the ſame origin, all being owing to the pucerons, which make their way into the leaves to breed their young there.

BDELLIUM, a gummy reſinous juice, produced by a tree in the Eaſt Indies, of which we have no ſatiſfactory account. It is brought into Europe both from the Eaſt Indies and Arabia. It is in pieces of different ſizes and figures, externally of a dark reddiſh brown, ſomewhat like myrrh; internally it is clear, and not unlike to glue; to the taſte it is ſlightly bitteriſh and pungent; its odour is very agreeable. If held in the mouth, it ſoon becomes ſoft and tenacious, ſticking to the teeth. Laid on a red-hot iron, it redily catches flame, and burns with a cracking noiſe, and in proportion to its goodneſs it is more or leſs fragrant. Near half of its ſubſtance diſſolves either in water or in ſpirit of wine; but the tincture made with ſpirit is ſomewhat ſtronger, and by much more agreeable. Vinegar, or verjuice, diſſolves it wholly. The ſimple gum is a better medicine than any preparation from it. It is one of the weakeſt of the deobſtruent gums, but it is uſed as a pectoral and an emmenagogue.

BEACHY-HEAD, a promontory on the coaſt of Suſſex, between Haſtings and Shoreham, where the French defeated the Engliſh and the Dutch fleet in 1690.

BEACON, a ſignal for the better ſecuring countries from foreign invaſions. See SIGNAL.

On certain eminent places of the country are placed long poles erect, whereon are faſtened pitch-barrels to be fired by night, and ſmoke made by day, to give notice in a few hours to the whole country of an approaching invaſion. Theſe are commonly called *beacons*; whence alſo comes *beaconage*.—We find beacons familiarly in uſe among the primitive Britons and Weſtern Highlanders. The beſieged capital of one of the northern iſles in the third century actually lighted up a fire upon a tower; and Fingal inſtantly knew "the green flame edged with ſmoke" to be a token of attack and diſtreſs*. And there are to this day ſeveral cairns or heaps of ſtones upon the heights along the coaſts of the Harries, on which the inhabitants uſed to burn heath as the ſignal of an approaching enemy.

BEACONS are alſo marks and ſigns erected on the coaſts, for guiding and preſerving veſſels at ſea, by night as well as by day.

The erection of beacons, light-houſes, and ſea-marks, is a branch of the royal prerogative in England. The king hath the excluſive power, by commiſſion under his great ſeal, to cauſe them to be erected in fit and convenient places, as well upon the lands of the ſubject as upon the demeſnes of the crown: which power is uſually veſted by letters patent in the office of lord high admiral. And by ſtatute 8 Eliz. c. 13. the corporation of the trinity-houſe are empowered to ſet up any beacons or ſea-marks wherever they ſhall think them neceſſary; and if the owner of the land or any other perſon ſhall deſtroy them, or ſhall take down any ſteeple, tree, or other known ſea-mark, he ſhall forfeit 100l. or, in caſe of inability to pay it, ſhall be *ipſo facto* outlawed.

BEACONAGE, money paid towards the maintenance of a beacon. See BEACON.—The word is derived from the Saxon *beaconian*, to nod, or ſhow by ſign; hence alſo the word *beacon*.

BEACONSFIELD, a town of Buckinghamſhire in England, ſeated on a hill in the road between London and Oxford. It has ſeveral good inns, though not above 100 houſes. W. Long. 0. 25. N. Lat. 51. 36.

BEAD, a ſmall globule or ball uſed in necklaces; and made of different materials, as pearl, ſteel, garnet, coral, diamond, amber, cryſtal, paſtes, glaſſes, &c.—The Romaniſts make great uſe of beads in rehearſing their *Ave-Marias* and *Pater-noſters*; and the like uſage is found among the derviſes and other religious throughout the Eaſt, as well Mahometan as Heathen. The ancient Druids appear alſo to have had their beads, many of which are ſtill found; at leaſt, if the conjecture of an ingenious author may be admitted, who takes thoſe antique glaſs globules, having a ſnake painted round them, and called *adder-beads*, or *ſnake-buttons*, to have been the beads of our ancient Druids. See ANGUIS.

BEADS, are alſo uſed in ſpeaking of thoſe glaſs globules vended to the ſavages on the coaſt of Africa; thus denominated, becauſe they are ſtrung together for the convenience of traffic.

The common black glaſs of which beads are made for necklaces, &c. is coloured with maganeſe only: one part of maganeſe is ſufficient to give a black colour to near twenty of glaſs.

BEAD, in architecture, a round moulding, commonly made upon the edge of a piece of ſtuff, in the Corinthian and Roman orders, cut or carved in ſhort emboſſments, like beads in necklaces.

BEAD-Makers, called by the French *paternoſtriers*, are thoſe employed in the making, ſtringing, and ſelling of beads. At Paris there are three companies of paternoſtriers, or bead-makers; one who make them of glaſs or cryſtal; another in wood and horn; and the third in amber, coral, jet, &c.

BEAD-Proof, a term uſed by our diſtillers to expreſs that ſort of proof of the ſtandard ſtrength of ſpirituous liquors, which conſiſts in their having, when ſhaken in a phial, or poured from on high into a glaſs, a crown of bubbles, which ſtand on the ſurface ſome time after. This is eſteemed a proof that the ſpirit conſiſts of equal parts of rectified ſpirits and phlegm. This is a fallacious rule as to the degree of ſtrength in the goods; becauſe any thing that will increaſe the tenacity of the ſpirit, will give it this proof, though it be under the due ſtrength. Our malt-diſtillers ſpoil the greater part of their goods, by leaving too much of the ſtinking oil of the malt in their ſpirit, in order to give it this proof when ſomewhat under the ſtandard ſtrength. But this is a great deceit on the purchaſers of malt ſpirits, as they have them by this means not only weaker than they ought to be, but ſtinking with an oil that they are not eaſily cleared of afterwards. On the other hand, the dealers in brandy, who uſually have the art of ſophiſticating it to a great nicety, are in the right when they buy it by the ſtrongeſt bead-proof, as the grand mark of the beſt; for being a proof of the brandy containing a large quantity of its oil, it is, at the ſame time, a token of its high flavour, and of its being capable of bearing a very large addition of the common ſpirits of our own produce, without betraying their flavour, or loſing its own. We value the French brandy for the quantity of this eſſential oil of the grape which it contains; and that with good reaſon, as it is with us principally uſed for drinking as an agreeable flavoured cordial: but the French themſelves, when they want it for any curious purpoſes, are as careful in the rectifications of it, and take as much pains to clear it from this oil, as we do to free our malt ſpirit from that nauſeous and fetid oil which it originally contains.

BEAD-Roll, among Papiſts, a liſt of ſuch perſons, for the reſt of whoſe ſouls they are obliged to repeat a certain number of prayers, which they count by means of their beads.

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* Oſſian, vol. I. p. 198.

Bead-Tree. See Melia.

BEADLE, (from the Saxon *bydel*, *meſſenger*), a crier or meſſenger of a court, who cites perſons to appear and anſwer. Called alſo a *ſummoner* or *apparitor*.—*Beadle* is alſo an officer at an univerſity, whoſe chief buſineſs is to walk before the maſters with a mace, at all public proceſſions.—There are alſo *church-beadles*, whoſe office is well known.

BEAGLES, a ſmall ſort of hounds or hunting dogs. Beagles are of divers kinds; as the *ſouthern beagle*, ſomething leſs and ſhorter, but thicker, than the deep-mouthed hound; the *fleet-northern* or *cat beagle*, ſmaller, and a finer ſhape than the ſouthern, and a harder runner. From the two, by croſſing the ſtrains, is bred a third ſort held preferable to either. To theſe may be added a ſtill ſmaller ſort of beagles, ſcarce bigger than lap-dogs, which make pretty diverſion in hunting the coney, or even ſmall hare in dry weather; but otherwiſe unſerviceable, by reaſon of their ſize.

BEAK, the bill or nib of a bird. See Ornithology.

Beak, or *Beak-head*, of a ſhip, that part without the ſhip, before the fore-caſtle, which is faſtened to the ſtem, and is ſupported by the main knee.

The beak, called by the Greeks εμϐολον, by the Latins *roſtrum*, was an important part in the ancient ſhips of war, which were hence denominated *naves roſtratæ*. The beak was made of wood; but fortified with braſs, and faſtened to the prow, ſerving to annoy the enemies veſſels. Its invention is attributed to Piſæus an Italian. The firſt beaks were made long and high; but afterwards a Corinthian, named *Ariſto*, contrived to make them ſhort and ſtrong, and placed ſo low, as to pierce the enemies veſſels under water. By the help of theſe great havock was made by the Syracuſians in the Athenian fleet.

BEAKED, in heraldry, a term uſed to expreſs the beak or bill of a bird. When the beak and legs of a fowl are of a different tincture from the body, we ſay *beaked and membered of ſuch a tincture*.

BEALE (Mary), particularly diſtinguiſhed by her ſkill in painting, was the daughter of Mr Craddock, miniſter of Waltham upon Thames, and learned the rudiments of her art from Sir Peter Lely. She painted in oil, water-colours, and crayons, and had much buſineſs; her portraits were in the Italian ſtyle, which ſhe acquired by copying pictures and drawing from Sir Peter Lely's and the royal collections. Her maſter, ſays Mr Walpole, was ſuppoſed to have had a tender attachment to her; but as he was reſerved in communicating to her all the reſources of his pencil, it probably was a gallant rather than a ſucceſsful one. Dr Woodfall wrote ſeveral pieces to her honour, under the name of *Beleſia*. Mrs Beale died in Pall-mall, on the 28th of Dec. 1697, aged 65. Her paintings have much nature, but the colouring is ſtiff and heavy.

BEALT, Bealth, or *Builth*, a town of Brecknockſhire in South Wales, pleaſantly ſeated on the river Wye. It conſiſts of about 100 houſes, whoſe inhabitants have a trade in ſtockings. W. Long. 4. 10. N. Lat. 52. 4.

BEAM, in architecture, the largeſt piece of wood in a building, which lies croſs the walls, and ſerves to ſupport the principal rafters of the roof, and into which the feet of theſe rafters are framed. No building has leſs than two of theſe beams, viz. one at each end; and into theſe the girders of the garret roof are alſo framed. The proportion of beams in or near London, are fixed by ſtatute, as follows: a beam 15 feet long, muſt be 7 inches on one ſide its ſquare, and 5 on the other; if it be 16 feet long, one ſide muſt be 8 inches, the other 6, and ſo proportionably to their lengths. In the country, where wood is more plenty, they uſually make their beams ſtronger.

Beams of a ſhip are the great main croſs-timbers which hold the ſides of the ſhip from falling together, and which alſo ſupport the decks and orlops: the main beam is next the main-maſt, and from it they are reckoned by firſt, ſecond, third beam, &c. the greateſt beam of all is called the *midſhip beam*.

Beam-Compaſs, an inſtrument conſiſting of a ſquare wooden or braſs beam, having ſliding ſockets, that carry ſteel or pencil points; they are uſed for deſcribing large circles, where the common compaſſes are uſeleſs.

Beam-Bird, or *Petty-chaps*. See Motacilla.

Beam alſo denotes the lath, or iron of a pair of ſcales; ſometimes the whole apparatus for weighing of goods is ſo called: hence the ſaying, it weighs ſo much at the beam.

Beam of a Plough, that in which all the parts of the plough-tail are fixed. See Agriculture, nº 83. &c.

Beam, or *Roller*, among weavers, a long and thick wooden cylinder, placed lengthwiſe on the back part of the loom of thoſe who work with a ſhuttle. That cylinder, on which the ſtuff is rolled as it is weaved, is alſo called the *beam* or *roller*, and is placed on the forepart of the loom.

BEAMINSTER, a town of Dorſetſhire in England, ſeated on the river Bert, in W. Long. 2. 50. N. Lat. 52. 45.

BEAN, in botany. See Vicia.

The ancients made uſe of beans in gathering the votes of the people, and for the election of magiſtrates. A white bean ſignified *abſolution*, and a black one *condemnation*. Beans had a myſterious uſe in the *lemuralia* and *parentalia*; where the maſter of the family, after waſhing, was to throw a ſort of black beans over his head, ſtill repeating the words, "I redeem myſelf and family by theſe beans." Ovid * gives a lively deſcription of the whole ceremony in verſe.—Abſtinence from beans was enjoined by Pythagoras, one of whoſe ſymbols is, κυαμων απεχεσθαι *abſtine a fabis*. The Egyptian prieſts held it a crime to look at beans, judging the very ſight unclean. The *flamen dialis* was not permitted even to mention the name. The precept of Pythagoras has been variouſly interpreted: ſome underſtood it of forbearing to meddle in trials and verdicts, which were then by throwing beans into an urn: others, building on the equivoque of the word κυαμος, which equally ſignifies a *bean* and a human *teſticle*, explain it by abſtaining from venery. Clemens Alexandrinus grounds the abſtinence from beans on this, that they render women barren; which is confirmed by Theophraſtus, who extends the effect even to plants. Cicero ſuggeſts another reaſon for this abſtinence, viz. that beans are great enemies to tranquillity of mind. For a reaſon of this kind it is, that Amphiaraus is ſaid

* *Faſt*. lib. 3 v. 435.

to have abſtained from beans, even before Pythagoras, that he might enjoy a clearer divination by dreams.

BEANS, as food for horſes. See FARRIERY, § i. 6.

Bean-Caper. See ZYGOPHYLLUM.

Bean-Cod, a ſmall fiſhing veſſel, or pilot-boat, common on the ſea-coaſts and in the rivers of Portugal. It is extremely ſharp forward, having its ſtem bent inward above into a great curve: the ſtem is alſo plated on the fore-ſide with iron, into which a number of bolts are driven, to fortify it, and reſiſt the ſtroke of another veſſel, which may fall athwart-hauſe. It is commonly navigated with a large lateen ſail, which extends over the whole length of the deck, and is accordingly well fitted to ply to windward.

Bean-Flour, called by the Romans *lomentum*, was of ſome repute among the ancient ladies as a coſmetic, wherewith to ſmooth the ſkin, and take away wrinkles.

Bean-Fly, in natural hiſtory, the name given by authors to a very beautiful fly, of a pale purple colour, frequently found on bean-flowers. It is produced from the worm or maggot called by authors *mida*.

Bean-Gooſe, in ornithology. See ANAS.

Kidney-Bean. See PHASEOLUS.

Malacca-Beans, or *Anacardia*, the fruit of a tree growing in Malabar and other parts of the Eaſt-Indies, ſuppoſed by ſome to be the AVICENNIA *tomentoſa*; by others, the BONTIA *germinans*. The fruit is of a ſhining black colour, of the ſhape of a heart flattened, about an inch long, terminating at one end in an obtuſe point, and adhering by the other to a wrinkled ſtalk: it contains within two ſhells a kernel of a ſweetiſh taſte: betwixt the ſhells is lodged a thick and acrid juice.

The medicinal virtues of anacardia have been greatly diſputed. Many have attributed to them the faculty of comforting the brain and nerves, fortifying the memory, and quickening the intellect: and hence a confection made from them has been dignified with the title of *confectio ſapientum*; others think it better deſerves the name of *confectio ſtultorum*, and mention inſtances of its continued uſe having rendered people maniacal. But the kernels of anacardium is not different in quality from that of almonds. The ill effects attributed to this fruit belong only to the juice contained betwixt the ſhells, whoſe acrimony is ſo great, that it is ſaid to be applied by the Indians as a cauſtic. This juice is recommended externally for tetters, freckles, and other cutaneous deformities; which it removes only by exulcerating or excoriating the part, ſo that a new ſkin comes underneath.

BEAR, in zoology. See URSUS.

Sea-Bear. See PHOCA.

BEAR, in aſtronomy. See URSA.

Order of the Bear, was a military order in Switzerland, erected by the Emperor Frederick II. in 1213, by way of acknowledgment for the ſervice the Swiſs had done him, and in favour of the abbey of St Gaul. To the collar of the order hung a medal, on which was repreſented a bear raiſed on an eminence of earth.

Bear's-Breech, in botany. See ACANTHUS.

Bear's Fleſh was much eſteemed by the ancients: even at this day, the paw of a bear ſalted and ſmoked is ſerved up at the table of princes.

Bear's Greaſe was formerly eſteemed a ſovereign remedy againſt cold diſorders, eſpecially rheumatiſms. It is now much uſed in dreſſing ladies and gentlemens hair.

Bear's Skin makes a fur in great eſteem, and on which depends a conſiderable article of commerce, being uſed in houſings, on coach-boxes, &c. In ſome countries, clothes are made of it, more eſpecially bags wherein to keep the feet warm in ſevere colds. Of the ſkins of bears cubs are made gloves, muffs, and the like.

BEARALSTON, a poor town of Devonſhire, which however, is a borough by preſcription, and ſends two members to parliament.

BEARD, the hair growing on the chin and adjacent parts of the face, chiefly of adults and males.

Various have been the ceremonies and cuſtoms of moſt nations in regard of the beard. The Tartars, out of a religious principle, waged a long and bloody war with the Perſians, declaring them infidels, merely becauſe they would not cut their whiſkers after the rite of Tartary: and we find, that a conſiderable branch of the religion of the ancients conſiſted in the management of their beard. The Greeks wore their beards till the time of Alexander the Great; that prince having ordered the Macedonians to be ſhaved, for fear it ſhould give a handle to their enemies. According to Pliny, the Romans did not begin to ſhave till the year of Rome 454, when P. Ticinius brought over a ſtock of barbers from Sicily.—Perſons of quality had their children ſhaved the firſt time by others of the ſame or greater quality, who, by this means, became god-father or adopted father of the children. Anciently, indeed, a perſon became god-father of the child by barely touching his beard: thus hiſtorians relate, that one of the articles of the treaty between Alaric and Clovis was, that Alaric ſhould touch the beard of Clovis to become his god-father.

As to eccleſiaſtics, the diſcipline has been very different on the article of beards: ſometimes they have been enjoined to wear them, from a notion of too much effeminacy in ſhaving, and that a long beard was more ſuitable to the eccleſiaſtical gravity; and ſometimes again they were forbid it, as imagining pride to lurk beneath a venerable beard. The Greek and Roman churches have been long together by the ears about their beards: ſince the time of their ſeparation, the Romaniſts ſeem to have given more into the practice of ſhaving, by way of oppoſition to the Greeks; and have even made ſome expreſs conſtitutions *de radendis barbis*. The Greeks, on the contrary, eſpouſe very zealouſly the cauſe of long beards, and are extremely ſcandalized at the beardleſs images of ſaints in the Roman churches. By the ſtatutes of ſome monaſteries it appears, that the lay-monks were to let their beards grow, and the prieſts among them to ſhave; and that the beards of all that were received into the monaſteries, were bleſſed with a great deal of ceremony. There are ſtill extant the prayers uſed in the ſolemnity of conſecrating the beard to God, when an eccleſiaſtic was ſhaven.

Le Comte obſerves, that the Chineſe affect long beards extravagantly; but nature has balked them, and only given them very little ones, which, however, they cultivate with infinite care: the Europeans are ſtrangely envied by them on this account, and eſteemed the greateſt men in the world. Chryſoſtom obſerves, that the kings of Perſia had their beards wove or matted together with gold thread; and ſome of the firſt kings of France had their beards knotted and buttoned with gold.

Among the Turks, it is more infamous for any one to have his beard cut off, than among us to be publicly whipt or branded with a hot iron. There are abundance in that country, who would prefer death to this kind of puniſhment. The Arabs make the preſervation of their beards a capital point of religion, becauſe Mahomet never cut his. Hence the razor is never drawn over the Grand Signior's face. The Perſians, who clip them, and ſhave above the jaw, are reputed heretics. It is likewiſe a mark of authority and liberty among them, as well as among the Turks. They who ſerve in the ſeraglio, have their beards ſhaven, as a ſign of their ſervitude. They do not ſuffer it to grow till the ſultan has ſet them at liberty, which is beſtowed as a reward upon them, and is always accompanied with ſome employment.

The moſt celebrated ancient writers, and ſeveral modern ones, have ſpoken honourably of the fine beards of antiquity. Homer ſpeaks highly of the white beard of Neſtor and that of old king Priam. Virgil deſcribes Mezentius's to us, which was ſo thick and long as to cover all his breaſt; Chryſippus praiſes the noble beard of Timothy, a famous player on the flute. Pliny the younger tells us of the white beard of Euphrates, a Syrian philoſopher; and he takes pleaſure in relating the reſpect mixed with fear with which it inſpired the people. Plutarch ſpeaks of the long white beard of an old Laconian, who, being aſked why he let it grow ſo, replied, *'Tis that, ſeeing continually my white beard, I may do nothing unworthy of its whiteneſs.* Strabo relates, that the Indian philoſophers, the Gymnoſophiſts, were particularly attentive to make the length of their beards contribute to captivate the veneration of the people. Diodorus, after him, gives a very particular and circumſtantial hiſtory of the beards of the Indians. Juvenal does not forget that of Antilochus the ſon of Neſtor. Fenelon, in deſcribing a prieſt of Apollo in all his magnificence, tells us, that he had a white beard down to his girdle. But Perſius ſeems to outdo all theſe authors: this poet was ſo convinced that a beard was the ſymbol of wiſdom, that he thought he could not beſtow a greater encomium on the divine Socrates, than by calling him the bearded maſter, *Magiſtrum barbatum.*

While the Gauls were under their ſovereignty, none but the nobles and Chriſtian prieſts were permitted to wear long beards. The Franks having made themſelves maſters of Gaul, aſſumed the ſame authority as the Romans: the bondſmen were expreſsly ordered to ſhave their chins; and this law continued in force until the entire aboliſhment of ſervitude in France. So likewiſe, in the time of the firſt race of kings, a long beard was a ſign of nobility and freedom. The kings, as being the higheſt nobles in their kingdom, were emulous likewiſe to have the largeſt beard: Eginard, ſecretary to Charlemain, ſpeaking of the laſt kings of the firſt race, ſays, they came to the aſſemblies in the Field of Mars in a carriage drawn by oxen, and ſat on the throne with their hair diſhevelled, and a very long beard, *crine profuſo, barba ſubmiſſa, ſolio reſiderent, et ſpeciem dominantis effingerent.*

To touch any one's beard, or cut off a bit of it, was, among the firſt French, the moſt ſacred pledge of protection and confidence. For a long time all letters that came from the ſovereign had, for greater ſanction, three hairs of his beard in the ſeal. There is ſtill in being a charter of 1121, which concludes with the following words; *Quod ut ratum et ſtabile preſeveret in poſterum, præſentis ſcripto ſigilli mei robur appoſui eum tribus pilis barbæ meæ.*

Several great men have honoured themſelves with the ſurname of *Bearded.* The emperor Conſtantine is diſtinguiſhed by the epithet of *Pogonate,* which ſignifies the *Bearded.* In the time of the Cruſades, we find there was a *Geffrey the Bearded:* Baldwin IV. Earl of Flanders, was ſurnamed *Handſome-Beard*; and in the illuſtrious houſe of Montmorenci, there was a famous *Bouchard,* who took a pride in the ſurname of *Bearded*: he was alſo the declared enemy of the monks, without doubt, becauſe of their being ſhaved.

In the tenth century, we find, that King Robert (of France) the rival of Charles the Simple, was not more famous for his exploits than for his long white beard. In order that it might be more conſpicuous to the ſoldiers when he was in the field, he uſed to let it hang down outſide his cuiraſs: this venerable ſight encouraged the troops in battle, and ſerved to rally them when they were defeated.

A celebrated painter in Germany, called *John Mayo,* had ſuch a large beard that he was nicknamed *John the Bearded:* it was ſo long that he wore it faſtened to his girdle; and though he was a very tall man, it would hang upon the ground when he ſtood upright. He took the greateſt care of this extraordinary beard; ſometimes he would untie it before the Emperor Charles V. who took great pleaſure to ſee the wind make it fly againſt the faces of the lords of his court.

In England, the famous chancellor Thomas More, one of the greateſt men of his time, being on the point of falling a victim to court intrigues, was able, when on the fatal ſcaffold, to procure reſpect to his beard in preſence of all the people, and ſaved it, as one may ſay from the fatal ſtroke which he could not eſcape himſelf. When he had laid his head on the block, he perceived that his beard was likely to be hurt by the axe of the executioner; on which he took it away, ſaying, *My beard has not been guilty of treaſon; it would be an injuſtice to puniſh it.*

But let us turn our eyes to a more flattering object, and admire the beard of the beſt of kings, the ever precious beard of the great Henry IV. of France, which diffuſed over the countenance of that prince a majeſtic ſweetneſs and amiable openneſs, a beard ever dear to poſterity, and which ſhould ſerve as a model for that of every great king; as the beard of his illuſtrious miniſter ſhould for that of every miniſter. But what dependence is there to be put on the ſtability of the things of this world? By an event as fatal as unforeſeen, the beard, which was arrived at its higheſt degree of glory, all of a ſudden loſt its favour, and was at length entirely proſcribed. The unexpected death of Henry the Great, and the youth of his ſucceſſor, were the ſole cauſe of it.

Louis XIII. mounted the throne of his glorious anceſtors without a beard. Every one concluded immediately, that the courtiers, ſeeing their young king with a ſmooth chin, would look upon their own as too rough. The conjecture proved right; for they preſently reduced their beards to whiſkers, and a ſmal tuft of hair under the nether lip.

The people at firſt would not follow this dangerous example. The Duke of Sully never would adopt this effeminate cuſtom. This man, great both as a general and a miniſter, was likewiſe ſo in his retirement: he had the courage to keep his long beard, and to appear with it at the court of Louis XIII. where he was called to givehis advice in an affair of importance. The young crop-bearded courtiers laughed at the ſight of his grave look and old-faſhoned phiz. The duke, nettled at the affront put on his fine beard, ſaid to the king, "Sir, when your father, of glorious memory did me the honour to conſult me on his great and important affairs, the firſt thing he did was to ſendaway all the buffoons and ſtage-dancers of his court."

The Czar Peter, who had ſo many claims to the ſurname of *Great*, ſeems to have been but little worthy of it on this occaſion. He had the boldneſs to lay a tax on the beards of his ſubjects. He ordered that the noblemen and gentlemen, tradeſmen and arteſans (the prieſts and peaſants excepted), ſhould pay 100 rubles to be able to retain their beards; that the lower claſs of people ſhould pay a copeck for the ſame liberty: and he eſtabliſhed clerks at the gates of the different towns to collect theſe duties. Such a new and ſingular impoſt troubled the vaſt empire of Ruſſia. Both religion and manners were thought in danger. Complaints were heard from all parts; they even went ſo far as to write libels againſt the ſovereign; but he was inflexible, and at that time powerful. Even the fatal ſcenes of St Bartholomew were renewed againſt theſe unfortunate beards, and the moſt unlawful violences were publicly exerciſed. The razor and ſciſſars were every where made uſe of. A great number to avoid theſe cruel extremities obeyed with reluctant ſighs. Some of them carefully preſerved the ſad trimmings of their chins: and, in order to be never ſeparated from theſe dear locks, ordered that they ſhould be placed with them in their coffins.

Example, more powerful than authority, produced in Spain what it had not been able to bring about in Ruſſia, without great difficulty. Philip V. aſcended the throne with a ſhaved chin. The courtiers imitated the prince, and the people, in turn, the courtiers. However, though this revolution was brought about without violence and by degrees, it cauſed much lamentation and murmuring; the gravity of the Spaniards loſt by the change. The favourite cuſtom of a nation can never be altered without incurring diſpleaſure. They have this old ſaying in Spain: *Deſde que no hay barba, no hay mas alma.* "Since we have loſt our beards, we have loſt our ſouls"

Among the European nations that have been moſt curious in beards and whiſkers, we muſt diſtinguiſh Spain. This grave romantic nation has always regarded the beard as the ornament which ſhould be moſt prized; and the Spaniards have often made the loſs of honour conſiſt in that of their whiſkers. The Portugueſe, whoſe national character is much the ſame, are not the leaſt behind them in that reſpect. In the reign of Catherine Queen of Portugal, the brave John de Caſtro had juſt taken in India the caſtle of Dieu: victorious, but in want of every thing, he found himſelf obliged to aſk the inhabitants of Goa to lend him a thouſand piſtoles for the maintenance of his fleet; and, as a ſecurity for that ſum, he ſent them one of his whiſkers, telling them, "All the gold in the world cannot equal the value of this natural ornament of my valour; and I depoſite it in your hands as a ſecurity for the money." The whole town was penetrated with this heroiſm, and every one intereſted himſelf about this invaluable whiſker: even the women were deſirous to give marks of their zeal for ſo brave a man: ſeveral ſold their bracelets to increaſe the ſum aſked for; and the inhabitants of Goa ſent him immediately both the money and his whiſker. A number of other examples of this kind might be produced, which do as much honour to wiſkers as to the good faith of thoſe days.

In Louis XIII.'s reign, whiſkers attained the higheſt degree of favour, at the expence of the expiring beards. In thoſe days of gallantry, not yet empoiſoned by wit, they became the favourite occupation of lovers. A fine black whiſker, elegantly turned up, was a very powerful mark of dignity with the fair ſex. Whiſkers were ſtill in faſhion in the beginning of Louis XIV.'s reign. This king, and all the great men of his reign, took a pride in wearing them. They were the ornament of Turenne, Condé, Colbert, Corneille, Moliere, &c. It was then no uncommon thing for a favorite lover to have his whiſkers turned up, combed, and pomatumed, by his miſtreſs; and, for this purpoſe, a man of faſhion took care to be always provided with every little neceſſary article, eſpecially whiſker-wax. It was highly flattering to a lady to have it in her power to praiſe the beauty of her lover's whiſkers; which, far from being diſguſting, gave his perſon an air of vivacity: ſeveral even thought them an incitement to love. It ſeems the levity of the French made them undergo ſeveral changes both in form and name: there were *Spaniſh*, *Turkiſh*, *guard-dagger*, &c. whiſkers; in ſhort, *royal* ones, which were the laſt worn; their ſmallneſs proclaimed their approaching fall.

Conſecration of the BEARD was a ceremony among the Roman youth, who, when they were ſhaved the firſt time, kept a day of rejoicing, and were particularly careful to put the hair of their beard into a ſilver or gold box, and make an offering of it to ſome god, particularly to Jupiter Capitolinus, as was done by Nero, according to Suetonius.

Kiſſing the BEARD. The Turkiſh wives kiſs their huſbands beards, and children their fathers, as often as they come to ſalute them. The men kiſs one another's beards reciprocally on both ſides, when they ſalute in the ſtreets, or come off from any journey.

The Faſhion of the BEARD has varied in different ages and countries; ſome cultivating and entertaining one part of it, ſome another. Thus the Hebrews wear a beard on their chin; but not on the upper-lip or cheeks. Moſes forbids them to cut off entirely the angle or extremity of their beard; that is, to manage it after the Egyptian faſhion, who left only a little tuft of beard at the extremity of their chin; whereas the Jews to this day ſuffer a little fillet of hair to grow from the lower end of their ears to their chins, where, as well as on their lower-lips, their beards are in a pretty long bunch. The Jews, in time of mourning, neglected to trim their beards, that is, to cut off what grew ſuperfluous on the upper-lips and cheeks. In time of grief and great affliction they alſo plucked off the hair of their beards.

Anointing the Beard with unguents is an ancient practice both among the Jews and Romans, and ſtill continues in uſe among the Turks; where one of the principal ceremonies obſerved in ſerious viſits is to throw ſweet-ſcented water on the beard of the viſitant, and to perfume it afterwards with aloes wood, which ſticks to this moiſture, and gives it an agreeable ſmell, &c. In middle-age writers we meet with *adlentare barbam*, uſed for ſtroking and combing it, to render it ſoft and flexible. The Turks, when they comb their beards, hold a handkerchief on their knees, and gather very carefully the hairs that fall: and when they have got together a certain quantity, they fold them up in paper, and carry them to the place where they bury the dead.

Beard *of a Comet*, the rays which the comet emits towards that part of the heaven to which its proper motion ſeems to direct it; in which the beard of a comet is diſtinguiſhed from the tail, which is underſtood of the rays emitted towards that part from whence its motion ſeems to carry it.

Beard *of a Horſe*, that part underneath the lower mandible on the outſide and above the chin, which bears the curb. It is alſo called the *chuck*. It ſhould have but little fleſh upon it, without any chops, hardneſs, or ſwelling; and be neither too high raiſed nor too flat, but ſuch as the curb may reſt in its right place.

Beard *of a Muſcle*, oyſter, or the like, denotes an aſſemblage of threads or hairs, by which thoſe animals faſten themſelves to ſtones. The hairs of this beard terminate in a flat ſpongy ſubſtance, which being applied to the ſurface of a ſtone, ſticks thereto, like the wet leather uſed by boys.

Beards, in the hiſtory of inſects, are two ſmall, oblong, fleſhy bodies, placed juſt above the trunk, as in the gnats, and in the moths and butterflies.

BEARDED, denotes a perſon or thing with a beard, or ſome reſemblance thereof. The faces on ancient Greek and Roman medals are generally bearded. Some are denominated *pogonati*, as having long beards, *e. g.* the Parthian kings. Others have only a lanugo about the chin, as the Seleucid family. Adrian was the firſt of the Roman emperors who nouriſhed his beard: hence all imperial medals before him are *beardleſs*; after him, *bearded*.

Bearded *Women* have been all obſerved to want the menſtrual diſcharge; and ſeveral inſtances are given by Hippocrates, and other phyſicians, of grown women, eſpecially widows, in whom the menſes coming to ſtop, beards appeared. Euſebius Nierembergius mentions a woman who had a beard reaching to her navel.

Of women remarkably bearded we have ſeveral inſtances. In the cabinet of curioſities of Stutgard in Germany, there is the portrait of a woman called *Bartel Graetje*, whoſe chin is covered with a very large beard. She was drawn in 1587, at which time ſhe was but 25 years of age. There is likewiſe in the ſame cabinet another portrait of her when ſhe was more advanced in life, but likewiſe with a beard.—It is ſaid, that the Duke of Saxony had the portrait of a poor Swiſs woman taken, remarkable for her long buſhy beard; and thoſe who were at the carnival at Venice in 1726, ſaw a female dancer aſtoniſh the ſpectators not more by her talents than by her chin covered with a black buſhy beard.—Charles XII. had in his army a female grenadier: it was neither courage nor a beard that ſhe wanted to be a man. She was taken at the battle of Pultowa, and carried to Peterſburg, where ſhe was preſented to the Czar in 1724: her beard meaſured a yard and a half.—We read in the Trévoux Dictionary, that there was a woman ſeen at Paris, who had not only a buſhy beard on her face, but her body likewiſe covered all over with hair. Among a number of other examples of this nature, that of Margaret, the governeſs of the Netherlands, is very remarkable. She had a very long ſtiff beard, which ſhe prided herſelf on; and being perſuaded that it contributed to give her an air of majeſty, ſhe took care not to loſe a hair of it. This Margaret was a very great woman.—It is ſaid, that the Lombard women, when they were at war, made themſelves beards with the hair of their heads, which they ingeniouſly arranged on their cheeks, in order that the enemy, deceived by the likeneſs might take them for men. It is aſſerted, after Suidas, that in a ſimilar caſe the Athenian women did as much. Theſe women were more men than the modern Jemmy-Jeſſamys.—About a century ago, the French ladies adopted the mode of dreſſing their hair in ſuch a manner that curls hung down their cheeks as far as their boſom. Theſe curls went by the name of *whiſkers*. This cuſtom undoubtedly was not invented, after the example of the Lombard women, to fright the men. Neither is it with intention to carry on a very bloody war, that in our time they have affected to bring forward the hair of the temple on the cheeks. The diſcovery ſeems to have been a fortunate one: it gives them a tempting roguiſh look.

BEARERS, in heraldry. See Supporters.

BEARING, in navigation, an arch of the horizon intercepted between the neareſt meridian and any diſtinct object, either diſcovered by the eye, or reſulting from the ſinical proportion; as in the firſt caſe, at 4 P. M. Cape Spado, in the iſle of Candia, bore S. by W. by the compaſs. In the ſecond, the longitudes and latitudes of any two places being given, and conſequently the difference of latitude and longitude between them, the bearing from one to the other is diſcovered by the following analogy:

As the meridional difference of latitude
Is to the difference of longitude;
So is radius
To the tangent bearing.

Bearing is alſo the ſituation of any diſtant object, eſtimated from ſome part of the ſhip according to her poſition. In this ſenſe, an object ſo diſcovered muſt be either ahead, aſtern, abreaſt, on the bow, or on the quarter. Theſe bearings, therefore, which may be called *mechanical*, are on the beam, before the beam, abaft the beam, on the bow, on the quarter, ahead, or aſtern. If the ſhip ſails with a ſide-wind, it alters the names of ſuch bearings in ſome meaſure, ſince a diſtant object on the beam is then ſaid to be to leeward or to windward; on the lee-quarter or bow, and on the weather-quarter or bow.

Bearing, in the ſea-language. When a ſhip ſails towards the ſhore, before the wind, ſhe is ſaid to *bear in* with the land or harbour. To let the ſhip ſail more before the wind, is to *bear up*. To put her right before the wind, is to *bear round*. A ſhip that keeps off from the land, is ſaid to *bear off*. When a ſhip that was to windward comes under a ſhip's ſtern, and ſo gives her the wind, ſhe is ſaid to *bear under her lee*, &c. There is another ſenſe of this word, in reference to the burden of a ſhip; for they ſay a ſhip *bears*, when, having too ſlender or lean a quarter, ſhe will ſink too deep into the water with an overlight freight, and thereby can carry but a ſmall quantity of goods.

Bearings, in heraldry, a term uſed to expreſs a coat of arms, or the figures of armories by which the nobility and gentry are diſtinguiſhed from the vulgar and from one another. See Heraldry.

Bearing-Claws, among cock-fighters, denote the foremoſt toes, on which the bird goes; and if they be hurt or gravelled, he cannot fight.

Bearing of a Stag, is uſed in reſpect of the ſtate of his head, or the croches which he bears on his horns. If you be aſked what a ſtag bears, you are only to reckon the croches, and never to expreſs an odd number: as, if he have four croches on his near horn and five on his far, you muſt ſay he bears ten; a falſe right on his near horn: if but four on the near horn and ſix on the far horn, you muſt ſay he bears twelve; a double falſe right on the near horn.

BEARN, a province of France, bounded on the eaſt by Bigorre, on the ſouth by the mountains of Arragon, on the weſt by Soule and part of Navarre, and on the north by Gaſcony and Armagnac. It lies at the foot of the Pyrenæan mountains, being about 16 leagues in length and 12 in breadth. In general it is but a barren country; yet the plains yield conſiderable quantities of flax, and a good quantity of Indian corn called *mailloc*. The mountains are rich in mines of iron, copper, and lead; ſome of them alſo are covered with vines, and others with pine trees; and they give riſe to ſeveral mineral ſprings, and two conſiderable rivers, the one called the *Gave of Oleron*, and the other the *Gave of Bearn*. Some wine is exported from this country; and the Spaniards buy up great numbers of the horſes and cattle, together with moſt of their linen, of which there is a conſiderable manufactory. The principal places are Pau, Leſcar, Ortez, Novarreins, Sallies, and Oleron.

BEAST, in a general ſenſe, an appellation given to all four-footed animals, fit either for food, labour, or ſport.

Beasts of Burden, in a commercial ſenſe, all four-footed animals which ſerve to carry merchandizes on their backs. The beaſts generally uſed for this purpoſe, are elephants, dromedaries, camels, horſes, mules, aſſes, and the ſheep of Mexico and Peru.

Beasts of the Chaſe are five. *viz.* the buck, the doe, the fox, the roe, and the martin.

Beasts and Fowls of the Warren, are the hare, the coney, the pheaſant, and partridge.

Beasts of the Foreſt are the hart, hind, hare, boar, and wolf.

Beast, among gameſters, a game at cards, played in this manner: The beſt cards are the king, queen, &c. whereof they make three heaps, the king, the play, and troilet. Three, four, or five, may play; and to every one is dealt five cards. However, before the play begins, every one ſtakes to the three heaps. He that wins moſt tricks, takes up the heap called the *play*; he that hath the king, takes up the heap ſo called; and he that hath three of any ſort, that is, three fours, three fives, three ſixes, &c. takes up the troilet heap.

BEAT, in general ſignification, ſignifies to chaſtiſe, ſtrike, knock, or vanquiſh.

This word has ſeveral other ſignifications in the manufactures, and in the arts and trades. Sometimes it ſignifies to forge and hammer; in which ſenſe ſmiths and farriers ſay, to *beat iron*. Sometimes it means to pound, to reduce into powder: Thus we ſay, to *beat drugs*, to *beat pepper*, to *beat ſpices*; that is to ſay, to *pulverize them*.

Beat, in fencing, denotes a blow or ſtroke given with the ſword. There are two kinds of beats; the firſt performed with the foible of a man's ſword on the foible of his adverſary's, which in the ſchools is commonly called *baterie*, from the French *batre*, and is chiefly uſed in a purſuit, to make an open upon the adverſary. The ſecond and beſt kind of beat is performed with the fort of a man's ſword upon the foible of his adverſary's, not with a ſpring, as in binding, but with a jerk or dry beat; and is therefore moſt proper for the parades without or within the ſword, becauſe of the rebound a man's ſword has thereby from his adverſary's, whereby he procures to himſelf the better and ſurer opportunity of riſpoſting.

Beat, in the manege. A horſe is ſaid *to beat the duſt*, when at each ſtroke or motion he does not take in ground or way enough with his fore-legs.—He is more particularly ſaid to beat the duſt at *terra à terra*, when he does not take in ground enough with his ſhoulders, making his ſtrokes or motions too ſhort, as if he made them all in one place. He *beats the duſt at curvets*, when he does them too precipitantly and too low. He *beats upon a walk*, when he walks too ſhort, and thus rids but little ground, whether it be in ſtraight lines, rounds, or paſſings.

Beat of Drum, in the military art, is to give notice by beat of drum of a ſudden danger; or, that ſcattered ſoldiers may repair to their arms and quarters, is to beat an alarm, or to arms. Alſo to ſignify, by different manners of ſounding a drum, that the ſoldiers are to fall on the enemy; to retreat before, in, or after, an attack; to move or march from one place to another; to permit the ſoldiers to come out of their quarters at break of day; to order to repair to their colours, &c.; is to beat a charge, a retreat, a march, &c.

Beat (St), a town of France, in the county of Comminges, at the confluence of the Garonne and the Pique. It is ſeated between two mountains which are cloſe to the town on each ſide. All the houſes are built with marble, becauſe they have no other materials. W. Long. 1. 6. N. Lat. 42. 50.

BEATER is applied, in matters of commerce, to divers ſorts of workmen, whoſe buſineſs is to hammer or flatten certain matters; particularly metals.

Gold-Beaters, are artiſans, who, by beating gold and ſilver with a hammer on a marble in moulds of vellum and bullocks guts, reduce them to thin leaves fit for gilding, or ſilvering of copper, iron, ſteel, wood,

&c. Gold-beaters differ from flatters of gold or ſilver; as the former bring their metal into leaves by the hammer, whereas the latter only flatten it by preſſing it through a mill preparatory to beating.

There are alſo *Tin-Beaters* employed in the looking-glaſs trade, whoſe buſineſs is to beat tin on large blocks of marble till it be reduced to thin leaves fit to be applied with quickſilver behind looking-glaſſes. See Foliating, *Gold-beating*.

BEATIFICATION, an act by which the pope declares a perſon beatified or bleſſed after his death. It is the firſt ſtep towards canonization, or raiſing any one to the honour and dignity of a ſaint. No perſon can be beatified till 50 years after his or her death. All certificates or atteſtations of virtues and miracles, the neceſſary qualifications for ſaintſhip, are examined by the congregation of rites. This examination often continues for ſeveral years; after which his holineſs decrees the beatification. The corps and relics of the future ſaint are from thenceforth expoſed to the veneration of all good Chriſtians: his images are crowned with rays, and a particular office is ſet apart for him; but his body and relics are not carried in proceſſion: indulgences likewiſe, and remiſſion of ſins, are granted on the day of his beatification; which though not ſo pompous as that of canonization, is however very ſplendid.

BEATING, or Pulsation, in medicine, the reciprocal agitation or palpitation of the heart or pulſe.

Beating Flax or *Hemp*, is an operation in the dreſſing of theſe matters, contrived to render them more ſoft and pliant.—When hemp has been ſwingled a ſecond time, and the hurds laid by, they take the ſtrikes, and dividing them into dozens and half dozens, make them up into large thick rolls, which being broached on long ſtrikes, are ſet in the chimney corner to dry; after which they lay them in a round trough made for the purpoſe, and there with beetles beat them well till they handle both without and within as pliant as poſſible, without any hardneſs or roughneſs to be felt: that done, they take them from the trough, open and divide the ſtrikes as before; and if any be found not ſufficiently beaten, they roll them up and beat them over as before.

Beating hemp is a puniſhment inflicted on looſe or diſorderly perſons.

Beating, in book-binding, denotes the knocking a book in quires on a marble block, with a heavy broad-faced hammer, after folding, and before binding or ſtitching it. On the beating it properly, the elegance and excellence of the binding, and the eaſy opening of the book, principally depends.

Beating, in the paper-works, ſignifies the beating of paper on a ſtone with a heavy hammer, with a large ſmooth head and ſhort handle, in order to render it more ſmooth and uniform, and fit for writing.

Beating the Wind, was a practice in uſe in the ancient method of trial by combat. If either of the combatants did not appear in the field at the time appointed, the other was to beat the wind, or make ſo many flouriſhes with his weapon; by which he was intitled to all the advantages of a conqueror.

Beating the Hands or *Feet*, by way of praiſe or approbation. See Applause.

Beating Time, in muſic, a method of meaſuring and marking the time for performers in concert, by a motion of the hand and foot up or down ſucceſſively and in equal times. Knowing the true time of a crotchet, and ſuppoſing the meaſure actually ſubdivided into four crotchets, and the half meaſure into two, the hand or foot being up, if we put it down with the very beginning of the firſt note or crotchet, and then raiſe it with the third, and then down with the beginning of the next meaſure; this is called *beating the time*; and, by practice, a habit is acquired of making this motion very equal. Each down and up is ſometimes called a *time* or *meaſure*. The general rule is, to contrive the diviſion of the meaſure ſo, that every down and up of the beating ſhall end with a particular note, on which very much depends the diſtinctneſs, and, as it were, the ſenſe of the melody. Hence the beginning of every time or beating in the meaſure is reckoned the accented part thereof.

Beating time is denoted, in the Italian muſic, by the term *à battuta*, which is uſually put after what they call *recitativo*, where little or no time is obſerved, to denote, that here they are to begin again to mark or beat the time exactly.

The Romans aimed at ſomewhat of harmony in the ſtrokes of their oars; and had an officer called *portiſculus* in each galley, whoſe buſineſs was to beat time to the rowers, ſometimes by a pole or mallet, and ſometimes by his voice alone.

The ancients marked the rhyme in their muſical compoſitions; but to make it more obſervable in the practice, they beat the meaſure or time, and this in different manners. The moſt uſual conſiſted in a motion of the foot, which was raiſed from, and ſtruck alternately againſt, the ground, according to the modern method. Doing this was commonly the province of the maſter of the muſic, who was thence called μεσοχορος and κορυφαιος, becauſe placed in the middle of the choir of muſicians, and in an elevated ſituation, to be ſeen and heard more eaſily by the whole company. Theſe beaters of meaſure were alſo called by the Greeks ποδοκτυποι and τοδοψιφοι, becauſe of the noiſe of their feet; and συντοναριοι, becauſe of the uniformity or monotony of the rhyme. The Latins denominated them *pedarii*, *podarii*, and *pedicularii*. To make the beats or ſtrokes more audible, their feet were generally ſhod with a ſort of ſandals either of wood or iron, called by the Greeks κρουπεζια, κρουπαλα, κρευπητα, and by the Latins *pedicula*, *ſcabella*, or *ſcabilla*, becauſe like to little ſtools or foot-ſtools. Sometimes they beat upon ſonorous foot-ſtools, with the foot ſhod with a wooden or iron ſole. They beat the meaſure not only with the foot, but alſo with the right hand, all the fingers whereof they joined together, to ſtrike into the hollow of the left. He who thus marked the rhythm, was called *manuductor*. The ancients alſo beat time or meaſure with ſhells, as oyſter-ſhells and bones of animals, which they ſtruck againſt one another, much as the moderns now uſe caſtanets, and the like inſtruments. This the Greeks called κρημβαλιαζειν, as is noted by Heſychius. The ſcholiaſt on Ariſtophanes ſpeaks much to the ſame purpoſe. Other noiſy inſtruments, as drums, cymbals, citterns, &c. were alſo uſed on the ſame occaſion. They beat the meaſure generally in two equal or unequal times; at leaſt, this holds of the uſual rhythm of a piece of muſic, marked either by the noiſe of ſandals, or the ſlapping of the hands. But the other rhythmic inſtruments laſt mentioned, and which were uſed principally to excite and animate the dancers, marked the cadence after another manner; that is, the number of their percuſſions equalled, or even ſometimes ſurpaſſed, that of the different ſounds which compoſed the air or ſong played.

Beating, with hunters, a term uſed of a ſtag, which runs firſt one way and then another. He is then ſaid *to beat up and down*.—The noiſe made by conies in rutting time is alſo called *beating* or *tapping*.

Beating in navigation, the operation of making a progreſs at ſea againſt the direction of the wind, in a zig-zag line, or traverſe, like that in which we aſcend a ſteep hill. See Tacking.

BEATITUDE, imports the ſupreme good, or the higheſt degree of happineſs human nature is ſuſceptible of; or the moſt perfect ſtate of a rational being, wherein the ſoul has attained to the utmoſt excellency and dignity it is framed for. In which ſenſe, it amounts to the ſame with what we otherwiſe call *bleſſedneſs* and *ſovereign felicity*; by the Greeks, ευδαιμονια; and by the Latins, *ſummum bonum*, *beatitudo*, and *beatitas*.

Beatitude, among divines, denoting the beatific viſion, or the fruition of God in a future life to all eternity.

Beatitude is alſo uſed in ſpeaking of the theſes contained in Chriſt's ſermon on the mount, whereby he pronounces bleſſed the poor in ſpirit, thoſe that mourn, the meek, &c.

BEATON, (David), archbiſhop of St Andrew's, and a cardinal of Rome, in the early part of the 16th century, was born in 1494. Pope Paul III. raiſed him to the degree of a cardinal in December 1538; and being employed by James V. in negociating his marriages with the court of France, he was there conſecrated biſhop of Mirepoix. Soon after his inſtalment as archbiſhop of St Andrew's, he promoted a furious perſecution of the reformers in Scotland; when the king's death put a ſtop, for a time, to his arbitrary proceedings, he being then excluded from affairs of government, and confined. He raiſed however ſo ſtrong a party, that upon the coronation of the young queen Mary, he was admitted of the council, made chancellor, and procured commiſſion as legate *a latere* from the court of Rome. He now began to renew his perſecution of heretics; and among the reſt, of the famous Proteſtant preacher, Mr George Wiſhart, whoſe ſufferings at the ſtake the cardinal viewed from his window with apparent exultation. It is pretended, that Wiſhart at his death foretold the murder of Beaton; which indeed happened ſhortly after, he being aſſaſſinated in his chamber, May 29th, 1547. He was a haughty bigotted churchman, and thought ſeverity the proper method of ſuppreſſing hereſy; he had great talents, and vices that were no leſs conſpicuous. See Scotland.

BEATORUM insula (anc. geog.), ſeven days journey to the weſt of Thebæ, a diſtrict of the Nomos Oaſites; called an *iſland*, becauſe ſurrounded with ſand, like an iſland in the ſea, (Ulpian); yet abounding in all the neceſſaries of life, though encompaſſed with vaſt ſandy deſarts, (Strabo): which ſome ſuppoſe to be a third Oaſis, in the Regio Ammoniaca; and the ſcite of the temple of Ammon anſwers to the above deſcription, as appears from the writers on Alexander's expedition thither. It was a place of relegation or baniſhment for real or pretended criminals from which there was no eſcape, (Ulpian).

BEATS, in a watch or clock, are the ſtrokes made by the fangs or pallets of the ſpindle of the balance, or of the pads in a royal pendulum.

BEAUCAIRE, a town of Languedoc in France, ſituated on the banks of the river Rhone, in E. Long. 5. 49. N. Lat. 43. 39.

BEAUCE, a province of France, lying between the iſle of France, Blaſois, and Orleannois. It is ſo very fertile in wheat, that is called the *Granary* of Paris. Chartres is the principal town.

BEAVER, in zoology. See Castor.

Beaver-Skins, in commerce. Of theſe, merchants diſtinguiſh three ſorts; the new, the dry, and the fat.

The new beaver, which is alſo called the *white beaver*, or *Muſcovy beaver*, becauſe it is commonly kept to be ſent into Muſcovy, is that which the ſavages catch in their winter hunting. It is the beſt, and the moſt proper for making fine furs, becauſe it has loſt none of its hairs by ſhedding.

The dry beaver, which is ſometimes called *lean beaver*, comes from the ſummer hunting, which is the time when theſe animals loſe part of their hair. Tho' this ſort of beaver be much inferior to the former, yet it may alſo be employed in furs; but it is chiefly uſed in the manufacture of hats. The French call it *ſummer caſtor* or *beaver*.

The fat beaver is that which has contracted a certain groſs and oily humour, from the ſweat which exhales from the bodies of the ſavages, who wear it for ſome time. Though this ſort be better than the dry beaver, yet it is uſed only in the making of hats.

Beſides hats and furs, in which the beaver's hair is commonly uſed, they attempted in France, in the year 1699, to make other manufactures of it: and accordingly they made cloths, flannels, ſtockings, &c. partly of beaver's hair, and partly of Segovia wool. This manufactory, which was ſet up at Paris, in St Anthony's ſuburbs, ſucceeded at firſt pretty well; and according to the genius of the French, the novelty of the thing brought into ſome repute the ſtuffs, ſtockings, gloves, and cloth made of beaver's hair. But they went out of faſhion on a ſudden, becauſe it was found by experience, that they were of a very bad wear, and beſides that the colours faded very much: when they had been wet, they became dry and hard, like felt, which occaſioned the miſcarriage of the manufactory for that time.

When the hair has been cut off from the beavers ſkins, to be uſed in the manufacturing of hats, thoſe ſkins are ſtill employed by ſeveral workmen; namely, by the trunk-makers, to cover trunks and boxes; by the ſhoemakers, to put into ſlippers; and by turners, to make ſieves for ſifting grain and ſeeds.

BEAUFORT, a town of Anjou in France, with a caſtle, near the river Authion. It contains two pariſhes, and a convent of Recolets, and yet has not 100 houſes. W. Long. 0. 3. N. Lat. 47. 26.

Beaufort, gives title of Duke in England to the noble family of Somerſet, who are lineally deſcended from John of Gaunt duke of Lancaſter, whoſe ducheſs reſided in this town.

BEAUFORT, a ſtrong town of Savoy in Italy, on the river Oron. E. Long. 6. 48. N. Lat. 45. 40.

BEAUGENCY, a town of the Orleannois in France, ſeated on the river Loire, in E. Long. 1. 46. N. Lat. 47. 48.

BEAUJEU, a town of France in Beaujolois, with an old caſtle. It is ſeated on the river Ardieres, at the foot of a mountain, in E. Long. 4. 40. N. Lat. 46. 9.

BEAUJOLOIS, a diſtrict of France, bounded on the ſouth by Lionnois proper, on the weſt by Forez, on the north by Burgundy, and on the weſt by the principality of Dombes. It is 25 miles in length, and 20 in breadth: Ville Franche is the capital town.

BEAULIEU (Sebaſtian de Pontault de), a celebrated French engineer, and field marſhal under Louis XIV. He publiſhed plans of all the military expeditions of his maſter, with military lectures annexed. He died in 1674.

BEAUMARIS, a market-town of Angleſey, in North Wales, which ſends one member to parliament. W. Long. 4. 15. N. Lat. 53. 25.

It is, as the name implies, pleaſantly ſeated on a low land, at the water's edge; is neat and well built, and one ſtreet is very handſome. Edward I. created the place; for after founding the caſtles of Caernarvon and Conway, he diſcovered that it was neceſſary to put another curb on the Welch. He therefore built a fortreſs here in 1295; and fixed on a marſhy ſpot, near the chapel of St Meugan, ſuch as gave him opportunity of forming a great foſs round the caſtle, and of filling it with water from the ſea. He alſo cut a canal, in order to permit veſſels to diſcharge their lading beneath the walls: and as a proof of the exiſtence of ſuch a conveniency, there were within this century iron rings affixed to them, for the purpoſe of mooring the ſhips or boats. The marſh was in early times of far greater extent than at preſent, and covered with fine bulruſhes. The firſt governor was Sir William Pickmore, a Gaſcon knight, appointed by Edward I. There was a conſtable of the caſtle, and a captain of the town. The firſt had an annual fee of forty pounds, the laſt of twelve pounds three ſhillings and four pence; and the porter of the gate of Beaumaris had nine pounds two ſhillings and ſix pence. Twenty-four ſoldiers were allowed for the guard of the caſtle and town, at fourpence a-day to each. The conſtable of the caſtle was always captain of the town, except in one inſtance: in the 36th of Henry VI. Sir John Boteler held the firſt office, and Thomas Norreys the other. The caſtle was extremely burthenſome to the country: quarrels were frequent between the garriſon and the country people. In the time of Henry VI. a bloody fray happened, in which David ap Evan ap Howel of Llwydiarth, and many others were ſlain. From the time of Sir Rowland Villeville, *alias* Brittayne, reputed baſe ſon of Henry VII. and conſtable of the caſtle, the garriſon was withdrawn till the year 1642, when Thomas Cheadle, deputy to the earl of Dorſet, then conſtable, put into it men and ammunition. In 1643, Thomas Bulkeley, Eſq. ſoon after created Lord Bulkeley, ſucceeded: his ſon Colonel Richard Bulkeley, and ſeveral gentlemen of the country, held it for the king till June 1647, when it ſurrendered on honourable terms to general Mytton, who made captain Evans his deputy governor. In 1653, the annual expence of the garriſon was ſeventeen hundred and three pounds. Edward I. when he built the town, ſurrounded it with walls, made it a corporation, and endowed it with great privileges, and lands to a conſiderable value. He removed the ancient freeholders by exchange of property into other countries. Henllys, near the town was the ſeat of Gwerydd ap Rhys Goch, one of fifteen tribes, and of his poſterity till this period, when Edward removed them to Boddle Wyddan in Flintſhire, and beſtowed their ancient patrimony on the corporation. It ſends one member to parliament. Its firſt repreſentative was Maurice Grifſydd, who ſat in the ſeventh year of Edward VI. There is very good anchorage for ſhips in the bay which lies before the town; and has ſeven fathom water even at the loweſt ebb. Veſſels often find ſecurity here in hard gales. The town has no trade of any kind, yet has it cuſtomhouſe for the the caſual reception of goods. The ferry lies near the town, and is paſſable at low-water. It was granted by charter to the corporation in the 4th of Queen Elizabeth. There is an order from Edward II. to Robert Power, chamberlain of North Wales, to inſpect into the ſtate of the boat, which was then out repair; and in caſe it was feaſible, to cauſe it to be made fit for uſe, at the expence of the baileywick; but if the boat proved paſt repair, a new one was to be built, and the expence allowed by the king. It appears, that the people of Beaumaris payed annually for the privilege of a ferry thirty ſhillings into the exchequer; but by this order it ſeems that the king was to find the boat. After paſſing the channel, the diſtance over the ſands to Aber in Caernarvonſhire, the point the paſſenger generally makes for, is four miles. The ſands are called *Traeth Telavan*, and *Wyloſaen*, or the *place of weeping*, from the ſhrieks and lamentations of the inhabitants when it was overwhelmed by the ſea, in the days of Helig ap Clunog. The church is dependent on Llandegvan, which is in the gift of lord Bulkeley. The former is called the *chapel of the bleſſed Virgin*; yet in ancient writings one aile is called *St Mary's chapel*, and another that of *St Nicholas*.

BEAUMONT (Sir John), the elder brother of Mr Francis Beaumont, the famous dramatic poet, was born in the year 1582, and in 1626 had the dignity of a baronet conferred upon him by King Charles I. In his youth he applied himſelf to the Muſes with good ſucceſs; and wrote The Crown of Thorns, a poem, in eight books: a miſcellany, intitled, *Boſworth Field*: Tranſlations from the Latin Poets: and ſeveral poems on religious and political ſubjects; as, On the Feſtivals; On the Bleſſed Trinity; A Dialogue between the World, a Pilgrim, and Virtue; Of the miſerable State of Man; Of Sickneſs, &c. He died in 1628. His poetic genius was celebrated by Ben Johnſon, Michael Drayton, and others.

BEAUMONT and FLETCHER, two celebrated Engliſh dramatic writers, who flouriſhed in the reign of James I. and ſo cloſely connected both as authors and as friends, that it has been judged not improper to give them under one article.

Mr Francis Beaumont was deſcended from an ancient family of his name at Grace-dieu in Leiceſterſhire, where he was born about the year 1585 or 1586, in the reign of Queen Elizabeth. His grandfather, John Beaumont, was maſter of the rolls, and his father Francis Beaumont one of the judges of the common pleas. He was educated at Cambridge, and afterwards admitted of the Inner Temple. It is not, however, apparent that he made any great proficiency in the law, that being a ſtudy probably too dry and unentertaining to be attended to by a man of his fertile and ſprightly genius. And indeed, we ſhould ſcarcely be ſurpriſed to find that he had given no application to any ſtudy but poetry, nor attended on any court but that of the Muſes: but on the contrary, our admiration might fix itſelf in the oppoſite extreme, and fill us with aſtoniſhment at the extreme aſſiduity of his genius and rapidity of his pen, when we look back on the voluminouſneſs of his works, and then inquire into the time allowed him for them; works that might well have taken up a long life to have executed. For although, out of 53 plays which are collected together as the labours of theſe united authors, Mr Beaumont was concerned in much the greateſt part of them, yet he did not live to complete his 30th year, the king of terrors ſummoning him away in the beginning of March, 1615, on the 9th day of which he was interred in the entrance of St Benedict's chapel in Weſtminſter-Abbey. There is no inſcription on his tomb: But there are two epitaphs to his memory; one by his elder brother Sir John Beaumont:

On death, thy murderer, this revenge I take;
I ſlight his terrors, and juſt queſtion make,
Which of us two the beſt precedence have,
Mine to this wretched world, thine to the grave?
Thou ſhould'ſt have followed me; but death, to blame,
Miſcounted years, and meaſur'd age by fame.
So dearly haſt thou bought thy precious lines;
Their praiſe grew ſwiftly, ſo thy life declines,
Thy muſe, the hearer's queen, the readers love,
All ears, all hearts (but death's) could pleaſe and move.
Boſworth Field, p. 164.

The other is by Biſhop Corbet. (*Poems*, p. 68.)

He that hath ſuch acuteneſs and ſuch wit,
As would aſk ten good heads to huſband it:
He that can write ſo well, that no man dare
Reſume it for the beſt; let him beware:
Beaumont is dead, by whoſe ſole death appears,
Wit's a diſeaſe conſumes men in few years.

He left a daughter, Frances Beaumont, who died in Leiceſterſhire ſince the year 1700. She had in her poſſeſſion ſeveral poems of her father's writing; but they were loſt at ſea in her voyage from Ireland, where ſhe had lived for ſome time in the Duke of Ormond's family.

Mr John Fletcher was not more meanly deſcended than his poetical colleague; his father, the reverend Dr Fletcher, having been firſt made biſhop of Briſtol by queen Elizabeth, and afterwards by the ſame monarch, in the year 1593, tranſlated to the rich and honourable ſee of London. Our poet was born in 1576; and was, as well as his friend, educated at Cambridge, where he made a great proficiency in his ſtudies, and was accounted a very good ſcholar. His natural vivacity of wit, for which he was remarkable, ſoon rendered him a devotee to the muſes; and his cloſe attention to their ſervice, and fortunate connection with a genius equal to his own, ſoon raiſed him to one of the higheſt places in the temple of poetical fame. As he was born near ten years before Mr Beaumont, ſo did he alſo ſurvive him by an equal number of years; the general calamity of a plague, which happened in the year 1625, involving him in its great deſtruction, he being at that time 49 years of age.

During the joint lives of theſe two great poets, it appears that they wrote nothing ſeparately, excepting one little piece by each, which ſeemed of too trivial a nature for either to require aſſiſtance in, *viz.* The Faithful Shepherd, a paſtoral, by Fletcher; and The Maſque of Gray's-Inn Gentlemen, by Beaumont. Yet what ſhare each had in the writing or deſigning of the pieces thus compoſed by them jointly, there is no poſſibility of determining. It is however generally allowed, that Fletcher's peculiar talent was *wit* and Beaumont's, though much the younger man, *judgment.* Nay, ſo extraordinary was the latter property in Mr Beaumont, that it is recorded of the great Ben Johnſon, who ſeems moreover to have had a ſufficient degree of ſelf-opinion of his own abilities, that he conſtantly, ſo long as this gentleman lived, ſubmitted his own writings to his cenſure, and, as it is thought, availed himſelf of his judgment at leaſt in the correcting, if not even in the contriving all his plots. It is probable, therefore, that the forming the plots and contriving the conduct of the fable, the writing of the more ſerious and pathetic parts, and lopping the redundant branches of Fletcher's wit, whoſe luxuriance, we are told, frequently ſtood in need of caſtigation, might be in general Beaumont's portion in the work; while Fletcher, whoſe converſation with the *beau monde* (which indeed both of them from their births and ſtations in life had been ever accuſtomed to), added to the volatile and lively turn he poſſeſſed, rendered him perfectly maſter of dialogue and polite language, might execute the deſigns formed by the other, and raiſe the ſuperſtructure of thoſe lively and ſpirited ſcenes which Beaumont had only laid the foundation of; and in this he was ſo ſucceſsful, that though his wit and raillery were extremely keen and poignant, yet they were at the ſame time ſo perfectly genteel, that they uſed rather to pleaſe than diſguſt the very perſons on whom they ſeemed to reflect. Yet that Fletcher was not entirely excluded from a ſhare in the conduct of the drama, may be gathered from a ſtory related by Winſtanley, *viz.* that our two bards having concerted the rough draught of a tragedy over a bottle of wine at a tavern, Flecher ſaid, he would undertake to *kill the king*, which words being overheard by the waiter who had not happened to have been witneſs to the context of their converſation, he lodged an information of treaſon againſt them. But on their explanation of it only to mean the deſtruction of a theatrical monarch, their loyalty moreover being unqueſtioned, the affair ended in a jeſt.

On the whole, the works of theſe authors have undoubtedly very great merit, and ſome of their pieces deſervedly ſtand on the liſt of the preſent ornaments of the theatre. The plots are ingenious, intereſting, and well managed; the characters ſtrongly marked; and the dialogue ſprightly and natural: yet there is in the latter a coarſeneſs which is not ſuitable to the politeneſs of the preſent age: and a fondneſs of repartee, which frequently runs into obſcenity; and which we may ſuppoſe was the vice of that time, ſince even the delicate Shakeſpeare himſelf is not entirely free from it. But as theſe authors have more of that kind of wit than the laſt-mentioned writer, it is not to be wondered if their works were, in the licentious reign of Charles II. preferred to his. Now, however, to the honour of the preſent taſte be it ſpoken, the tables are entirely turned; and while Shakeſpeare's immortal works are our conſtant and daily fare, thoſe of Beaumont and Fletcher, though delicate in their kind, are only occaſionally ſerved up; and even then great pains are taken to clear them of that *fumet*, which the *haut gout* of their contemporaries conſidered as their ſupremeſt reliſh, but which the more undepraved taſte of ours has been juſtly taught to look on, as what it really is, no more than a corrupt and unwholeſome taint.

Some of their plays were printed in quarto during the lives of the authors; and in the year 1645 there was publiſhed in folio a collection of ſuch plays as had not been printed before, amounting to between 30 and 40. This collection was publiſhed by Mr Shirley, after the ſhutting up of the theatres, and dedicated to the Earl of Pembroke by ten of the moſt famous actors. In 1679 there was an edition of all their plays publiſhed in folio; another edition in 1711 by Mr Tonſon in ſeven volumes 8vo, and the laſt in 1751.

BEAUMONT, a town of the Netherlands, in Hainault, on the confines of the territory of Liege. It was ceded to the French in 1684, and taken in 1691 by the Engliſh, who blew up the caſtle. It is ſituated between the rivers Maeſe and Sambre, in E. Long. 4. 1. N. Lat. 50. 12.

BEAUMONT le Roger, a town of Upper Normandy in France. E. Long. 0. 56. N. Lat. 49. 2.

BEAUMONT le Vicompte, a town of Maine in France. E. Long. 0. 10. N. Lat. 48. 12.

BEAUMONT ſur Oiſe, a town in the Iſle of France, ſeated on the declivity of a hill, with a bridge over the river Oiſe. E. Long. 2. 29. N. Lat. 49. 9.

BEAUNE, a handſome town of France, in Burgundy, remarkable for its excellent wine, and for an hoſpital founded here in 1443. Its collegiate church is alſo one of the fineſt in France: the great altar is adorned with a table enriched with jewels; and its organs are placed on a piece of architecture which is the admiration of the curious. E. Long. 4. 50. N. Lat. 47. 2.

BEAUSOBRE (Iſaac de), a very learned Proteſtant writer, of French original, was born at Niort in 1659. He was forced into Holland to avoid the execution of a ſentence upon him, which condemned him to make the *amende honourable*; and this for having broken the royal ſignet, which was put upon the door of a church of the Reformed, to prevent the public profeſſion of their religion. He went to Berlin in 1694; was made chaplain to the king of Pruſſia, and counſellor of the royal conſiſtory. He died in 1738, aged 79, after having publiſhed ſeveral works; as, 1. *Defenſe de la Doctrine des Reformes*. 2. A Tranſlation of the New Teſtament and Notes, jointly with M. Lenfant, much eſteemed by the Reformed. 3. *Diſſertation ſur les Adamites de Boheme*; a curious work. 4. *Hiſtoire Critique de Manichee et du Manicheiſme*, 2 tom. in 4to. This has been deemed by philoſophers an intereſting queſtion, and nobody has developed it better than this author. 5. Several diſſertrtions in the *Bibliotheque Britannique*.—Mr Beauſobre had ſtrong ſenſe with profound erudition, and was one of the beſt writers among the Reformed; he preached as he wrote, and he did both with warmth and ſpirit.

BEAUTY, in its native ſignification, is appropriated to objects of ſight. Objects of the other ſenſes may be agreeable, ſuch as the ſounds of muſical inſtruments, the ſmoothneſs and ſoftneſs of ſome ſurfaces; but the agreeableneſs called *beauty* belongs to objects of ſight.

Objects of ſight are more complex than thoſe of any other ſenſe: in the ſimpleſt, we perceive colour, figure, length, breadth, thickneſs. A tree is compoſed of a trunk, branches, and leaves; it has colour, figure, ſize, and ſometimes motion: by means of each of theſe particulars, ſeparately conſidered, it appears beautiful; but a complex perception of the whole greatly augments the beauty of the object. The human body is a compoſition of numberleſs beauties ariſing from the parts and qualities of the object, various colours, various motions, figures, ſize, &c. all united in one complex object, and ſtriking the eye with combined force. Hence it is, that beauty, a quality ſo remarkable in viſible objects, lends its name to every thing that is eminently agreeable. Thus, by a figure of ſpeech, we ſay, a *beautiful ſound*, a *beautiful thought*, a *beautiful diſcovery*, &c.

Elements of Criticiſm.

Conſidering attentively the beauty of viſible objects, two kinds are diſcovered. The firſt may be termed *intrinſic* beauty, becauſe it is diſcovered in a ſingle object, without relation to any other: the other may be termed *relative*, being founded on the relation of objects. Intrinſic beauty is a perception of ſenſe merely; for to perceive the beauty of a ſpreading oak, or of a flowing river, no more is required but ſingly an act of viſion. Relative beauty is accompanied with an act of underſtanding and reflection: for we perceive not the relative beauty of a fine inſtrument or engine until we learn its uſe and deſtination. In a word, intrinſic beauty is ultimate; and relative beauty is that of means relating to ſome good end or purpoſe. Theſe different beauties agree in one capital circumſtance, that both are equally perceived as belonging to the object; which will be readily admitted with reſpect to intrinſic beauty, but is not ſo obvious with reſpect to the other. The utility of the plough, for example may make it an object of admiration or of deſire; but why would utility make it beautiful? A natural propenſity of the human mind will explain this difficulty: By an eaſy tranſition of ideas, the beauty of the effect is transferred to the cauſe, and is perceived as one of the qualities of the cauſe. Thus a ſubject void of intrinſic beauty appears beautiful by its utility; a dwelling-houſe void of all regularity is however beautiful in the view of convenience; and the want of ſymmetry in a tree will not prevent its appearing beautiful, if it be known to produce good fruit.

When theſe two beauties concur in any object, it appears delightful. Every member of the human body poſſeſſes both in a high degree.

The beauty of utility, being accurately proportioned to the degree of utility, requires no illuſtration: But intrinſic beauty, being more complex, cannot be handled diſtinctly without being analyſed. If a tree be beautiful by means of its colour, figure, motion, ſize, &c. it is in reality poſſeſſed of ſo many different beauties. The beauty of colour is too familiar to need explanation. The beauty of figure is more: for example, viewing any body as a whole, the beauty of its figure ariſes from regularity and ſimplicity; viewing the parts with relation to each other, uniformity, proportion, and order, contribute to its beauty. The beauties of grandeur and motion are conſidered ſeparately. See GRANDEUR and MOTION.

We ſhall here make a few obſervations on ſimplicity, which may be of uſe in examining the beauty of ſingle objects. A multitude of objects crowding into the mind at once, diſturb the attention, and paſs without making any laſting impreſſion: In the ſame manner, even a ſingle object conſiſting of a multiplicity of parts, equals not, in ſtrength of impreſſion, a more ſimple object comprehended in one view. This juſtifies ſimplicity in works of art, as oppoſed to complicated circumſtances and crowded ornaments.

It would be endleſs to enumerate the effects that are produced by the various combinations of the principles of beauty. A few examples will be ſufficient to give the reader ſome idea of this ſubject. A circle and a ſquare are each perfectly regular: a ſquare, however, is leſs beautiful than a circle; and the reaſon is, that the attention is divided among the ſides and angles of a ſquare; whereas the circumference of a circle, being a ſingle object, makes one entire impreſſion: And thus ſimplicity contributes to beauty. For the ſame reaſon a ſquare is more beautiful than a hexagon or octagon. A ſquare is likewiſe more beautiful than a parallelogram, becauſe it is more regular and uniform. But this holds with reſpect to intrinſic beauty only: for in many inſtances, as in the doors and windows of a dwelling-houſe, utility turns the ſcales on the ſide of the parallelogram.

Again, a parallelogram depends, for its beauty, on the proportion of its ſides: A great inequality of its ſides annihilates its beauty: Approximation toward equality hath the ſame effect; for proportion there degenerates into imperfect uniformity, and the figure appears an unſucceſsful attempt toward a ſquare. And hence proportion contributes to beauty.

An equilateral triangle yields not to a ſquare in regularity nor in uniformity of parts, and it is more ſimple. But an equilateral triangle is leſs beautiful than a ſquare; which muſt be owing to inferiority of order in the poſition of its parts; the order ariſing from the equal inclination of the ſides of ſuch an angle is more obſcure than the paralleliſm of the ſides of a ſquare. And hence order contributes to beauty not leſs than ſimplicity, regularity, or proportion.

Uniformity is ſingular in one circumſtance, that it is apt to diſguſt by exceſs. A number of things deſtined for the ſame uſe, as windows, chairs, &c. cannot be too uniform. But a ſcrupulous uniformity of parts in a large garden or field is far from being agreeable.

In all the works of nature ſimplicity makes a capital figure. It alſo makes a figure in works of art: Profuſe ornament in painting, gardening, or architecture, as well as in dreſs or in language, ſhows a mean or corrupted taſte. Simplicity in behaviour and manners has an inchanting effect, and never fails to gain our affection. Very different are the artificial manners of modern times. A gradual progreſs from ſimplicity to complex forms and profuſe ornament, ſeems to be the fate of all the fine arts; reſembling behaviour, which from original candour and ſimplicity has degenerated into duplicity of heart and artificial refinements. At preſent, literary productions are crowded with words, epithets, figures: In muſic, ſentiment is neglected for the luxury of harmony, and for difficult movement.

With regard to the final cauſe of beauty, one thing is evident, that our reliſh of regularity, uniformity, proportion, order, and ſimplicity, contributes greatly to enhance the beauty of the objects that ſurround us, and of courſe tends to our happineſs. We may be confirmed in this thought, upon reflecting, that our taſte for theſe particulars is not accidental, but uniform and univerſal, making a branch of our nature. At the ſame time, regularity, uniformity, order, and ſimplicity, contribute each of them to readineſs of apprehenſion, and enable us to form more diſtinct ideas of objects than can be done where theſe particulars are wanting. In ſome inſtances, as in animals, proportion is evidently connected with utility, and is the more agreeable on that account.

Beauty, in many inſtances, promotes induſtry; and as it is frequently connected with utility, it proves an additional incitement to enrich our fields and improve our manufactures. Theſe, however, are but ſlight effects, compared with the connections that are formed among individuals in ſociety by means of beauty. The qualifications of the head and heart are undoubtedly the moſt ſolid and moſt permanent foundations of ſuch connections: But as external beauty lies more in view, and is more obvious to the bulk of mankind, than the qualities now mentioned, the ſenſe of beauty has a more extenſive influence in forming theſe connections. At any rate, it concurs in an eminent degree with mental qualifications, in producing ſocial intercourſe, mutual good-will, and conſequently mutual aid and ſupport, which are the life of ſociety: it muſt not however be overlooked, that the ſenſe of beauty does not tend to advance the intereſts of ſociety, but when in a due mean with reſpect to ſtrength. Love, in particular, ariſing from a ſenſe of beauty, loſes, when exceſſive, its ſocial character: the appetite for gratification, prevailing over affection for the beloved object, is ungovernable, and tends violently to its end, regardleſs of the miſery that muſt follow. Love, in this ſtate, is no longer a ſweet agreeable paſſion: it becomes painful, like hunger or thirſt; and produceth no happineſs, but in the inſtant of fruition. This ſuggeſts an important leſſon, that moderation in our deſires and appetites, which fits us for doing our duty, contributes at the ſame time the moſt to happineſs; even ſocial paſſions, when moderate, are more pleaſant than when they ſwell beyond proper bounds.

Human or Perſonal BEAUTY, only ſlightly touched upon in the preceding article, merits more particular diſcuſſion; and may be conſidered under theſe four heads: Colour, Form, Expreſſion, and Grace; the two former being, as it were, the Body, the two latter the Soul, of beauty.

1. *Colour*. Although this be the loweſt of all the conſtituent parts of beauty, yet it is vulgarly the moſt ſtriking, and the moſt obſerved. For which there is

a very obvious reaſon to be given; that "every body can ſee, and very few can judge;" the beauties of colour requiring much leſs of judgment than either of the other three.

As to the colour of the body in general, the moſt beautiful perhaps that ever was imagined, was that which Apelles expreſſed in his famous Venus; and which, though the picture itſelf be loſt, Cicero has in ſome degree preſerved to us, in his excellent deſcription of it. It was (as we learn from him) a fine red, beautifully intermixed and incorporated with white; and diffuſed, in its due proportions, through each part of the body. Such are the deſcriptions of a moſt beautiful ſkin, in ſeveral of the Roman poets; and ſuch often is the colouring of Titian, and particularly in his ſleeping Venus, or whatever other beauty that charming piece was meant to repreſent.

The reaſon why theſe colours pleaſe ſo much, is not only their natural livelineſs, nor the much greater charms they obtain from their being properly blended together, but is alſo owing in ſome degree to the idea they carry with them of good health; without which all beauty grows languid and leſs engaging; and with which it always recovers an additional life and luſtre.

As to the colour of the face in particular, a great deal of beauty is owing (beſide the cauſes already mentioned) to variety; that being deſigned by nature for the greateſt concourſe of different colours, of any part in the human body. Colours pleaſe by oppoſition; and it is in the face that they are the moſt diverſified, and the moſt oppoſed.

It is an obſervation apparenly whimſical, but perhaps not unjuſt, that the ſame thing which makes a fine evening, makes a fine face; that is, as to the particular part of beauty now under conſideration.

The beauty of an evening ſky, about the ſetting of the ſun, is owing to the variety of colours that are ſcattered along the face of the heavens. It is the fine red clouds, intermixed with white, and ſometimes darker ones, with the azure bottom appearing here and there between them, which make all that beautiful compoſition that delights the eye ſo much, and gives ſuch a ſerene pleaſure to the heart. In the ſame manner, if you conſider ſome beautiful faces, you may obſerve, that it is much the ſame variety of colours which gives them that pleaſing look; which is ſo apt to attract the eye, and but too often to engage the heart. For all this ſort of beauty is reſolvable into a proper variation of fleſh colour and red, with the clear blueneſs of the veins pleaſingly intermixed about the temples and the going off of the cheeks, and ſet off by the ſhades of full eye-brows; and of the hair, when it falls in a proper manner round the face.

It is for much the ſame reaſon that the beſt landſcape-painters have been generally obſerved to chooſe the autumnal part of the year for their pieces, rather than the ſpring. They prefer the variety of ſhades and colours, though in their decline, to all their freſhneſs and verdure in their infancy; and think all the charms and livelineſs even of the ſpring, more than compenſated by the choice, oppoſition, and richneſs of colours, that appear almoſt on every tree in the autumn.

Though one's judgment is apt to be guided by particular attachments (and that more perhaps in this part of beauty than any other), yet the general perſuaſion ſeems well founded, that a complete brown beauty is really preferable to a perfect fair one; the bright brown giving a luſtre to all the other colours, a vivacity to the eyes, and a richneſs to the whole look, which one ſeeks in vain in the whiteſt and moſt tranſparent ſkins. Raphael's moſt charming Madonna is a brunette beauty; and his earlier Madonnas (or thoſe of his middle ſtyle) are generally of a lighter and leſs pleaſing complexion. All the beſt artiſts in the nobleſt age of painting, about Leo the tenth's time, uſed this deeper and richer kind of colouring; and perhaps one might add, that the glaring lights introduced by Guido, went a great way towards the declenſion of that art; as the enfeebling of the colours by Carlo Marat (or his followers) hath ſince almoſt completed the fall of it in Italy.

Under this article colour, it ſeems doubtful whether ſome things ought not to be comprehended which are not perhaps commonly meant by that name: As that appearing ſoftneſs or ſilkineſs of ſome ſkins; that (A) Magdalen look in ſome fine faces, after weeping; that brightneſs, as well as tint, of the hair; that luſtre of health that ſhines forth upon the features; that luminouſneſs that appears in ſome eyes, and that fluid fire, or gliſtering, in others: Some of which are of a nature ſo much ſuperior to the common beauties of colour, that they make it doubtful whether they ſhould not have been ranked under a higher claſs, and reſerved for the expreſſion of the paſſions. They are, however, mentioned here; becauſe even the moſt doubtful of them appear to belong partly to this head, as well as partly to the other.

2. *Form.* This takes in the turn of each part, as well as the ſymmetry of the whole body, even to the turn of an eye-brow, or the falling of the hair. Perhaps too, the attitude, while fixed, ought to be reckoned under this article: By which is not only meant the poſture of the perſon, but the poſition of each part; as the turning of the neck, the extending of the hand, the placing of a foot; and ſo on to the moſt minute particulars.

The general cauſe of beauty in the form or ſhape in both ſexes is a proportion, or an union and harmony, in all parts of the body.

The diſtinguiſhed character of beauty in the female form, is delicacy and ſoftneſs; and in the male, either apparent

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(A) The look here meant is moſt frequently expreſſed by the beſt painters in their Magdalens; in which, if there were no tears on the face, you would ſee, by the humid redneſs of the ſkin, that ſhe had been weeping extremely. There is a very ſtrong inſtance of this in a Magdalen by Le Brun, in one of the churches at Paris; and ſeveral by Titian, in Italy; the very beſt of which is at the Barberino palace at Venice. In ſpeaking of which, Roſalba hardly went too far, when ſhe ſaid, "It wept all over;" or (in the very words ſhe uſed) "Elle pleure juſqu' aux bouts de doigts."

apparent ſtrength or agility. The fineſt exemplars that can be ſeen for the former, is the Venus of Medici; and for the two latter, the Hercules Farneſe and the Apollo Belvedere.

There is one thing indeed in the laſt of theſe figures which exceeds the bounds of our preſent inquiry; what an Italian artiſt called *Il ſovra umano*; and what we may call the tranſcendent, or celeſtial. It is ſomething diſtinct from all human beauty, and of a nature greatly ſuperior to it; ſomething that ſeems like an air of divinity: Which is expreſſed, or at leaſt is to be traced out, in but very few works of the artiſts; and of which ſcarce any of the poets have caught any ray in their deſcriptions (or perhaps even in their imagination), except Homer and Virgil, among the ancients; and Shakeſpeare and Milton among the moderns.

The beauty of the mere human form is much ſuperior to that of colour; and it may be partly for this reaſon, that when one is obſerving the fineſt works of the artiſts at Rome (where there is ſtill the nobleſt collection of any in the world), one feels the mind more ſtruck and more charmed with the capital ſtatues, than with the pictures of the greateſt maſters.

One of the old Roman poets, in ſpeaking of a very handſome man, who was candidate for the prize in ſome of the public games, ſays, that he was much expected and much admired by all the ſpectators at his firſt appearance; but that, when he flung off his robes, and diſcovered the whole beauty of his ſhape altogether, it was ſo ſuperior, that it quite extinguiſhed the beauties they had before ſo much admired in his face. Much the ſame effect may be felt in viewing the Venus of Medici. If you obſerve the face only, it appears extremely beautiful; but if you conſider all the other elegancies of her make, the beauty of her face becomes leſs ſtriking, and is almoſt loſt in ſuch a multiplicity of charms.

Statius. Theb. vi. 573.

Whoever would learn what makes the beauty of each part of the human body, may find it laid down pretty much at large, by (c) *Felibien*; or may ſtudy it with more pleaſure to himſelf, in the fineſt pictures and ſtatues; for in life we commonly ſee but a ſmall part of the human body, moſt of it being either diſguiſed or altered by what we call dreſs.

In fact we do not only thus, in a great meaſure, hide beauty; but even injure, and kill it, by ſome parts of dreſs. A child is no ſooner born into the world, than it is bound up, almoſt as firmly as an old Egyptian mummy, in ſeveral folds of linen. It is in vain for him to give all the ſigns of diſtreſs that nature has put in his power, to ſhow how much he ſuffers whilſt they are thus impriſoning his limbs; or all the ſigns of joy, every time they are ſet at liberty. In a few minutes, the old witch who preſides over his infirmeſt days, falls to tormenting him afreſh, and winds him up again in his deſtined confinement. When he comes to be dreſt like a man, he has ligatures applied to his arms, legs, and middle; in ſhort, all over him; to prevent the natural circulation of his blood, and make him leſs active and healthy: and if it be a child of the tender ſex, ſhe muſt be bound yet more ſtraitly a-

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(c) In his *Entretiens*, vol. ii. p. 14—45. The chief of what he ſays there, on the beauty of the different parts of the female form, is as follows: That the head ſhould be well rounded; and look rather inclining to ſmall than large. The forehead, white, ſmooth, and open (not with the hair growing down too deep upon it); neither flat nor prominent, but like the head, well rounded; and rather ſmall in proportion than large. The hair, either bright, black, or brown; not thin, but full and waving; and if it falls in moderate curls the better. The black is particularly uſeful for ſetting off the whiteneſs of the neck and ſkin. The eyes, black, cheſnut, or blue; clear, bright, and lively: and rather large in proportion than ſmall. The eye-brows, well divided, rather full than thin, ſemicircular, and broader in the middle than at the ends; of a neat turn, but not formal. The cheeks ſhould not be wide; ſhould have a degree of plumpneſs, with the red and white finely blended together; and ſhould look firm and ſoft. The ear ſhould be rather ſmall than large; well folded, and with an agreeable tinge of red. The noſe ſhould be placed ſo as to divide the face into two equal parts; ſhould be of a moderate ſize, ſtrait, and well-ſquared; though ſometimes a little riſing in the noſe, which is but juſt perceivable, may give a very graceful look to it. The mouth ſhould be ſmall; and the lips not of equal thickneſs: They ſhould be well turned, ſmall rather than groſs; ſoft, even to the eye; and with a living red in them. A truly pretty mouth is like a roſe-bud that is beginning to blow. The teeth ſhould be middle-ſized, white, well ranged, and even. The chin of a moderate ſize; white, ſoft, and agreeably rounded. The neck ſhould be white, ſtraight, and of a ſoft, eaſy, and flexible make, rather long than ſhort; leſs above, and encreaſing gently toward the ſhoulders: The whiteneſs and delicacy of its ſkin ſhould be continued, or rather go on improving to the boſom. The ſkin in general ſhould be white, properly tinged with red; with an apparent ſoftneſs, and a look of thriving health in it. The ſhoulders ſhould be white, gently ſpread, and with a much ſofter appearance of ſtrength than in thoſe of men. The arm ſhould be white, round, firm, and ſoft; and more particularly ſo from the elbow to the hands. The hand ſhould unite inſenſibly with the arm; juſt as it does in the ſtatue of the Venus of Medici. They ſhould be long and delicate, and even the joints and nervous parts of them ſhould be without either any hardneſs or dryneſs. The fingers ſhould be fine, long, round, and ſoft; ſmall, and leſſening towards the tips of them: And the nails long, rounded at the ends, and pellucid. The boſom ſhould be white and charming; and the breaſts equal in roundneſs, whiteneſs, and firmneſs; neither too much elevated nor too much depreſſed; riſing gently, and very diſtinctly ſeparated; in one word, juſt like thoſe of the Venus of Medici. The ſides ſhould be long, and the hips wider than the ſhoulders; and ſhould turn off as they do in the ſame Venus; and go down rounding and leſſening gradually to the knee. The knee ſhould be even, and well rounded; the legs ſtraight, but varied by a proper rounding of the more fleſhy part of them; and the feet finely turned, white, and little.

bout the waiſt and ſtomach, to acquire a diſproportion that nature never meant in her ſhape.

The two other conſtituent parts of beauty, are expreſſion and grace; the former of which is common to all perſons and faces, and the latter is to be met with in very few.

3. *Expreſſion.* By this is meant the expreſſion of the paſſions; the turns and changes of the mind, ſo far as they are made viſible to the eye by our looks or geſtures.

Though the mind appears principally in the face and attitudes of the head; yet every part almoſt of the human body, on ſome occaſion or other, may become expreſſive. Thus the languiſhing hanging of the arm, or the vehement exertion of it; the pain expreſſed by the fingers of one of the ſons in the famous groupe of Laocoon, and in the toes of the dying gladiator. But this again is often loſt among us by our dreſs; and indeed is of the leſs concern, becauſe the expreſſion of the paſſions paſſes chiefly in the face, which we (by good luck) have not as yet concealed.

The parts of the face in which the paſſions moſt frequently make their appearance, are the eyes and mouth; but from the eyes, they diffuſe themſelves very ſtrongly about the eye-brows; as, in the other caſe, they appear often in the parts all round the mouth.

Philoſophers may diſpute as much as they pleaſe about the ſeat of the ſoul; but wherever it reſides, we are ſure that it ſpeaks in the eyes. Perhaps it is injuring the eye-brows, to make them only dependents on the eye; for they, eſpecially in lively faces, have, as it were, a language of their own; and are extremely varied, according to the different ſentiments and paſſions of the mind.

Degree of diſpleaſure may be often diſcerned in a lady's eye-brow, though ſhe have addreſs enough not to let it appear in her eyes; and at other times may be diſcovered ſo much of her thoughts, in the line juſt above her eye-brows, that ſhe would probably be amazed how any body could tell what paſſed in her mind, and (as ſhe thought) undiſcovered by her face, ſo particularly and diſtinctly.

Homer makes the eye-brows the ſeat of (D) majeſty, Virgil of (E) dejection, Horace of (F) modeſty, and Juvenal of (G) pride; and it is not certain whether every one of the paſſions be not aſſigned, by one or other of the poets, to the ſame part.

Having hitherto ſpoken only of the paſſions in general, we will now conſider a little which of them add to beauty, and which of them take from it.

We may ſay, in general, that all the tender and kind paſſions add to beauty; and all the cruel and unkind ones add to deformity: And it is on this account that good nature may very juſtly be ſaid to be "the beſt feature even in the fineſt face."

Mr Pope has included the principal paſſion of each ſort in two very pretty lines:

> Love, hope, and joy, fair pleaſure's ſmiling train;
> Hate, fear, and grief, the family of pain.

The former of which naturally give an additional luſtre and enlivening to beauty; as the latter are too apt to fling a gloom and cloud over it.

Yet in theſe, and all the other paſſions, moderation ought perhaps to be conſidered in a great meaſure the rule of their beauty, almoſt as far as moderation in actions is the rule of virtue. Thus an exceſſive joy may be too boiſterous in the face to be pleaſing; and a degree of grief, in ſome faces, and on ſome occaſions, may be extremely beautiful. Some degrees of anger, ſhame, ſurpriſe, fear, and concern are beautiful; but all exceſs is hurtful, and all exceſs ugly. Dulneſs, auſterity, impudence, pride, affectation, malice, and envy, are always ugly.

The fineſt union of paſſions that can perhaps be obſerved in any face, conſiſts of a juſt mixure of modeſty, ſenſibility, and ſweetneſs; each of which when taken ſingly is very pleaſing: but when they are all blended together, in ſuch a manner as either to enliven or correct each other, they give almoſt as much attraction as the paſſions are capable of adding to a very pretty face.

The prevailing paſſion in the Venus of Medici is modeſty: It is expreſt by each of her hands, in her looks, and in the turn of her head. And by the way, it may be queſtioned, whether one of the chief reaſons why ſide-faces pleaſe one more than full ones, be not from the former having more of the air of modeſty than the latter. This at leaſt is certain, that the beſt artiſts uſually chooſe to give a ſide-face rather than a full one: in which attitude, the turn of the neck too has more beauty, and the paſſions more activity and force. Thus, as to hatred and affection in particular, the look that was formerly ſuppoſed to carry an infection with it from malignant eyes, was a ſlanting regard; like that which

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(D) Η, και κυανεησιν επ’ οφρυσινευσε Κρονιων.
Αμϐροσιαι δ’ αρα χαιται επερρωσαντο ανακτος
Κρατος απ’ αθανατοιο· μεγαν δ’ ελελιξεν Ολυμπον. Ιλ. α. 528.

It was from this paſſage that Phidias borrowed all the ideas of that majeſty which he had expreſſed ſo ſtongly in his famous ſtatues of the Jupiter Olympus; and Horace, probably, his ——Cuncta ſupercilio moventis. *Lib.* iii. *Od.* 1. 8.

(E) Frons læta parum, et dejecto lumina vultu. *Virgil, Æn.* vi. 863.

(F) Deme ſupercilio nubem; plerumque modeſtus
Occupat obſcuri ſpeciem. *Horat.* lib. i. Epiſt. 18. 95.

(G) Malo Venuſinam, quam te, Cornelia, mater
Gracchorum; ſi cum magnis virtutibus affers
Grande ſupercilium, et numeras in dote triumphos. *Juvenal, Sat.* vi. 168.

It is here that the Romans uſed the word *ſuperciliosſus* (as we do from it the word *ſupercilious*) for proud and arrogant perſons.

which Milton gives to Satan, when he is viewing the happineſs of our firſt parents in paradiſe; and the faſcination, or ſtroke of love, is moſt uſually conveyed, at firſt, in a ſide-glance.

It is owing to the great force of pleaſingneſs which attends all the kinder paſſions, "that lovers do not only ſeem, but are really, more beautiful to each other than they are to the reſt of the world;" becauſe when they are together, the moſt pleaſing paſſions are more frequently exerted in each of their faces than they are in either before the reſt of the world. There is then (as a certain French writer very well expreſſes it) "A ſoul upon their countenances," which does not appear when they are abſent from each other; or even when they are together converſing with other perſons, that are indifferent to them, or rather lay a reſtraint upon their features.

The ſuperiority which the beauty of the paſſions has over the two parts of beauty firſt mentioned, will probably be now pretty evident: or if this ſhould appear ſtill problematical to any one, let them conſider a little the following particulars, of which every body muſt have met with ſeveral inſtances in their lifetime. That there is a great deal of difference in the ſame face, according as the perſon is in a better or worſe humour, or in a greater or leſs degree of livelineſs: That the beſt complexion, the fineſt features, and the exacteſt ſhape, without any thing of the mind expreſſed on the face, are as inſipid and unmoving as the waxen figure of the fine Ducheſs of Richmond in Weſtminſter-Abbey: That the fineſt eyes in the world, with an exceſs of malice or rage in them, will grow as ſhocking as they are in that fine face of Meduſa on the famous ſeal in the Strozzi family at Rome: That a face without any good features in it, and with a very indifferent complexion, ſhall have a very taking air; from the ſenſibility of the eyes, the general good-humoured turn of the look, and perhaps a little agreeable ſmile about the mouth. And theſe three things perhaps would go a great way towards accounting for the *Je ne ſçai quoi*, or that inexplicable pleaſingneſs of the face (as they chooſe to call it), which is ſo often talked of and ſo little underſtood; as the greater part, and perhaps all the reſt of it, would fall under the laſt article, that of grace.

Thus it appears that the paſſions can give beauty without the aſſiſtance of colour or form; and take it away where they have united the moſt ſtrongly to give it. And hence the ſuperiority of this part of beauty to the other two.

This, by the way, may help us to account for the juſtneſs of what Pliny aſſerts in ſpeaking of the famous ſtatue of Laocoon and his two ſons: He ſays, it was the fineſt piece of art in Rome; and to be preferred to all the other ſtatues and pictures, of which they had ſo noble a collection in his time. It had no beauties of colours to vie with the paintings and other ſtatues there; as the Apollo Belvedere and the Venus of Medici, in particular, were as finely proportioned as the Laocoon: But this had much greater variety of expreſſion even than thoſe fine ones; and it muſt be on that account alone that it could have been preferable to them and all the reſt.

Before quitting this head, two things before mentioned deſerve to be repeated: That the chief rule of the beauty of the paſſions is moderation; and that the part in which they appear moſt ſtrongly is the eyes. It is there that love holds all his tendereſt language: It is there that virtue commands, modeſty charms, joy enlivens, ſorrow engages, and inclination fires the hearts of the beholders: It is there that even fear, and anger, and confuſion, can be charming. But all theſe, to be charming, muſt be kept within their due bounds and limits; for too ſullen an appearance of virtue, a violent and proſtitute ſwell of paſſion, a ruſtic and overwhelming modeſty, a deep ſadneſs, or too wild and impetuous a joy, become all either oppreſſive or diſagreeable.

4. The laſt finiſhing and nobleſt part of beauty is *Grace*; which every body is accuſtomed to ſpeak of as a thing inexplicable; and in a great meaſure perhaps it is ſo. We know that the ſoul is, but we ſcarce know what it is: every judge of beauty can point out grace; but no one ſeems even yet to have fixed upon a definition for it.

Grace often depends on ſome very little incidents in a fine face; and in action it conſiſts more in the manner of doing things than in the things themſelves. It is perpetually varying its appearance, and is therefore much more difficult to be conſidered than in any thing fixed and ſteady. While you look upon one, it ſteals from under the eye of the obſerver; and is ſucceeded perhaps by another that flits away as ſoon and as imperceptibly. It is on this account that grace is better to be ſtudied in Corregio's, Guido's, and Raphael's pictures, than in real life.

But though one cannot punctually ſay what grace is, we may point out the parts and things in which it is moſt apt to appear.

The chief dwelling-place of grace is about the mouth; though at times it may viſit every limb or part of the body. But the mouth is the chief ſeat of grace, as much as the chief ſeat for the beauty of the paſſions is in the eyes. Thus, when the French uſe the expreſſion of *une bouche fort gracieuſe*, they mean it properly of grace; but when they ſay *des yeux tres gracieux*, it then falls to the ſhare of the paſſions; and it means kind or favourable.

In a very graceful face, by which we do not ſo much mean a majeſtic as a ſoft and pleaſing one, there is now and then (for no part of beauty is either ſo engaging or ſo uncommon) a certain deliciouſneſs that almoſt always lives about the mouth, in ſomething not quite enough to be called a ſmile, but rather an approach toward one, which varies gently about the different lines there like a little fluttering Cupid, and perhaps ſometimes diſcovers a little dimple, that after juſt lightening upon you diſappears and appears again by fits.

The grace of attitudes may belong to the poſition of each part, as well as to the carriage or diſpoſition of the whole body: but how much more it belongs to the head than to any other part may be ſeen in the pieces of the moſt celebrated painters; and particularly in thoſe of Guido, who has been rather too laviſh in beſtowing this beauty on almoſt all his fine women; whereas nature has given it in ſo high a degree but to very few.

The turns of the neck are extremely capable of grace, and are very eaſy to be obſerved, though very difficult to be accounted for.

De arte Amandi, ii. 570.

How much of this grace may belong to the arms and feet, as well as the neck and head, may be ſeen in dancing. But it is not only in genteel motions that a very pretty woman will be graceful; and Ovid (who was ſo great a maſter in all the parts of beauty) had very good reaſon for ſaying, That when Venus, to pleaſe her gallant, imitated the hobbling gait of her huſband, her very lameneſs had a great deal of prettineſs and grace in it.

Tibullus, lib. iv. el. 2. 8.

“ Every motion of a graceful woman (ſays another writer of the ſame age) is full of grace.” She deſigns nothing by it perhaps, and may even not be ſenſible of it herſelf; and indeed ſhe ſhould not be ſo too much; for the moment that any geſture or action appears to be affected, it ceaſes to be graceful.

Horace and Virgil ſeem to extend grace ſo far as to the flowing of the hair, and Tibullus even to the dreſs of his miſtreſs; but then he aſſigns it more to her manner of putting on and appearing in whatever ſhe wears than to the dreſs itſelf. It is true, there is another wicked poet (Ovid) who has ſaid (with much leſs decency) “ that dreſs is the better half of the woman:”

——*Pars minima eſt ipſa puella ſui.* Ovid.

There are two very diſtinct (and, as it were, oppoſite) ſorts of grace; the majeſtic and the familiar. The former belongs chiefly to the very *fine* women, and the latter to the very *pretty* ones: *That* is more commanding, and *this* the more delightful and engaging. The Grecian painters and ſculptors uſed to expreſs the former moſt ſtrongly in the looks and attitudes of their Minervas, and the latter in thoſe of Venus.

Xenophon, in his Choice of Hercules (or at leaſt the excellent tranſlator of that piece) has made juſt the ſame diſtinction in the perſonages of wiſdom and pleaſure; the former of which he deſcribes as moving on to that young hero with the majeſtic ſort of grace; and the latter with the familiar:

Graceful, yet each with different grace they move;
This ſtriking ſacred awe, that ſofter winning love.

No poet ſeems to have underſtood this part of beauty ſo well as Milton. He ſpeaks of theſe two ſorts of grace very diſtinctly; and gives the majeſtic to his Adam, and both the familiar and majeſtic to Eve; but the latter in a leſs degree than the former:

Two of the far nobler ſhape, erect and tall,
Godlike erect, with native honour clad,
In naked majeſty, ſeem'd lords of all;
And worthy ſeem'd. For in their looks divine
The image of their glorious maker ſhone:
Truth, wiſdom, ſanctitude ſevere and pure:
Severe, but in true filial freedom plac'd;
Whence true authority in men: Though both
Not equal, as their ſex not equal, ſeem'd.
For contemplation he, and valour, form'd;
For ſoftneſs ſhe, and ſweet attractive grace.
Milton's Par. Loſt, B. iv. 298.

————I eſpied thee, fair indeed and tall,
Under a plantain; yet methought leſs fair,
Leſs winning ſoft, leſs amiably mild,
Than that ſmooth watery image.——
(*Eve, of Adam and herſelf*) *Ib.* ver. 480.

————————Her heav'nly form
Angelic, but more ſoft and feminine;
Her graceful innocence; her ev'ry air
Of geſture, or leaſt action.—— B. ix. 461.

Grace was in all her ſteps: Heav'n in her eye;
In every geſture, dignity and love. B. viii. 489.

Speaking, or mute, all comelineſs and grace
Attends thee; and each word, each motion forms.
Ib. 223.

Though grace is ſo difficult to be accounted for in general, yet there are two particular things which ſeem to hold univerſally in relation to it.

The firſt is, “ That there is no grace without motion,” that is, without ſome genteel or pleaſing motion, either of the whole body or of ſome limb, or at leaſt of ſome feature. And it may be hence that Lord Bacon calls grace by the name of decent motion; juſt as if they were equivalent terms: “ In beauty, that of favour is more than that of colour; and that of gracious and decent motion, more than that of favour.”

Works. vol. ii. p. 362.

Virgil in one place points out the majeſty of Juno, and in another the graceful air of Apollo, by only ſaying that they move; and poſſibly he means no more when he makes the motion of Venus the principal thing by which Æneas diſcovers her under all her diſguiſe; though the commentators, as uſual, would fain find out a more dark and myſterious meaning for it.

Æn. i. 46. iv. 147. *Æn.* i. 406.

All the beſt ſtatues are repreſented as in ſome action or motion; and the moſt graceful ſtatue in the world (the Apollo Belvedere) is ſo much ſo, that when one faces it at a little diſtance, one is almoſt apt to imagine that he is actually going to move on toward you.

All graceful heads, even in the portraits of the beſt painters, are in motion; and very ſtrongly on thoſe of Guido in particular; which are all either caſting their looks up towards heaven, or down towards the ground, or ſide-way, as regarding ſome object. A head that is quite unactive, and flung flat upon the canvas (like the faces on medals after the fall of the Roman empire, or the Gothic heads before the revival of the arts), will be ſo far from having any grace, that it will not even have any life in it.

The ſecond obſervation is, “ that there can be no grace with impropriety;” or, in other words, that nothing can be graceful that is not adapted to the characters of the perſon.

The graces of a little lively beauty would become ungraceful in a character of majeſty; as the majeſtic airs of an empreſs would quite deſtroy the prettineſs of the former. The vivacity that adds a grace to beauty in youth would give an additional deformity to old age; and the very ſame airs which would be charming on ſome occaſions may be quite ſhocking when extremely miſtimed or extremely miſplaced.

The inſeparable union of propriety and grace ſeems to have been the general ſenſe of mankind, as we may gueſs from the languages of ſeveral nations; in which ſome words that anſwer to our proper or becoming, are uſed indifferently for beautiful or graceful. Thus, among the Greeks, the words Πρεπον and Καλον, and among the Romans *pulchrum* and *decens*, or *decorum*, are uſed indifferently for one another.

It appears wrong, however, to think (as ſome have done) that grace conſiſts entirely in propriety; becauſe propriety is a thing eaſy enough to be underſtood, and grace (after all we can ſay about it) very difficult. Propriety, therefore, and grace are no more one and the ſame thing than grace and motion are. It is true, it cannot ſubſiſt without either: but then there ſeems tobe ſomething elſe, which cannot be explained, that goes to the compoſition, and which poſſibly may give its greateſt force and pleaſingneſs.

Whatever are the cauſes of it, this is certain, that grace is the chief of all the conſtituent parts of beauty; and ſo much ſo, that it ſeems to be the only one which is abſolutely and univerſally admired: All the reſt are only relative. One likes a brunette beauty better than a fair one; I may love a little woman, and you a large one, beſt; a perſon of a mild temper will be fond of the gentler paſſions in the face, and one of a bolder caſt may chooſe to have more vivacity and more vigorous paſſions expreſſed there: But grace is found in few, and is pleaſing to all. Grace, like poetry, muſt be born with a perſon, and is never wholly to be acquired by art. The moſt celebrated of all the ancient painters was Apelles; and the moſt celebrated of all the modern Raphael: And it is remarkable, that the diſtinguiſhing character of each of them was grace. Indeed, that alone could have given them ſo high a pre-eminence over all their other competitors.

Grace has nothing to do with the loweſt part of beauty or colour; very little with ſhape, and very much with the paſſions; for it is ſhe who gives their higheſt zeſt, and the moſt delicious part of their pleaſingneſs to the expreſſions of each of them.

All the other parts of beauty are pleaſing in ſome degree, but grace is pleaſingneſs itſelf. And the old Romans in general ſeem to have had this notion of it, as may be inferred from the original import of the names which they uſed for this part of beauty: *Gratia* from *gratus*, or "pleaſing;" and *decor* from *decens*, or "becoming."

The Greeks as well as the Romans muſt have been of this opinion; when in ſettling their mythology, they made the graces the conſtant attendants of Venus or the cauſe of love. In fact, there is nothing cauſes love ſo generally and ſo irreſiſtibly as grace. It is like the Ceſtus of the ſame goddeſs, which was ſuppoſed to comprehend every thing that was winning and engaging in it; and beſide all, to oblige the heart to love by a ſecret and inexplicable force like that of ſome magic charm.

> She ſaid, with awe divine, the queen of love
> Obey'd the ſiſter and the wife of Jove:
> And from her fragrant breaſt the zone unbrac'd,
> With various ſkill and high embroidery grac'd.
> In this was every art, and every charm,
> To win the wiſeſt, and the coldeſt warm:
> Fond love, the gentle vow, the gay deſire,
> The kind deceit, the ſtill reviving fire.
> Perſuaſive ſpeech, and more perſuaſive ſighs,
> Silence that ſpoke, and eloquence of eyes.
> This on her hand the Cyprian goddeſs laid;
> Take this, and with it all thy wiſh, ſhe ſaid:
> With ſmiles ſhe took the charm; and ſmiling preſt
> The pow'rful Ceſtus to her ſnowy breaſt.
>
> *Pope, Il.* xiv. 256.

Although people in general are more capable of judging right of beauty, at leaſt in ſome parts of it, than they are of moſt other things; yet there are a great many cauſes apt to miſlead the generality in their judgments of beauty. Thus, if the affection is entirely engaged by any one object, a man is apt to allow all perfections to that perſon, and very little in compariſon to any body elſe; or if they ever commend others highly, it is for ſome circumſtance in which they bear ſome reſemblance to their favourite object.

Again, people are very often miſled in their judgments, by a ſimilitude either of their own temper or perſonage in others. It is hence that a perſon of a mild temper is more apt to be pleaſed with the gentler paſſions in the face of his miſtreſs; and one of a very lively turn would chooſe more of ſpirit and vivacity in his; that little people are inclined to prefer pretty women, and larger people majeſtic ones; and ſo on in a great variety of inſtances. This may be called falling in love with ourſelves at ſecond hand; and ſelf-love (whatever other love may be) is ſometimes ſo falſe-ſighted, that it may make the moſt plain, and even the moſt diſagreeable things, ſeem beautiful and pleaſing.

Sometimes an idea of uſefulneſs may give a turn to our ideas of beauty; as the very ſame things are reckoned beauties in a coach-horſe which would be ſo many blemiſhes in a race-horſe.

But the greateſt and moſt general miſleader of our judgments, in relation to beauty, is cuſtom, or the different national taſtes for beauty, which turn chiefly on the two lower parts of it, colour and form.

It was from the moſt common ſhape of his countrywomen, that Rubens, in his pictures, delights ſo much in plumpneſs; not to give it a worſe name. Whenever he was to repreſent the moſt beautiful women, he is ſure to give them a good ſhare of corpulence. It ſeems as if nobody could be a beauty with him under two hundred weight. His very graces are all fat.

But this may go much farther than mere bulk; it will reach even to very great deformities; which ſometimes grow into beauties, where they are habitual and general. A certain Engliſhman (who was a particularly handſome man) in his travelling over the Alps, was detained by a fever in one of thoſe villages, where every grown perſon has that ſort of ſwellings in the neck which they call *goitres*; and of which ſome are very near as big as their heads. The firſt Sunday that he was able, he went to their church (for he was a Roman catholic) to return thanks to heaven for his recovery. A man of ſo good a figure, and ſo well dreſt, had probably never before been within the walls of that chapel. Every body's eyes were fixed upon him; and as they went out, they cried out loud enough for him to hear them, "O how completely handſome would that man be, if he had but a *goitre!*

In ſome of the moſt military nations of Africa, no man is reckoned handſome that has not five or ſix ſcars in his face. This cuſtom might poſſibly at firſt be introduced among them to make them leſs afraid of wounds in that part in battle: but however that was, it grew at laſt to have ſo great a ſhare in their idea of beauty, that they now cut and ſlaſh the faces of their poor little infants, in order to give them thoſe graces, when they are grown up, which are ſo neceſſary to win the hearts of their miſtreſſes; and which, with the aſſiſtance of ſome jewels or ingots of gold in their noſes, ears, and lips, muſt certainly be irreſiſtible to the ladies of that country.

The covering each cheek all over with a burning ſort of red colour, has long been looked upon in a neighbouring country to be as neceſſary to render a fine lady's face completely beautiful, as theſe ſcars are for the beaux in Africa.

The natural complexion of the Italian ladies is of a higher glow than ours uſually are; and yet Mr Addiſon is very juſt, in making a Numidian call the ladies of the ſame country *pale, unripened, beauties.*

> The glowing dames of Zama's royal court
> Have faces fluſht with more exalted charms:
> The ſun, that rolls his chariot o'er their heads,
> Works up more fire and colour in their cheeks:
> Were you with theſe, my prince, you'd ſoon forget
> The pale, unripen'd beauties of the north!
> *Syphax* to *Juba*; in *Cato*, Act i. Scene 4.

The prince of Anamaboo, who had been ſo long and lately ſo much uſed to the European complexion, yet ſaid of a certain lady a little before he left London, "That ſhe would be the moſt charming woman in the world if ſhe was but a negro."

In an account of ſome of the fartheſt travels that any Europeans have made up the river Gambia, we are informed, that when they came to ſome villages where probably no Europeans had ever been before, the women ran frightened and ſcreaming from them, on taking them to be devils, merely on account of the whiteneſs of their complexion.

We cannot avoid obſerving, however, that heaven is very good and merciful to mankind, even in making us capable of all this variety of miſtakes. If every perſon judged exactly right of beauty, every man that was in love in ſuch a diſtrict, would be in love with the ſame woman. The ſuperior beauty of each hamlet would be the object of the hate and malice of all the reſt of her own ſex in it, and the cauſe of diſſenſion and murders among all of the other. If this would hold in one town, it would hold for the ſame reaſons in every other town or diſtrict; and of courſe there would be nothing more wanting than this univerſal right judgement of beauty, to render the whole world one continued ſcene of blood and miſery.

But now that fancy has perhaps more to do with beauty than judgment, there is an infinity of taſtes, and conſequently an infinity of beauty; for to the mind of the lover, ſuppoſed beauty is full as good as real. Every body may now chooſe out what happens to hit his own turn and caſt. This increaſes the extent of beauty vaſtly, and makes it in a manner univerſal: for there are but few people in compariſon that are truly beautiful; but every body may be beautiful in the imagination of ſome one or other. Some may delight themſelves in a black ſkin, and others in a white; ſome in a gentle natural roſineſs of complexion, others in a high exalted artificial red; ſome nations in waiſts diſproportionably large, and another in waiſts as diſproportionably ſmall. In ſhort, the moſt oppoſite things imaginable may each be looked upon as beautiful in whole different countries, or by different people in the ſame country.

We ſhould perhaps make a diſtinction here again, as to the two former parts of beauty and the two latter. Fancy has much more to do in the articles of form and colour than in thoſe of the paſſions and grace. The good paſſions, as they are viſible on the face, are apparent goodneſs, and that muſt be generally amiable: and true grace, wherever it appears to any degree, one ſhould think muſt be pleaſing to every human creature; or perhaps this may never appear in the women of any nation, where the men are grown ſo ſavage and brutal as to have loſt all taſte for it.

Yet even as to grace itſelf, under the notion of pleaſingneſs, it may become almoſt univerſal, and be as ſubject to the dominion of fancy as any of the leſs ſignificant parts of beauty. A parent can ſee genteelneſs in the moſt aukward child perhaps that ever was born; and a perſon who is truly in love, will be pleaſed with every motion and air of the perſon beloved; which is the moſt diſtinguiſhing character that belongs to grace. It is true, this is all a miſtaken grace; but as to that particular perſon, it has all the effects of the true.

BEAUTY, in architecture, painting, and other arts, is the harmony and juſtneſs of the whole compoſition taken together.

BEAUVAIS, an epiſcopal city in the Iſle of France, and capital of the Beauvoiſis. The cathedral church is dedicated to St Peter, and is much admired for its fine architecture. It contains a great number of relics, and a library of curious books. There are ſeveral other churches, among which is one dedicated to St Stephen, remarkable for its curious windows. The town was ineffectually beſieged by the Engliſh in 1443, and by the Duke of Burgundy with an army of 80,000 men. In this laſt ſiege the women ſignalized themſelves under the conduct of Jeane Hachette, who ſet up a ſtandard yet preſerved in the church of the Jacobins. The Duke was obliged to raiſe the ſiege; and in memory of the womens exploits, they walk firſt in proceſſion on the 10th of July, the anniverſary of their deliverance. The inhabitants carry on a good trade in beautiful tapeſtry. Beauvais is ſituated on the river Therin, in E. Long. 2. 15. N. Lat. 49. 26.

BEAUVAIS, a town of France in Upper Languedoc, ſeated on the river Teſcou. E. Long. 1. 43. N. Lat. 44. 2.

BEAUVIN, a city of Burgundy in France, in E. Long. 4. 50. N. Lat. 47.

BEAUVOIR *ſur Mer*, a maritime town of Poictou, in France, with the title of Marquiſate. W. Long. 1. 5. N. Lat. 46. 45.

BEAUVOISIS, a territory of France, formerly part of Picardy, but now of the Iſle of France. Beauvais is the capital.

BEBELINGUEN, a town of Germany, in the duchy of Wirtemburg, ſeated on a lake from which proceeds the river Worm. E. Long. 9. 8. N. Lat. 48. 45.

BEBRYCIA, (anc. geog.), and ancient name of

Bithynia, ſo called from the Bebryces its inhabitants. The Bebryces were afterwards driven out by the Thracians, viz. the Bithyni and Thyni; from whom, in proceſs of time, the country took the name of *Bithynia*. See BITHYNIA.

BEC, a town of France, in Normandy, ſeated on a tongue of land, at the confluence of two rivers, in E. Long. 0. 52. N. Lat. 48. 45.

BECAH, or BEKAH, a Jewiſh coin, being half a ſhekel. In Dr Arbuthnot's table of reductions, the bekah amounts to $13\frac{11}{16}$d. in Dr Prideaux's computation to 1s. 6d. Every Iſraelite paid an hundred bekahs a head annually for the ſupport of the temple.

BECALM, in a general ſenſe, ſignifies to appeaſe, to allay.

BECALM, in the ſea language. A ſhip is ſaid to be becalmed, when there is not a breath of wind to fill the ſails.

BECANOR, a town of India, in Aſia, ſeated on the river Ganges, in E. Long. 83. 5. N. Lat. 27. 40.

BECCABUNGA, BROOKLIME; the trivial name of a ſpecies of veronica. See VERONICA.

BECCLES, a large town of Suffolk in England, in E. Long. 1. 30. N. Lat. 52. 38.

BECHER (John Joachim), a celebrated chemiſt, was born at Spires, in 1645. He was connected with the moſt learned men in Europe; and the emperor, the electors of Mentz and Bavaria, and other perſons of high rank, furniſhed him with the means of making experiments in mathematics, natural philoſophy, medicine, and chemiſtry. As his thoughts were very judicious and uncommon with reſpect to œconomy and to increaſing the revenues of a ſtate, he was invited to Vienna, where he contributed greatly to the eſtabliſhment of ſeveral manufactures, a chamber of commerce, and an India company; but the jealouſy of ſome of the miniſters occaſioned his diſgrace and ruin. He was not leſs unhappy at Mentz, Munich, and Wurtzburg; which determined him to go to Haerlem, where he invented a machine for working a great quantity of ſilk in a little time, and with few hands: but new misfortunes made him come to England, and he died at London in 1685. He wrote many works; the principal of which are, 1. *Phyſica Subterranea*, which was reprinted at Leipſic in 1703, and in 1739, in octavo, with a ſmall treatiſe, by E. Stahl, intitled *Specimen Becherianum*. 2. *Experimentum chymicum novum*, 8vo. 3. *Character pro Notitia Linguarum univerſali*. 4. *Inſtitutiones Chymicæ, ſeu Manuductio ad Philoſophiam Hermeticam*, 4to. 5. *Inſtitutiones Chymica prodromæ*, 12mo. 6. *Experimentum novum ac curioſum de Minera arenaria perpetua*, &c.

BECHIN, a town of Bohemia, in a circle of the ſame name. It was taken and burnt by General Bequoi in 1619. It is ſeated on the river Lauſnics, in E. Long. 15. 12. N. Lat. 49. 14.

BECK, or BEKE, a word which imports a ſmall ſtream of water iſſuing from ſome burn or ſpring. Hence *Hell becks*, little brooks in the rough and wild mountains about Richmond near Lancaſhire, ſo called on account of their ghaſtlineſs and depth.

BECK is chiefly uſed among us in the compoſition of names of places originally ſituated on rivulets: hence Walbeck, Bournbeck, &c. The Germans uſe *beck* in the ſame manner.

BECK, (David) an eminent portrait-painter, was born at Arnheim in Guelderland in 1621, and became a diſciple of Vandyck; from whom he acquired a fine manner of penciling, and that ſweet ſtyle of colouring which is peculiar to that great maſter and to all the diſciples trained up under his direction. He poſſeſſed beſides, that freedom of hand, and readineſs, or rather rapidity of execution, for which Vandyck was ſo remarkably famous; and King Charles I. when he obſerved the expeditious manner of Beck's painting, was ſo exceedingly ſurpriſed, that he told Beck, it was his opinion, he could paint if he was riding poſt. He was appointed portrait-painter and chamberlain to Queen Chriſtina of Sweden; and by her recommendation, moſt of the illuſtrious perſons in Europe ſat to him for their pictures. He was agreeable, handſome, and polite, and lived in the higheſt favour with his royal miſtreſs: but, having an earneſt deſire to viſit his friends in Holland, and leaving the court of Sweden much againſt the Queen's inclination, ſhe apprehended that he intended never to return; and, as he died ſoon after at the Hague, it was ſuſpected that he was poiſoned. This happened in 1656, when he was aged only 35 years.—A very ſingular adventure happened to this painter as he travelled through Germany, which ſeems not unworthy of being recited. He was ſuddenly and violently taken ill at the inn where he lodged, and was laid out as a corpſe, ſeeming to all appearance quite dead. His valets expreſſed the ſtrongeſt marks of grief for the loſs of their maſter, and while they ſat beſide his bed, they drank very freely, by way of conſolation. At laſt one of them, who grew much intoxicated, ſaid to his companions, our maſter was fond of his glaſs while he was alive, and out of gratitude let us give him a glaſs now he is dead. As the reſt of the ſervants aſſented to the propoſal, he raiſed up the head of his maſter and endeavoured to pour ſome of the liquor into his mouth. By the fragrance of the wine, or probably by a ſmall quantity that imperceptibly got down his throat, Beck opened his eyes; and the ſervant being exceſſively drunk, and forgetting that his maſter was conſidered as dead, compelled him to ſwallow what wine remained in the glaſs. The painter gradually revived, and by proper management and care recovered perfectly, and eſcaped a premature interment—How highly the works of this maſter were eſteemed, may appear from the many marks of diſtinction and honour which were ſhown him; for he received from different princes, as an acknowledgment of his ſingular merit, nine gold chains, and ſeveral medals of gold of a large ſize.

BECKET (Thomas), lord chancellor of England, archbiſhop of Canterbury in the 12th century. The ſtory of his birth is as extraordinary as that of his life. It is related, that his father Gilbert Becket, ſome time ſheriff of London, went on a pilgrimage to Jeruſalem, where being ſurpriſed and enſlaved by a party of Saracens, his maſter's daughter fell in love with him; and that when he made his eſcape, ſhe followed him to London. So ſingular an inſtance of heroic affection ſtruck him; and after conſulting with ſome biſhops, he baptized her by the name of *Matilda*, and married her; from which marriage proceeded the haughty Thomas Becket. Being raiſed to the archbiſhopric, he began the great diſpute between the crown and the mitre, and ſided with the pope: at which King Henry II. was greatly offended; and calling an aſſembly of the biſhops at Weſtminſter, offered ſix articles againſt papal encroachments, which he urged Becket to aſſent to. Becket, at the importunities of ſeveral lords, ſigned them; but relapſing, he was ordered to be tried as a traitor; upon which he fled into Flanders. The king baniſhed all his relations, and Becket excommunicated all his oppoſers. At laſt, after ſeven years, by the interceſſion of the French king and the pope, he returned; but refuſed to abſolve theſe biſhops and others he had excommunicated: whereupon the king grew enraged; and is reported to have dropped theſe expreſſions: "That he was an unhappy prince, who maintained a great number of lazy inſignificant perſons about him, none of whom had gratitude or ſpirit enough to revenge him on a ſingle inſolent prelate who gave him ſo much diſturbance." Theſe words of the king put four gentlemen of his court on forming a deſign againſt the archbiſhop's life, which they executed in the cathedral church of Canterbury, on the 29th of December 1171. They endeavoured to drag him out of the church; but finding they could not do this without difficulty, killed him there. The aſſaſſins being afraid they had gone too far, durſt not return to the king's court at Normandy, but retired to Knareſburgh in Yorkſhire; where every body avoided their company, hardly any perſon even chooſing to eat or drink with them. They at length took a voyage to Rome, and being admitted to penance by pope Alexander III. they went to Jeruſalem; where, according to the pope's order, they ſpent their lives in penitential auſterities, and died in the Black Mountain. They were buried at Jeruſalem, without the church door belonging to the Templars. King Henry was, or affected to be, much diſturbed at the the news of Becket's death, and diſpatched an embaſſy to Rome to clear himſelf from the imputation of being the cauſe of it. Immediately all divine offices ceaſed in the church of Canterbury, and this for a year, excepting nine days; at the end of which, by order of the pope, it was reconſecrated. Two years after, Becket was canonized; and the following year, Henry returning to England, went to Canterbury, where he did penance as a teſtimony of his regret for the murder of Becket. When he came within ſight of the church where the archbiſhop was buried, he alighted off his horſe, and walked barefoot, in the habit of a pilgrim, till he came to Becket's tomb; where, after he had proſtrated himſelf and prayed for a conſiderable time, he ſubmitted to be ſcourged by the monks, and paſſed all that day and night without any refreſhment, and kneeling upon the bare ſtone. In 1221 Becket's body was taken up, 50 years after his murder, in the preſence of king Henry III. and a great concourſe of the nobility and others, and depoſited in a rich ſhrine, erected at the expence of Stephen Langton archbiſhop of Canterbury, which was ſoon viſited from all parts, and enriched with the moſt coſtly gifts and offerings; and the miracles ſaid to be wrought at his tomb were ſo numerous, that Gervaſe of Canterbury tells us, there were two large volumes of them kept in that church. The monks uſed to raiſe his body every year; and the day on which this ceremony was performed, which was called the *day of his tranſlation*, was a general holiday: every 50th year there was celebrated a jubilee to his honour, which laſted 15 days: plenary indulgences were then granted to all that viſited his tomb; and 100,000 pilgrims have been regiſtered at a time in Canterbury. The devotion towards him had quite effaced in that town the adoration of the Deity; nay, even that of the Virgin. At God's altar, for inſtance, there were offered in one year 3l. 2s. 6d. at the Virgin's, 63l. 5s. 6d. at St Thomas's, 832l. 12s. 3d. But next year the diſproportion was ſtill greater: there was not a penny offered at God's altar; the Virgin's gained only 4l. 1s. 8d. but St Thomas had got for his ſhare 954l. 6s. 3d. Louis VII. of France had made a pilgrimage to this miraculous tomb, and had beſtowed on the ſhrine a jewel which was eſteemed the richeſt in Chriſtendom. Henry VIII. to whom it may eaſily be imagined how obnoxious a ſaint of this character behoved to appear, and how much contrary to all his projects for degrading the authority of the court of Rome, not only pillaged the rich ſhrine dedicated to St Thomas, but made the ſaint himſelf be cited to appear in court, and be tried and condemned as a traitor: he ordered his name to be ſtruck out of the calender; the office for his feſtival to be expunged from all breviaries; and his bones to be burnt, and the aſhes thrown in the air. From Mr Thomas Warton we learn, that Becket was the ſubject of poetical legends. *The Lives of the Saints* in verſe, in Bennet's library (Numb. CLXV.), contain his martyrdom and tranſlation. This manuſcript is ſuppoſed to be of the 14th century. The ſame ingenious writer informs us, from Peter de Blois, that the palace of Becket was perpetually filled with biſhops highly accompliſhed in literature, who paſſed their time there in reading, diſputing, and deciding important queſtions of the ſtate. "Theſe prelates, though men of the world, were a ſociety of ſcholars; yet very different from thoſe who frequented the univerſities, in which nothing was taught but words and ſyllables, unprofitable ſubtleties, elementary ſpeculations, and trifling diſtinctions. De Blois was himſelf eminently learned, and one of the moſt diſtinguiſhed ornaments of Becket's attendants. We know that John of Saliſbury, his intimate friend, the companion of his exile, and the writer of his life, was ſcarcely exceeded by any man of his time for his knowledge in philological and polite literature."

BECKINGHAM (Charles), an Engliſh dramatic writer, was the ſon of a linen-draper in London, and born in 1699. He was educated at that great nurſery of learning Merchant-Taylor's ſchool, under the learned Dr Smith, where he made a very great proficiency in all his ſtudies, and gave the ſtrongeſt teſtimonials of very extraordinary abilities. In poetry more particularly he very early diſcovered an uncommon genius, two dramatic pieces of his writing being repreſented on the ſtage before he had completed his 20th year: and thoſe not ſuch as required the leaſt indulgence or allowance on account of his years; but ſuch as bore evidence to a boldneſs of ſentiment, an accuracy of diction, an ingenuity of conduct, and a maturity of judgement, which would have done honour to a much more ripened age. The titles of his plays, both of which are tragedies, are, 1. *Henry IV. of France*. 2. *Scipio Africanus*. At the repreſentation of the laſt mentioned piece, which indeed was the firſt he wrote, his ſchoolmaſter Dr Smith, as a peculiar mark of diſtinction and regard to the merit of his pupil, gave all his boys a holiday on the afternoon of the author's benefit, in order to afford an opportunity to ſuch of them as pleaſed to pay their compliments to their ſchool-fellow on that occaſion. Beſides theſe dramatic pieces, he wrote ſeveral other poems: but his genius was not permitted any very long period to expand itſelf in; for he died on the 18th of February 1730, in the 32d year of his age.

BECKUM, a town of the biſhopric of Munſter, in Germany, ſeated at the ſource of the river Verſe, in E. Long. 8. 18. N. Lat. 51. 46.

BECSANGIL, anciently Bithynia, a province of Natolia in Aſia; bounded on the north by the Black Sea; on the weſt, by the Sea of Marmora; on the ſouth, by Natolia Proper; and on the eaſt, by the province of Bolli. The principal town is Burſa.

BECTASSE, an order or ſect of religious among the Turks, denominated from their founder *Bectaſh*, preacher to Sultan Amurath. All the janizaries belonging to the Porte are of the religion of Bectaſſe, being even ſaid to have derived their origin from the founder of this ſect. The habit of the Bectaſſe is white: on their heads they wear white caps of ſeveral pieces, with turbans of wool twiſted rope faſhion. They obſerve conſtantly the hour of prayer, which they perform in their own aſſemblies, and make frequent declarations of the unity of God.

BED, a convenience for ſtretching and compoſing the body on, for eaſe, reſt, or ſleep, conſiſting generally of feathers incloſed in a ticken caſe. There are varieties of beds, as a ſtanding-bed, a ſettee-bed, a tent-bed, a truckle-bed, &c.

It was univerſally the practice, in the firſt ages, for mankind to ſleep upon ſkins of beaſts. It was originally the cuſtom of the Greeks and Romans. It was particularly the cuſtom of the ancient Britons before the Roman invaſion; and theſe ſkins were ſpread on the floor of their apartments. Afterwards they were changed for looſe ruſhes and heather, as the Welch a few years ago lay on the former, and the Highlanders of Scotland ſleep on the latter to this preſent moment. In proceſs of time the Romans ſuggeſted to the interior Britons the uſe, and the introduction of agriculture ſupplied them with the means, of the neater conveniency of ſtraw beds. The beds of the [*] Roman gentry at this period were generally filled with feathers, and thoſe of the inns with the ſoft down of reeds. But for many ages the beds of the Italians had been conſtantly compoſed of ſtraw; it ſtill formed thoſe of the ſoldiers and officers at the conqueſt of Lancaſhire; and from both, the Britiſh learnt their uſe. But it appears to have been taken up only by the gentlemen, as the common Welch had their beds thinly ſtuffed with ruſhes as late as the concluſion of the 12th century; and with the gentlemen it continued may ages afterwards. Straw was uſed even in the Royal Chambers of England as late as the cloſe of the 13th. Moſt of the peaſants about Mancheſter lie on chaff at preſent, as do likewiſe the common people all over Scotland: In the Highlands heath alſo is very generally uſed as bedding even by the gentry; and the repoſe on a heath bed has been celebrated by travellers as a peculiar luxury, ſuperior to that yielded by down: In France and Italy, ſtraw beds remain general to this day. But after the above period, beds were no longer ſuffered to reſt upon the ground. The better mode, that had anciently prevailed in the eaſt, and long before been introduced into Italy, was adopted in Britain; and they were now mounted on pedeſtals[†]. This, however, was equally confined to the gentlemen. The bed ſtill continued on the floor among the common people. And the groſs cuſtom, that had prevailed from the beginning, was retained by the lower Britons to the laſt; and theſe ground-beds were laid along the walls of their houſes, and formed one common dormitory for all the members of the family. The faſhion continued univerſally among the inferior ranks of the Welch within theſe four or five ages, and with the more uncivilized part of the Highlanders down to our own times. And even at no great diſtance from Mancheſter, in the neighbouring Buxton, and within theſe 60 or 70 years, the perſons that repaired to the bath are all ſaid to have ſlept in one long chamber together; the upper part being allotted to the ladies, and the lower to the gentlemen, and only partitioned from each other by a curtain.

Dining-BED, *lectus tricliniaris*, or *diſcubitorius*, that whereon the ancients lay at meals. The dining or diſcubitory beds were four or five feet high. Three of theſe beds were ordinarily ranged by a ſquare table (whence both the table and the room where they eat were called *triclinium*) in ſuch a manner, that one of the ſides of the table remained open and acceſſible to the waiters. Each bed would hold three or four, rarely five perſons. Theſe beds were unknown before the ſecond Punic war: the Romans, till then, ſat down to eat on plain wooden benches, in imitation of the heroes of Homer, or, as Varro expreſſes it, after the manner of the Lacedemonians and Cretans, Scipio Africanus firſt made an innovation: he had brought from Carthage ſome of theſe little beds called *punicani*, or *archaici*; being of a wood common enough, very low, ſtuffed only with ſtraw or hay, and covered with goats or ſheeps ſkins, *hædinis pellibus ſtrati*. In reality, there was no great difference, as to delicacy, between theſe new beds and the ancient benches; but the cuſtom of frequent bathing, which began then to obtain, by ſoftening and relaxing the body, put men on trying to reſt themſelves more commodiouſly by lying along than by ſitting down. For the ladies, it did not ſeem at firſt conſiſtent with their modeſty to adopt the mode of lying; accordingly they kept to the old cuſtom all the time of the commonwealth; but, from the firſt Cæſars, they eat on their beds. For the youth, who had not yet put on the *toga virilis*, they were long kept to the ancient diſcipline. When they were admitted to table, they only ſat on the edge of the beds of their neareſt relations. Never, ſays Suetonius, did the young Cæſars, Caius and Lucius, eat at the table of Auguſtus; but they were ſet *in imo loco*, or, as Tacitus expreſſes it, *ad lecti fulcra*. From the greateſt ſimplicity, the Romans by degrees carried their dining-beds to the moſt ſurpriſing magnificence. Pliny aſſures us, it was no new thing to ſee them covered over with plates of ſilver, adorned with the ſofteſt mats, and the richeſt counterpanes. Lampridius, ſpeaking of Heliogabulus, ſays, he had beds of ſolid ſilver, *ſolido argento habuit lectos & tricliniares, & cubiculares*. We may add,

Whittaker's Hiſtory of Mancheſter.

[*] *Pliny*, lib. viii. c. 48. and xvi. c. 36.

[†] Gen. xlix.

that Pompey, in his third triumph, brought in beds of gold.—The Romans had alſo beds whereon they ſtudied, and beds whereon the dead were carried to the funeral pile.

Bed-Moulding, in architecture, a term uſed for thoſe members of a corniche which are placed below the coronet; and now uſually conſiſts of an ogee, a liſt, a large boultine, and another liſt under the coronet.

Bed of Juſtice, in the French cuſtoms, a throne upon which the king is ſeated when he goes to the parliament. The king never holds a bed of juſtice unleſs for affairs that concern the ſtate, and then all the officers of parliament are clothed in ſcarlet robes.

Bed of the Carriage of a Great Gun, a thick plank, that lies under the piece; being, as it were, the body of the carriage.

Bed, in maſonry, a courſe or range of ſtones; and the joint of the bed is the mortar between two ſtones, placed over each other.

Bed, in gardening, ſquare or oblong pieces of ground in a garden, raiſed a little above the level of the adjoining ground, and wherein they ſow ſeeds or plant roots.

Hot-Bed. See *Hot-Bed*.

Lords of the Bed-Chamber, in the Britiſh court, are 12 noblemen who attend in their turns, each a month; during which time they lie in the king's bed-chamber, and wait on him when he dines in private. Their ſalary is 1000l. *per annum*.

BEDA, commonly called *Venerable Bede*, one of the moſt ancient Engliſh hiſtorians, was born in the year 672, in the neighbourhood of Weremouth, in the biſhopric of Durham. He was educated by the abbot Benedict in the monaſtery of St Peter, near the mouth of the river Wyre. At the age of 19 he was ordained deacon, and prieſt in the year 702. About this time he was invited to Rome by Pope Sergius; but there is no ſufficient reaſon to believe that he accepted the invitation. In the year 731 he publiſhed his Eccleſiaſtical Hiſtory; a work of ſo much merit, notwithſtanding the legendary tales it contains, that it were alone ſufficient to immortalize the author. He died in the year 735 of a lingering conſumption, probably occaſioned by a ſedentary life, and a long uninterrupted application to ſtudy and literary compoſitions, of which he left an incredible number. He was buried in the church of his convent at Jarrow; but his bones were afterwards removed to Durham, and there depoſited in the ſame coffin with thoſe of St Cuthbert. Bede was undoubtedly a ſingular phenomenon in an ignorant and illiterate age. His learning, for the times, was extenſive, his application incredible, his piety exemplary, and his modeſty exceſſive. He was univerſally admired, conſulted, and eſteemed, during his life; and his writings are deſervedly conſidered as the foundation of Engliſh eccleſiaſtical hiſtory. His language is neither elegant nor pure, but perſpicuous and eaſy.—All his works are in Latin. The firſt general collection of them appeared at Paris in 1544, in three volumes in folio. They were printed again at the ſame place in 1554, in eight volumes. They were alſo publiſhed in the ſame ſize and number of volumes at Baſil in 1563, reprinted at Cologne in 1612, and at the ſame place in 1688. Beſides this general collection, there are ſeveral of his compoſitions, which have been printed ſeparately, or amongſt the collections of the writings of ancient authors; and there are ſeveral manuſcripts aſcribed to him, which are preſerved in the different libraries in Oxford and Cambridge.

BEDALL, a town in the north riding of Yorkſhire. Through this town paſſes a Roman cauſeway to Richmond, Barnard-caſtle, &c. The parts adjacent are noted for hunting and road horſes. W. Long. 31. 0. N. Lat. 54. 30.

BEDARIEUX, or Bec d'Arieux, a town of Languedoc in France, ſeated in the river Obe, in E. Long. 3. 24. N. Lat. 43. 29.

BEDEL. See Beadle.

Bedel, a ſmall town in the north riding of Yorkſhire, ſeated on a little brook, in W. Long. 1. 30. N. Lat. 54. 30.

BEDELL (Dr William), a learned prelate, born in Eſſex in 1570. He went with Sir Henry Wotton the Engliſh ambaſſador to the republic of Venice, as his chaplain, in 1604; and continuing eight years in that city, contracted an intimate acquaintance with the famous father Paul, of whom he learned Italian ſo well as to tranſlate the Engliſh Common-Prayer Book into that language: in return he drew up an Engliſh grammar for Father Paul, who declared he had learned more from him in all parts of divinity than from any one beſide. He was accordingly much concerned when Bedell left Venice; and at his departure preſented him with his picture, the MS. of his Hiſtory of the Council of Trent, his Hiſtory of the Interdict and Inquiſition, with other literary donations. In 1629, he obtained the biſhopric of Kilmore and Adragh in Ireland; and finding theſe dioceſes in great diſorder, applied himſelf vigorouſly to reform the abuſes there. He was no perſecutor of Papiſts, but laboured with great ſucceſs to convert the better ſort of the Popiſh clergy: he procured an Iriſh tranſlation of the common-prayer Book, which he cauſed to be read in his cathedral every Sunday; and the New Teſtament having been tranſlated by Archbiſhop Daniel, he procured one of the Old Teſtament; which he having been prevented from printing himſelf, was afterwards executed at the expence of the great Mr Robert Boyle. He publiſhed, in 1624, a controverſial book againſt the Roman-catholics, which he dedicated to Charles prince of Wales; and aſſiſted the archbiſhop of Spalatro in finiſhing his famous work *De Republica Eccleſiaſtica*.—When the bloody rebellion broke out in Ireland in Oct. 1641, the biſhop at firſt did not feel the violence of its effects; for the very rebels had conceived a great veneration for him, and they declared he ſhould be the laſt Engliſhman they would drive out of Ireland. His was the only houſe in the county of Cavan that was unviolated, and it was filled with the people who fled to him for ſhelter. About the middle of December, however, the rebels, purſuant to orders received from their council of ſtate at Kilkenny, required him to diſmiſs the people that were with him; which he refuſed to do, declaring he would ſhare the ſame fate with the reſt. Upon this they ſeized him, his two ſons, and Mr Clogy who had married his daughter-in-law, and carried them priſoners to the caſtle of Cloughboughter, ſurrounded by a deep water, where they put them all, except the biſhop, in irons; after ſome time, however, this part of their ſeverity was abated. After being confined for about three weeks, the biſhop and his two ſons, and Mr Clogy, were exchanged for ſome of the principal rebels: but the biſhop died ſoon after, on the 7th of February 1642, his death being chiefly occaſioned by his late impriſonment, and the weight of ſorrows which lay upon his mind. The Iriſh did him unuſual honours at his burial; for the chief of the rebels gathered their forces together, and with them accompained his body to the church-yard.

BEDER, a ſtrong town of Aſia, in the dominions of the Great Mogul. E. Long. 95. 10. N. Lat. 16. 50.

BEDFORD, the county town of Bedfordſhire in England, ſeated on both ſides of the River Ouſe, over which there is a ſtone bridge; in W. Long. 0. 20. N. Lat. 52. 6. It is an ancient town, and pleaſantly ſituated, but not very large nor well built; though the buildings are much improved of late, and the river made navigable. It ſends two members to parliament, and gives title of *duke* to the noble family of Ruſſel. At this place the Britons were overthrown in a great battle in 572, by Cuthwulf the Saxon king; and here was a ſtrong caſtle, built in the time of the Normans by Pagan de Beauchamp, the third Baron of Bedford. It was reduced by King Stephen after a long ſiege; and afterwards taken by King John, after a ſiege of 60 days, from Fulco de Brent, who rebelled againſt his ſovereign, notwithſtanding he had taken this caſtle before from the barons, and had it beſtowed upon him by the king. The town is a very ancient corporation, and has long ſent members to parliament. It is governed at preſent by a mayor, recorder, two bailiffs, twelve aldermen, two chamberlains, a town clerk, and three ſerjeants. The neighbouring country is very fruitful in wheat, great quantities of which are carried from hence to Hitchen and Hertford markets, ſold, ground, and conveyed to London. The town has five churches, a free ſchool, and ſeveral hoſpitals, and enjoys a good trade in corn by the way of Lynn. When the river is ſwelled by rains, eſpecially in winter, it is uſual in Cambridgeſhire to ſay, *the bailiff of Bedford is coming;* meaning, that it is going to lay their fens under water.

BEDFORDSHIRE is a ſmall inland county. When the Romans landed in Britain, 55 years before Chriſt, it was included in the diſtrict inhabited by the Catieuchlani, whoſe chief or governor Caſſibelinus headed the forces of the whole iſland againſt Cæſar, and the year following was totally defeated. In 310 the emperor Conſtantine divided Britain into five Roman provinces, when this county was included in the third diviſion, called *Flavia Cæſarienſis;* in which ſtate it continued 426 years, when the Romans quitted Britain. At the eſtabliſhment of the kingdom of Mercia (one of the diviſions of the Saxon heptarchy) it was conſidered as part of that kingdom; and ſo continued from 582 to 827, when with the other petty kingdoms of the iſland it became ſubject to the Weſt Saxons under Egbert, and the whole was named *England.* In 889, Alfred held the ſovereignty, when England was divided into countries, hundreds, and tythings, and Bedfordſhire firſt received its preſent name. It is in the Norfolk circuit, the province of Canterbury, and biſhopric of Lincoln. Its form is oval, being about 33 miles long, 16 broad, and nearly 73 in circumference; containing an area of about 323 ſquare miles, or 260,000 ſquare acres. It ſupplies 400 men to the national militia. It contains 124 pariſhes, 58 vicarages, and 10 market-towns, *viz.* Bedford, Ampthill, Biggleſwade, Dunſtable, Leighton, Beaudeſart, Luton, Potton, Shefford, Tuddington, and Woburn, and 55 villages. The inhabitants by computation are 67,350, and it has 7,294 houſes that pay taxes. It is divided into nine hundreds, ſends two members to parliament, and pays ſeven parts of 513 of the land-tax. Its principal river, the Ouſe, is navigable to Bedford: and divides the county into two parts, of which that to the ſouth is the moſt conſiderable. In its courſe, which is very meandering, it receives ſeveral ſmall ſtreams; the principal one is the Ivel, which takes its riſe in the ſouthern part of the county. The air is healthy, and the ſoil in general a deep clay. The north ſide of the Ouſe is fruitful and woody, but the ſouth ſide is leſs fertile; yet producing great quantity of wheat and barley, excellent in their kind, and woad for dyers. The ſoil yields plenty of fullers-earth for the woollen manufactory. The chief manufactures of the county are thread, lace, and ſtraw ware. In this county there are many remains of Roman, Saxon, and Norman antiquities; but few Roman ſtations, *viz.* Sandy near Potton, and the Magiovinum of Antoninus, by others ſuppoſed to be the ancient Salenæ, containing 30 acres, where many urns, coins, &c. have been dug up. Another at Madining-bowre, or Maiden-bower, one mile from Dunſtable, containing about nine acres, which Camden ſuppoſes to have been a Roman ſtation, from the coins of the emperors having been frequently dug up there, and calls it *Magintum.* Leighton Beaudeſart is ſuppoſed to have been a Roman camp, and another is at Arleſey near Shefford, and a Roman amphitheatre may be traced near Bradford Magna. The Roman road, Icknield-ſtreet, croſſes this county, entering at Leighton Beaudeſart, from whence it paſſes Dunſtable, where it inclines northward over Wardon-hills to Baldock in Hertfordſhire. The Watling-ſtreet enters this county near Lutton from St Albans, paſſes a little north of Dunſtable, where it croſſes the Icknield-ſtreet, and from thence to Stoney Straford in Buckinghamſhire. A Roman road alſo enters near Potton, paſſes on to Sandy, and from thence to Bedford, where it croſſes the Ouſe, and proceeds to Newport Pagnell in Buckinghamſhire. The following antiquities in this county are worthy of notice: Bedford Bridge and Priory; Chickſand Abbey near Shefford; Dunſtable Priory near Luton; Eaton Park Houſe, or Eaton Bray; Five Knolls near Dunſtable; Newnham Priory near Bedford; Northill Church, three miles from Biggleſwade; Summeris Tower near Luton; Wardon Abbey near Shefford; Woburn Abbey; Woodhill Caſtle, or Oddhill Caſtle, near Harewood.

BEDLOE (William), who aſſumed the title of *Captain,* was an infamous adventurer of low birth, who had travelled over a great part of Europe under different names and diſguiſes, and had paſſed among ſeveral ignorant perſons for a man of rank and fortune. Encouraged by the ſucceſs of Oats, he turned evidence, gave an account of Godfey's murder, and added many circumſtances to the narrative of the former. Theſe villains had the boldneſs to accuſe the Queen of entering into a conſpiracy againſt the King's life. A reward of

500 l. was voted to Bedloe by the Commons. He is ſaid to have aſſerted the reality of the plot on his death-bed: but it abounds with abſurdity, contradiction, and perjury; and ſtill remains one of the greateſt problems in the Britiſh annals. He died at Briſtol 20th Auguſt 1680. Giles Jacob informs us, that he was author of a play called *The Excommunicated Prince, or the Falſe Relict*, 1679. The printer of it having, without the author's knowledge, added a ſecond title, and called it *The Popiſh Plot in a Play*, greatly excited the curioſity of the public, who were however much diſappointed when they found the plan of the piece to be founded on a quite different ſtory. Anth. à Wood will not allow the Captain the merit of this play; but aſſerts that it was written partly, if not entirely, by one Tho. Walter, M. A. of Jeſus College Oxford.

BEDOUINS, or Bedouis, a modern name of the wild Arabs, whether in Aſia or Africa. When ſpeaking of the Arabs, we ſhould diſtinguiſh whether they are cultivators or paſtors; for this difference in their mode of life occaſions ſo great a one in their manners and genius, that they become almoſt foreign nations with reſpect to each other. In the former caſe, leading a ſedentary life, attached to the ſame ſoil, and ſubject to regular governments, the ſocial ſtate in which they live, very nearly reſembles our own. Such are the inhabitants of the Yemen; and ſuch alſo are the deſcendants of thoſe ancient conquerors, who have either entirely, or in part, given inhabitants to Syria, Egypt, and the Barbary ſtates. In the ſecond inſtance, having only a tranſient intereſt in the ſoil, perpetually removing their tents from one place to another, and under ſubjection to no laws, their mode of exiſtence is neither that of poliſhed nations nor of ſavages; and therefore more particularly merits our attention. Such are the Bedouins, or inhabitants of the vaſt deſarts which extend from the confines of Perſia to Morocco. Tho' divided into independent communities or tribes, not unfrequently hoſtile to each other, they may ſtill be conſidered as forming one nation. The reſemblance of their language is a manifeſt token of this relationſhip. The only difference that exiſts between them is, that the African tribes are of a leſs ancient origin, being poſterior to the conqueſt of theſe countries by the khalifs or ſucceſſors of Mahomet; while the tribes of the deſart of Arabia, properly ſo called, have deſcended by an uninterrupted ſucceſſion from the remoteſt ages. To theſe the orientals are accuſtomed to appropriate the name of *Arabs*, as being the moſt ancient and the pureſt race. The term *Bedaoui* is added as a ſynonimous expreſſion, ſignifying, " inhabitant of the Deſart."

It is not without reaſon that the inhabitants of the deſart boaſt of being the pureſt and the beſt preſerved race of all the Arab tribes: for never have they been conquered, nor have they mixed with any other people by making conqueſts; for thoſe by which the general name of Arabs has been rendered famous, really belong only to the tribes of the Hedjas and the Yemen. Thoſe who dwelt in the interior of the country, never emigrated at the time of the revolution effected by Mahomet; or if they did take any part in it, it was confined to a few individuals, detached by motives of ambition. Thus we find the prophet in his Koran continually ſtyling the Arabs of the deſart *rebels* and *infidels*; nor has ſo great a length of time produced any very conſiderable change. We may aſſert they have in every reſpect retained their primitive independence and ſimplicity. See Arabia, nº 186.

The wandering life of theſe people ariſes from the very nature of their deſarts. To paint to himſelf theſe deſarts (ſays M. Volney), the reader muſt imagine a ſky almoſt perpetually inflamed, and without clouds, immenſe and boundleſs plains, without houſes, trees, rivulets, or hills, where the eye frequently meets nothing but an extenſive and uniform horizon like the ſea, though in ſome places the ground is uneven and ſtony. Almoſt invariably naked on every ſide, the earth preſents nothing but a few wild plants thinly ſcattered, and thickets, whoſe ſolitude is rarely diſturbed but by antelopes, hares, locuſts, and rats. Such is the nature of nearly the whole country, which extends ſix hundred leagues in length and three hundred in breadth, and ſtretches from Aleppo to the Arabian ſea, and from Egypt to the Perſian gulph. It muſt not, however, be imagined that the ſoil in ſo great an extent is every where the ſame; it varies conſiderably in different places. On the frontiers of Syria, for example, the earth is in general fat and cultivable, nay even fruitful. It is the ſame alſo on the banks of the Euphrates: but in the internal parts of the country, and towards the ſouth, it becomes white and chalky, as in the parallel of Damaſcus; rocky, as in the Tih and the Hejaz; and a pure ſand, as to the eaſtward of the Yemen. This variety in the qualities of the ſoil is productive of ſome minute differences in the condition of the Bedouins. For inſtance, in the more ſterile countries, that is, thoſe which produce but few plants, the tribes are feeble and very diſtant; which is the caſe in the deſart of Suez, that of the Red Sea, and the interior of the great deſart called the *Najd*. When the ſoil is more fruitful, as between Damaſcus and the Euphrates, the tribes are more numerous and leſs remote from each other; and, laſtly, in the cultivable diſtricts, ſuch as the Pachalics of Aleppo, the Hauran, and the neighbourhood of Gaza, the camps are frequent and contiguous. In the former inſtances, the Bedouins are purely paſtors, and ſubſiſt only on the produce of their herds, and on a few dates and fleſh meat, which they eat either freſh or dried in the ſun and reduced to a powder. In the latter, they ſow ſome land, and add cheeſe, barley, and even rice, to their fleſh and milk meats.

In thoſe diſtricts where the ſoil is ſtony and ſandy, as in the Tih, the Hejaz, and the Najd, the rains make the ſeeds of the wild plants ſhoot, and revive the thickets, ranunculi, wormwood, and kali. They cauſe marſhes in the lower grounds, which produce reeds and graſs; and the plain aſſumes a tolerable degree of verdure. This is the ſeaſon of abundance both for the herds and their maſters; but on the return of the heats, every thing is parched up, and the earth converted into a grey and fine duſt, preſents nothing but dry ſtems as hard as wood, on which neither horſes, oxen, nor even goats, can feed. In this ſtate the deſart would become uninhabitable, and muſt be totally abandoned, had not nature formed an animal no leſs hardy and frugal than the ſoil is ſterile and ungrateful. No creature ſeems ſo peculiarly fitted to the climate in which it exiſts. Deſigning the camel to dwell in a country where he can find little nouriſhment. Nature (ſays M. Volney) has been ſparing of her materials in the whole of his formation. She has not beſtowed on him the plump fleſhineſs of the ox, horſe, or elephant; but limiting herſelf to what is ſtrictly neceſſary, ſhe has given him a ſmall head without ears at the end of a long neck without fleſh. She has taken from his legs and thighs every muſcle not immediately requiſite for motion; and in ſhort, has beſtowed on his withered body only the veſſels and tendons neceſſary to connect its frame together. She has furniſhed him with a ſtrong jaw, that he may grind the hardeſt aliments; but leſt he ſhould conſume to much, ſhe has ſtraitened his ſtomach, and obliged him to chew the cud. She has lined his foot with a lump of fleſh, which ſliding in the mud, and being no way adapted to climbing, fits him only for a dry, level, and ſandy ſoil like that of Arabia: ſhe has evidently deſtined him likewiſe to ſlavery, by refuſing him every ſort of defence againſt his enemies. Deſtitute of the horns of the bull, the hoof of the horſe, the tooth of the elephant, and the ſwiftneſs of the ſtag, how can the camel reſiſt or avoid the attacks of the lion, the tiger, or even the wolf? To preſerve the ſpecies, therefore, nature has concealed him in the depth of the vaſt deſarts, where the want of vegetables can attract no game, and whence the want of game repels every voracious animal. Tyranny muſt have expelled man from the habitable parts of the earth before the camel could have loſt his liberty. Become domeſtic, he has rendered habitable the moſt barren ſoil the world contains. He alone ſupplies all his maſter's wants. The milk of the camel nouriſhes the family of the Arab under the varied forms of curd, cheeſe, and butter; and they often feed upon his fleſh. Slippers and harneſs are made of his ſkin, tents and clothing of his hair. Heavy burdens are tranſported by his means; and when the earth denies forage to the horſe, ſo valuable to the Bedouin, the ſhe camel ſupplies that deficiency by her milk at no other coſt, for ſo many advantages, than a few ſtalks of brambles or wormwood and pounded date kernels. So great is the importance of the camel to the deſart, that were it deprived of that uſeful animal, it muſt infallibly loſe every inhabitant.

Such is the ſituation in which nature has placed the Bedouins, to make of them a race of men equally ſingular in their phyſical and moral character. This ſingularity is ſo ſtriking, that even their neighbours the Syrians regard them as extraordinary beings; eſpecially thoſe tribes which dwell in the depth of the deſarts, ſuch as the Anaza, Kaibar, Tai, and others, which never approach the towns. When in the time of Shaik Daher, ſome of their horſemen came as far as Acre, they excited the ſame curioſity there as a viſit from the ſavages of America would in Europe. Every body viewed with ſurpriſe theſe men, who were more diminutive, meagre, and ſwarthy, than any of the known Bedouins. Their withered legs were only compoſed of tendons, and had no calves. Their bellies ſeemed to cling to their backs, and their hair was frizzled almoſt as much as that of the negroes. They on the other hand were no leſs aſtoniſhed at every thing they ſaw; they could neither conceive how the houſes and minarets could ſtand erect, nor how men ventured to dwell beneath them, and always in the ſame ſpot; but above all, they were in an ecſtacy on beholding the ſea, nor could they comprehend what that deſart of water could be.

We may imagine that the Arabs of the frontiers are not ſuch novices; there are even ſeveral ſmall tribes of them, who living in the midſt of the country, as in the valley of Bekaa, that of the Jordan, and in Paleſtine, approach nearer to the condition of the peaſants; but theſe are deſpiſed by the others, who look upon them as baſtard Arabs and Rayas, or ſlaves of the Turks.

In general, the Bedouins are ſmall, meagre, and tawny; more ſo, however, in the heart of the deſart than on the frontiers of the cultivated country; but they are always of a darker hue than the neighbouring peaſants. They alſo differ among themſelves in the ſame camp; and M. Volney remarked, that the ſhaiks, that is, the rich, and their attendants, were always taller and more corpulent than the common claſs. He has ſeen ſome of them above five feet five and ſix inches high; though in general they do not (he ſays) exceed five feet two inches. This difference can only be attributed to their food, with which the former are ſupplied more abundantly than the latter: And the effects of this are equally evident in the Arabian and Turkmen camels; for theſe latter, dwelling in countries rich in forage, are become a ſpecies more robuſt and fleſhy than the former. It may likewiſe be affirmed, that the lower claſs of Bedouins live in a ſtate of habitual wretchedneſs and famine. It will appear almoſt incredible to us, but it is an undoubted fact, that the quantity of food uſually conſumed by the greateſt part of them does not exceed ſix ounces a day. This abſtinence is moſt remarkable among the tribes of the Najd and the Hedjaz. Six or ſeven dates ſoaked in melted butter, a little ſweet milk or curds, ſerve a man a whole day; and he eſteems himſelf happy when he can add a ſmall quantity of coarſe flour or a little ball of rice. Meat is reſerved for the greateſt feſtivals: and they never kill a kid but for a marriage or a funeral. A few wealthy and generous ſhaiks alone can kill young camels, and eat baked rice with their victuals. In times of dearth, the vulgar, always half famiſhed, do not diſdain the moſt wretched kinds of food; and eat locuſts, rats, lizards, and ſerpents broiled on briars. Hence are they ſuch plunderers of the cultivated lands and robbers on the high-roads: hence alſo their delicate conſtitution and their diminutive and meagre bodies, which are rather active than vigorous. It may be worth while to remark, that their evacuations of every kind, even perſpiration, are extremely ſmall; their blood is ſo deſtitute of ſeroſity, that nothing but the greateſt heat can preſerve its fluidity. This, however, does not prevent them from being tolerably healthy in other reſpects; for maladies are leſs frequent among them than among the inhabitants of the cultivated country.

From theſe facts we are by no means juſtified in concluding that the frugality of the Bedouins is a virtue purely of choice, or even of climate. The extreme heat in which they live unqueſtionably facilitates their abſtinence, by deſtroying that activity which cold gives to the ſtomach. Their being habituated alſo to ſo ſparing a diet, by hindering the dilatation of the ſtomach, becomes doubtleſs a means of their ſupporting ſuch abſtemiouſneſs; but the chief and primary motive of this habit is with them, as with the reſt of mankind, the neceſſity of the circumſtances in which they are placed, whether from the nature of the ſoil, as has been before explained, or that ſtate of ſociety in which they live, and which remains now to be examined.

It has been already remarked, that the Bedouin Arabs, are divided into tribes, which conſtitute ſo many diſtinct nations. Each of theſe tribes appropriates to itſelf a tract of land forming its domain ; in this they do not differ from cultivating nations, except that their territory requires a greater extent, in order to furniſh ſubſiſtence for their herds throughout the year. Each tribe is collected in one or more camps, which are diſperſed through the country, and which make a ſucceſſive progreſs over the whole, in proportion as it is exhauſted by the cattle ; hence it is, that within a great extent a few ſpots only are inhabited, which vary from one day to another ; but as the entire ſpace is neceſſary for the annual ſubſiſtence of the tribe, whoever encroaches on it is deemed a violator of property ; this is with them the law of nations. If, therefore, a tribe, or any of its ſubjects, enter upon a foreign territory, they are treated as enemies and robbers, and a war breaks out. Now, as all the tribes have affinities with each other by alliances of blood or conventions, leagues are formed, which render theſe wars more or leſs general. The manner of proceeding on ſuch occaſions is very ſimple. The offence made known, they mount their horſes and ſeek the enemy ; when they meet, they enter into a parley, and the matter is frequently made up ; if not, they attack either in ſmall bodies, or man to man. They encounter each other at full ſpeed with fixed lances, which they ſometimes dart, notwithſtanding their length, at the flying enemy : the victory is rarely conteſted ; it is decided by the firſt ſhock, and the vanquiſhed take to flight full gallop over the naked plain of the deſart. Night generally favours their eſcape from the conqueror. The tribe which has loſt the battle ſtrikes its tents, removes to a diſtance by forced marches, and ſeeks an aſylum among its allies. The enemy, ſatisfied with their ſucceſs, drive their herds farther on, and the fugitives ſoon after return to their former ſituation. But the ſlaughter made in theſe engagements frequently ſows the ſeeds of hatreds which perpetuate theſe diſſenſions. The intereſt of the common ſafety has for ages eſtabliſhed a law among them, which decrees that the blood of every man who is ſlain muſt be avenged by that of his murderer. This vengeance is called *Tar*, or retaliation ; and the right of exacting it devolves on the neareſt of kin to the deceaſed. So nice are the Arabs on this point of honour, that if any one neglects to ſeek his retaliation he is diſgraced for ever. He therefore watches every opportunity of revenge ; if his enemy periſhes from any other cauſe, ſtill he is not ſatisfied, and his vengeance is directed againſt the neareſt relation. Theſe animoſities are tranſmitted as an inheritance from father to children, and never ceaſe but by the extinction of one of the families, unleſs they agree to ſacrifice the criminal, or *purchaſe the blood* for a ſtated price, in money or in flocks. Without this ſatisfaction, there is neither peace nor truce, nor alliances, between them, nor ſometimes even between whole tribes : *There is blood between us*, ſay they on every occaſion ; and this expreſſion is an inſurmountable barrier. Such accidents being neceſſarily numerous in a long courſe of time, the greater part of the tribes have ancient quarrels, and live in an habitual ſtate of war ; which, added to their way of life, renders the Bedouins a military people, though they have made no great progreſs in war as an art.

Their camps are formed in a kind of irregular circle, compoſed of a ſingle row of tents, with greater or leſs intervals. Theſe tents, made of goat or camels hair, are black or brown, in which they differ from thoſe of the Turkmen, which are white. They are ſtretched on three or four pickets, only five or ſix feet high, which gives them a very flat appearance ; at a diſtance one of theſe camps ſeems only like a number of black ſpots ; but the piercing eye of the Bedouin is not to be deceived. Each tent inhabited by a family is divided by a curtain into two apartments, one of which is appropriated to the women. The empty ſpace within the large circle ſerves to fold their cattle every evening. They never have any intrenchments ; their only advanced guards and patroles are dogs ; their horſes remain ſaddled and ready to mount on the firſt alarm ; but as their is neither order nor regularity, theſe camps, always eaſy to ſurpriſe, afford no defence in caſe of an attack : accidents, therefore, very frequently happen, and cattle are carried off every day ; a ſpecies of marauding war in which the Arabs are very experienced.

The tribes which live in the vicinity of the Turks are ſtill more accuſtomed to attacks and alarms ; for theſe ſtrangers, arrogating to themſelves, in right of conqueſt, the property of the whole country, treat the Arabs as rebel vaſſals, or as turbulent and dangerous enemies. On this principle, they never ceaſe to wage ſecret or open war againſt them. The pachas ſtudy every occaſion to haraſs them. Sometimes they conteſt with them a territory which they had let them, and at others demand a tribute which they never agreed to pay. Should a family of ſhaiks be divided by intereſt or ambition, they alternately ſuccour each party, and conclude by the deſtruction of both. Frequently too they poiſon or aſſaſſinate thoſe chiefs whoſe courage or abilities they dread, though they ſhould even be their allies. The Arabs, on their ſide, regarding the Turks as uſurpers and treacherous enemies, watch every opportunity to do them injury. Unfortunately, their vengeance falls oftener on the innocent than the guilty. The harmleſs peaſant generally ſuffers for the offences of the ſoldier. On the ſlighteſt alarm, the Arabs cut their harveſts, carry off their flocks, and intercept their communication and commerce. The peaſants call them thieves, and with reaſon ; but the Bedouins claim the right of war, and perhaps they alſo are not in the wrong. However this may be, theſe depredations occaſion a miſunderſtanding between the Bedouins and the inhabitants of the cultivated country, which renders them mutual enemies.

Such is the external ſituation of the Arabs. It is ſubject to great viciſſitudes, according to the good or bad conduct of their chiefs. Sometimes a feeble tribe raiſes and aggrandizes itſelf, whilſt another, which was powerful, falls into decay, or perhaps is entirely annihilated ; not that all its members periſh, but they incorporate themſelves with ſome other ; and this is the conſequence of the internal conſtitution of the tribes.

Each tribe is compoſed of one or more principal families, the members of which bear the title of ſhaiks, *i. e.* chiefs or lords. Theſe families have a great reſemblance to the patricians of Rome and the nobles of modern Europe. One of the ſhaiks has the ſupreme command over the others. He is the general of their little army; and ſometimes aſſumes the title of *emir*, which ſignifies commander and prince. The more relations, children, and allies, he has, the greater is his ſtrength and power. To theſe he adds particular adherents, whom he ſtudiouſly attaches to him, by ſupplying all their wants. But beſides this, a number of ſmall families, who, not being ſtrong enough to live independent, ſtand in need of protection and alliances, range themſelves under the banners of this chief. Such an union is called *kabila*, or tribe. Theſe tribes are diſtinguiſhed from each other by the name of their reſpective chiefs, or by that of the ruling family; and when they ſpeak of any of the individuals who compoſe them, they call them the *children* of ſuch a chief, though they may not be all really of his blood, and he himſelf may have been long ſince dead. Thus they ſay, *Beni Temin*, *Oulad Tai*, the children of Temin and of Tai. This mode of expreſſion is even applied, by metaphor, to the names of countries: the uſual phraſe for denoting its inhabitants being to call them *the children of ſuch a place*. Thus the Arabs ſay, *Oulad Maſr*, the Egyptians; *Oulad Sham*, the Syrians: they would alſo ſay, *Oulad Franſa*, the French; *Oulad Moſkou*, the Ruſſians; a remark which is not unimportant to ancient hiſtory.

The government of this ſociety is at once republican, ariſtocratical, and even deſpotic, without exactly correſponding with any of theſe forms. It is republican, inaſmuch as the people have a great influence in all affairs, and as nothing can be tranſacted without the conſent of a majority. It is ariſtocratical, becauſe the families of the ſhaiks poſſeſs ſome of the prerogatives which every where accompany power; and, laſtly, it is deſpotic, becauſe the principal ſhaik has an indefinite and almoſt abſolute authority, which, when he happens to be a man of credit and influence, he may even abuſe; but the ſtate of theſe tribes confines even this abuſe to very narrow limits: for if a chief ſhould commit an act of injuſtice; if, for example, he ſhould kill an Arab, it would be almoſt impoſſible for him to eſcape puniſhment; the reſentment of the offended party would pay no reſpect to his dignity; the law of retaliation would be put in force; and, ſhould he not pay the blood, he would be infallibly aſſaſſinated, which, from the ſimple and private life the ſhaiks lead in their camps, would be no difficult thing to effect. If he haraſſes his ſubjects by ſeverity, they abandon him and go over to another tribe. His own relations take advantage of his miſconduct to depoſe him and advance themſelves to his ſtation. He can have no reſource in foreign troops; his ſubjects communicate too eaſily with each other to render it poſſible for him to divide their intereſts and form a faction in his favour. Beſides, how is he to pay them, ſince he receives no kind of taxes from the tribe; the wealth of the greater part of his ſubjects being limited to abſolute neceſſaries, and his own confined to very moderate poſſeſſions, and thoſe too loaded with great expences?

The principal ſhaik in every tribe, in fact, defrays the charges of all who arrive at or leave the camp. He receives the viſits of the allies, and of every perſon who has buſineſs with them. Adjoining to his tent is a large pavilion for the reception of all ſtrangers and paſſengers. There are held frequent aſſemblies of the ſhaiks and principal men, to determine on encampments and removals; on peace and war; on the differences with the Turkiſh governors and the villages; and the litigations and quarrels of individuals. To this crowd, which enters ſucceſſively, he muſt give coffee, bread baked on the aſhes, rice, and ſometimes roaſted kid or camel; in a word, he muſt keep open table; and it is the more important to him to be generous, as this generoſity is cloſely connected with matters of the greateſt conſequence. On the exerciſe of this depend his credit and his power. The famiſhed Arab ranks the liberality which feeds him before every virtue: nor is this prejudice without foundation; for experience has proved that covetous chiefs never were men of enlarged views: hence the proverb, as juſt as it is brief, *A cloſe fiſt, a narrow heart.* To provide for theſe expences, the ſhaik has nothing but his herds, a few ſpots of cultivated ground, the profits of his plunder, and the tribute he levies on the high-roads; the total of which is very inconſiderable. The ſhaik with whom M. Volney reſided in the country of Gaza, about the end of 1784, paſſed for one of the moſt powerful of thoſe diſtricts; yet it did not appear to our author that his expenditure was greater than that of an opulent farmer. His perſonal effects, conſiſting in a few peliſſes, carpets, arms horſes, and camels, could not be eſtimated at more than 50,000 livres (a little above L.2000 ſterl.); and it muſt be obſerved, that in this calculation four mares of the breed of racers are valued at 6000 livres (L.250), and each camel at L.10 Sterling. We muſt not therefore, when we ſpeak of the Bedouins, affix to the words *Prince* and *Lord* the ideas they uſually convey; we ſhould come nearer the truth by comparing them to ſubſtantial farmers in mountainous countries, whoſe ſimplicity they reſemble in their dreſs as well as in their domeſtic life and manners. A ſhaik who has the command of 500 horſe does not diſdain to ſaddle and bridle his own, nor to give him barley and chopped ſtraw. In his tent, his wife makes the coffee, kneads the dough, and ſuperintends the dreſſing of the victuals. His daughters and kinſwomen waſh the linen, and go with pitchers on their head and veils over their faces to draw water from the fountain. Theſe manners agree preciſely with the deſcriptions in Homer and the hiſtory of Abraham in Geneſis. But it muſt be owned that it is difficult to form a juſt idea of them without having ourſelves been eye-witneſſes.

The ſimplicity, or perhaps more properly the poverty, of the lower claſs of the Bedouins is proportionate to that of their chiefs. All the wealth of a family conſiſts of moveables; of which the following is a pretty exact inventory: A few male and female camels; ſome goats and poultry; a mare and her bridle and ſaddle; a tent; a lance 16 feet long; a crooked ſabre; a ruſty muſket with a flint or matchlock; a pipe; a portable mill; a pot for cooking; a leathern bucket; a ſmall coffee roaſter; a mat; ſome clothes; a mantle of black wool; and a few glaſs or ſilver rings, which the women wear upon their legs and arms. If none of theſe are wanting their furniture is complete.

But what the poor man ſtands moſt in need of, and what he takes moſt pleaſure in, is his mare; for this animal is his principal ſupport. With his mare the Bedouin makes his excurſions againſt hoſtile tribes, or ſeeks plunder in the country and on the high-ways. The mare is preferred to the horſe, becauſe ſhe is more docile, and yields milk, which on occaſion ſatisfies the thirſt and even the hunger of her maſter.

Thus confined to the moſt abſolute neceſſities of life, the Arabs have as little induſtry as their wants are few; all their arts conſiſt in weaving their clumſy tents and in making mats and butter. Their whole commerce only extends to the exchanging camels, kids, ſtallions, and milk; for arms, clothing, a little rice or corn, and money, which they bury. They are totally ignorant of all ſcience; and have not even any idea of aſtronomy, geometry, or medicine. They have not a ſingle book; and nothing is ſo uncommon among the Shaiks as to know how to read. All their literature conſiſts in reciting tales and hiſtories in the manner of the Arabian Nights Entertainments. They have a peculiar paſſion for ſuch ſtories, and employ in them almoſt all their leiſure, of which they have a great deal. In the evening they ſeat themſelves on the ground, at the threſhold of the tents, or under cover, if it be cold; and there, ranged in a circle round a little fire of dung, their pipes in their mouths, and their legs croſſed, they ſit a while in ſilent meditation, till on a ſudden one of them breaks forth with, *Once upon a time*,—and continues to recite the adventures of ſome young Shaik and female Bedouin: he relates in what manner the youth firſt got a ſecret glimpſe of his miſtreſs; and how he became deſperately enamoured of her: he minutely deſcribes the lovely fair; boaſts her black eyes, as large and ſoft as thoſe of the gazelle; her languid and empaſſioned looks, her arched eye-brows, reſembling two bows of ebony; her waiſt ſtraight and ſupple as a lance: he forgets not her ſteps, light as thoſe of the *young filly*; nor her eye-laſhes, blackened with *kohl*; nor her lips painted blue; nor her nails, tinged with the golden coloured *henna*; nor her breaſts, reſembling two pomegranates; nor her words, ſweet as honey. He recounts the ſufferings of the young lover, *ſo waſted with deſire and paſſion, that his body no longer yields any ſhadow*. At length, after detailing his various attempts to ſee his miſtreſs, the obſtacles of the parents, the invaſions of the enemy, the captivity of the two lovers, &c. he terminates, to the ſatisfaction of the audience, by reſtoring them, united and happy, to the paternal tent, and by receiving the tribute paid to his eloquence, in the *Ma cha allah* (an exclamation of praiſe, equivalent to *admirably well!*) he has merited. The Bedouins have likewiſe their love ſongs, which have more ſentiment and nature in them than thoſe of the Turks and inhabitants of the towns; doubtleſs, becauſe the former, whoſe manners are chaſte, know what love is; while the latter, abandoned to debauchery, are acquainted only with enjoyment.

When we conſider how much the condition of the Bedouins, eſpecially in the depths of the deſart, reſembles in many reſpects that of the ſavages of America, we ſhall be inclined to wonder why they have not the ſame ferocity; why, though they ſo often experience the extremity of hunger, the practice of devouring human fleſh was never heard of among them; and why, in ſhort, their manners are ſo much more ſociable and mild. The following reaſons are propoſed by M. Volney as the true ſolution of this difficulty.

It ſeems at firſt view (he obſerves), that America, being rich in paſturage, lakes, and foreſts, is more adapted to the paſtoral mode of life than to any other. But if we conſider that theſe foreſts, by affording an eaſy refuge to animals, protect them more ſurely from the power of man, we may conclude that the ſavage has been induced to become a hunter inſtead of a ſhepherd, by the nature of the country. In this ſtate, all his habits have concurred to give him a ferocity of character. The great fatigues of the chace have hardened his body; frequent and extreme hunger, followed by a ſudden abundance of game, has rendered him voracious. The habit of ſhedding blood, and tearing his prey, has familiariſed him to the ſight of death and ſufferings. Tormented by hunger, he has deſired fleſh; and finding it eaſy to obtain that of his fellow-creature, he could not long heſitate to kill him to ſatisfy the cravings of his appetite. The firſt experiment made, this cruelty degenerates into a habit; he becomes a cannibal, ſanguinary and atrocious; and his mind acquires all the inſenſibility of his body.

The ſituation of the Arab is very different. Amid his vaſt naked plains, without water and without foreſts, he has not been able, for want of game or fiſh, to become either a hunter or a fiſherman. The camel has determined him to a paſtoral life, the manners of which have influenced his whole character. Finding at hand a light, but conſtant and ſufficient nouriſhment, he has acquired the habit of frugality. Content with his milk and his dates, he has not deſired fleſh; he has ſhed no blood: his hands are not accuſtomed to ſlaughter, nor his ears to the cries of ſuffering creatures; he has preſerved a humane and ſenſible heart.

No ſooner did the ſavage ſhepherd become acquainted with the uſe of the horſe, than his manner of life muſt conſiderably change. The facility of paſſing rapidly over extenſive tracts of country, rendered him a wanderer. He was greedy from want, and became a robber from greedineſs; and ſuch is in fact his preſent character. A plunderer, rather than a warrior, the Arab poſſeſſes no ſanguinary courage; he attacks only to deſpoil; and if he meets with reſiſtance, never thinks a ſmall booty is to be put in competition with his life. To irritate him, you muſt ſhed his blood; in which caſe he is found to be as obſtinate in his vengeance as he was cautious in avoiding danger.

The Bedouins have often been reproached with this ſpirit of rapine; but without wiſhing to defend it, we may obſerve that one circumſtance has not been ſufficiently attended to, which is, that it only takes place towards reputed enemies, and is conſequently founded on the acknowledged laws of almoſt all nations. Among themſelves they are remarkable for a good faith, a diſintereſtedneſs, a generoſity, which would do honour to the moſt civilized people. What is there more noble than that right of aſylum ſo reſpected among all the tribes? A ſtranger, nay even an enemy, touches the tent of the Bedouin, and from that inſtant his perſons becomes inviolable. It would be reckoned a diſgraceful meanneſs, an indelible ſhame, to ſatisfy even a juſt vengeance at the expence of hoſpitality. Has the Bedouin conſented to eat bread and ſalt with his gueſt, nothing in the world can induce him to betray him. The power of the Sultan himſelf would not be able to force a refugee from the protection of a tribe, but by its total extermination. The Bedouin, ſo rapacious without his camp, has no ſooner ſet his foot within it, than he becomes liberal and generous. What little he poſſeſſes he is ever ready to divide. He has even the delicacy not to wait till it is aſked: when he takes his repaſt, he affects to ſeat himſelf at the door of his tent, in order to invite the paſſengers; his generoſity is ſo ſincere, that he does not look upon it as a merit, but merely as a duty, and he therefore readily takes the ſame liberty with others. To obſerve the manner in which the Arabs conduct themſelves towards each other, one would imagine that they poſſeſſed all their goods in common. Nevertheleſs they are no ſtrangers to property; but it has none of that ſelfiſhneſs which the increaſe of the imaginary wants of luxury has given it among poliſhed nations. Deprived of a multitude of enjoyments which nature has laviſhed upon other countries, they are leſs expoſed to temptations which might corrupt and debaſe them. It is more difficult for their Shaiks to form a faction to enſlave and impoveriſh the body of the nation. Each individual, capable of ſupplying all his wants, is better able to preſerve his character and independence; and private property becomes at once the foundation and bulwark of public liberty.

This liberty extends even to matters of religion. We obſerve a remarkable difference between the Arabs of the towns and thoſe of the deſart; ſince, while the former crouch under the double yoke of political and religious deſpotiſm, the latter live in a ſtate of perfect freedom from both: it is true, that on the frontiers of the Turks, the Bedouins, from policy, preſerve the appearance of Mahometaniſm; but ſo relaxed is their obſervance of its ceremonies, and ſo little fervour has their devotion, that they are generally conſidered as infidels, who have neither law nor prophets. They even make no difficulty in ſaying that the religion of Mahomet was not made for them: "For (add they) how ſhall we make ablutions who have no water? How can we beſtow alms who are not rich? Why ſhould we faſt in the Ramadan, ſince the whole year with us is one continual faſt? and what neceſſity is there for us to make the pilgrimage to Mecca, if God be preſent every where?" In ſhort, every man acts and thinks as he pleaſes, and the moſt perfect toleration is eſtabliſhed among them.

BEDRIACUM, (anc. geog.), a village of Italy, ſituated, according to Tacitus, between Verona and Cremona, but nearer the latter than the former. From the account given by that hiſtorian, Cluverius conjectures that the ancient Bedriacum ſtood in the place where the city of Caneto now ſtands. This village was remarkable for the defeat of the emperor Galba by Otho, and afterwards of Otho by Vitellius.

BEDWIN-MAGNA, a village five miles ſouth of Hungerford in Berkſhire in England. It has neither market nor fair; but is a borough by preſcription, and ſends two members to parliament. It is ſaid to have been a conſiderable place in the time of the Saxons, and that the traces of its fortifications are ſtill extant.

BEE, in natural hiſtory, a genus of inſects, the characters of which are given under the Latin or Linnæan name Apis. The principal ſpecies are there alſo deſcribed; excepting the mellifica, or domeſtic honey-bee, the hiſtory and management of which was referred to this article.

1 Deſcription of the honey-bee.

This ſpecies is furniſhed with downy hairs; has a duſky-coloured breaſt, and browniſh belly; the tibiæ of the hind-legs are ciliated, and tranſverſely ſtreaked on the inſide. Each foot terminates in two hooks, with their points oppoſite to each other; in the middle of theſe hooks there is a little thin appendix, which when unfolded, enables the inſects to faſten themſelves to glaſs or the moſt poliſhed bodies. This part they likewiſe employ for tranſmitting the ſmalleſt particles of crude wax which they find upon flowers to the cavity in their thigh, hereafter deſcribed. The queen and drones, who never collect wax in this manner, have no ſuch cavity. This ſpecies is alſo furniſhed with a proboſcis or trunk, which ſerves to extract the honey from flowers; and has, beſides, a real mouth ſituated in the forepart of the head, with which it is able to feed on the farina of flowers, from which afterwards is made wax. The belly is divided into ſix rings or joints; which ſometimes ſhorten the body, by ſlipping the one over the other. In the inſide of the belly there is a ſmall bladder or reſervoir, in which the honey is collected, after having paſſed through the proboſcis and a narrow pipe which runs through the head and breaſt. This bladder, when full of honey, is about the ſize of a ſmall pea.

2 Its ſting.

The ſting, which is ſituated at the extremity of the belly, is a very curious weapon; and when examined by the microſcope, appears of a ſurpriſing ſtructure. It has a horney ſheath or ſcabbard, which includes two bearded darts. This ſheath ends in a ſharp point, near the extremity of which a ſlit opens, through which, at the time of ſtinging, the two bearded darts are protruded beyond the end of the ſheath: one of theſe is a little longer than the other, and fixes its beard firſt; and the other inſtantly following, they penetrate alternately deeper and deeper, taking hold of the fleſh with their beards or hooks, till the whole ſting is buried in the fleſh; and then a venomous juice is injected through the ſame ſheath, from a little bag at the root of the ſting. Hence the wound occaſions an acute pain and ſwelling of the part, which ſometimes continues ſeveral days. Theſe effects are beſt remedied by enlarging the wound directly, to give it ſome diſcharge. This poiſon ſeems to owe its miſchievous efficacy to certain pungent ſalts. Let a bee be provoked to ſtrike its ſting againſt a plate of glaſs, and there will be a drop of the poiſon diſcharged and left upon the glaſs. This being placed under a double microſcope, as the liquor evaporates, the ſalts will be ſeen to concrete, forming oblong, pointed, clear cryſtals.—Mr Derham counted on the ſting of a waſp eight beards on the ſide of each dart, ſomewhat like the beards of fiſh-hooks; and the ſame number is to be counted on the darts of the bee's ſting. When theſe beards are ſtruck deep in the fleſh, if the wounded perſon ſtarts, or diſcompoſes the bee before it can diſengage them, the ſting is left behind ſticking in the wound: but if he have patience to ſtand quiet, the creature brings the hooks down cloſe to the ſides of the darts, and withdraws the weapon; in which caſe, the wound is always much leſs painful. The danger of being ſtung by bees may be in a great meaſure prevented by a quiet compoſed behaviour. A thouſand bees will fly and buzz about a perſon without hurting him, if he ſtand perfectly ſtill, and forbear diſturbing them even when near his face; in which caſe he may obſerve them for hours together without danger: but if he moleſts or beats them away, he uſually ſuffers for it. It has been lately affirmed*, that a perſon is in perfect ſafety in the midſt of myriads of bees, if he but carefully keep his mouth ſhut, and breathe gently through the noſtrils only; the human breath, it would ſeem, being peculiarly offenſive to their delicate organs: and merely with this precaution, it is ſaid, the very hives may be turned up, and even part of the comb cut out, while the bees are at work.

I. OECONOMY, INSTINCTS, &c. *of the* HONEY-BEE.

We may conſider a hive of bees as a well peopled city, in which are commonly found from 15,000 to 18,000 inhabitants. This city is in itſelf a monarchy; compoſed of a *queen*; of males, which are the *drones*; and of *working bees*, which have been ſuppoſed and called neuters. The combs, which are of pure wax, ſerve as their magazine of ſtores, and for the nurſing places of their young offspring. There is between the combs a ſpace ſufficient for two bees to march abreaſt, without embarraſſing each other; and in ſome parts it is more ſpacious. There are alſo holes, or narrow paſſes, which croſs the combs tranſverſely, and are intended to ſhorten the way when the bees paſs from one comb to another.

3
Queen bee.

The QUEEN is alſo diſtinguiſhed from the other bees, by the form of her body; ſhe is longer and larger than they are, and her wings are much ſhorter than theirs in proportion to her body; for the wings of the other bees cover their whole body, whereas thoſe of the queen hardly reach beyond her middle, or end at about the third ring of her belly. Her hinder parts are more taper than thoſe of the other bees, terminating ſharper. Her belly and legs are of a deep yellow, much reſembling the pureſt gold. She is unwieldy in her flight, a reaſon for her ſeldom flying but when ſhe leaves the parent-hive to go and ſettle a colony. All the bees form her retinue, and like dutiful ſubjects, repair to the place ſhe chooſes. She is armed with a vigorous ſting. Leſs paſſionate however than her ſubjects, ſhe only uſes her ſting when long provoked, or when in conteſt for imperial ſway. Never more than one remains in a hive, and that is the conqueror.

4
Attachment of her ſubjects.

A hive of bees cannot ſubſiſt without a queen, as ſhe alone produces their numerous poſterity; and on this account their fidelity and attachment to their ſovereign is admirable.

5
Mr Wildman's feats by means of the queen.

Mr. Wildman, by his dexterity in the management of bees, ſome years ago, ſurpriſed the whole kingdom. He can cauſe a ſwarm to light where he pleaſes, almoſt inſtantaneouſly; he can order them to ſettle on his head, then remove them to his hand; command them to depart and ſettle on a window, table, &c. at pleaſure. We ſhall ſubjoin his method of performing theſe feats, in his own words:

"Long experience has taught me, that as ſoon as I turn up a hive, and give it ſome taps on the ſides and bottom, the queen immediately appears, to know the cauſe of this alarm; but ſoon retires again among her people. Being accuſtomed to ſee her ſo often, I readily perceive her at firſt glance; and long practice has enabled me to ſeize her inſtantly, with a tenderneſs that does not in the leaſt endanger her perſon. This is of the utmoſt importance; for the leaſt injury done to her brings immediate deſtruction to the hive, if you have not a ſpare queen to put in her place, as I have too often experienced in my firſt attempts. When poſſeſſed of her, I can without injury to her, or exciting that degree of reſentment that may tempt her to ſting me, ſlip her into my other hand, and, returning the hive to its place, hold her there, till the bees miſſing her, are all on wing, and in the utmoſt confuſion. When the bees are thus diſtreſſed, I place the queen where-ever I would have the bees to ſettle. The moment a few of them diſcover her, they give notice to thoſe near them, and thoſe to the reſt; the knowledge of which ſoon becomes ſo general, that in a few minutes they all collect themſelves round her; and are ſo happy in having recovered this ſole ſupport of their ſtate, that they will long remain quiet in their ſituation. Nay, the ſcent of her body is ſo attractive of them, that the ſlighteſt touch of her, along any place or ſubſtance, will attach the bees to it, and induce them to purſue any path ſhe takes." This was the only witchcraft uſed by Mr Wildman, and is that alone which is practiſed by others who have ſince made ſimilar exhibitions. In ſhort, ſeize on the queen, and you are ſure of leading all the bees of a hive to any place you pleaſe.

6
Conſequences of her death, &c.

When a queen dies by any accident, the bees of her hive immediately ceaſe working, conſume their own honey, fly about their own and other hives at unuſual hours when other bees are at reſt, and pine away if not ſoon ſupplied with another ſovereign. Her loſs is proclaimed by a clear and interrupted humming. This ſign ſhould be a warning to the owner of the bees, to take what honey remains in the hive, or to procure them another queen. In this laſt caſe, the flock inſtantly revives; pleaſure and activity are apparent through the whole hive; the preſence of the ſovereign reſtores vigour and exertion, and her voice commands univerſal reſpect and obedience: of ſuch importance is the queen to the exiſtence and proſperity of the other members of this community.

The diſſection of the queen-bee ſhows evidently that ſhe lays many thouſand eggs. It is computed that the ovaria of a queen-bee contains more than 5000 eggs at one time; and therefore it is not difficult to conceive that a queen-bee may produce 10,000 or 12,000 bees, or even more, in the ſpace of two months.

7
Of the drones.

The common DRONES are ſmaller than the queen, and larger than the working bees; and in flying they make a greater noiſe. The diſſection of the drone gives us as great proof of its being the male, as that of the queen does of her being female. In this creature there is no appearance of ovaries or eggs, nor any thing of the ſtructure of the common working bees, but the whole abdomen is filled with tranſparent veſſels, winding about in various ſinuoſities, and containing a white or milky fluid. This is plainly analogous to that fluid in the males of other animals, which is deſtined to render the eggs of the female prolific; and this whole apparatus of veſſels, which much reſemble the turnings and windings of the ſeminal veſſels in other animals, is plainly intended only for the preparation and retention of this matter, till the deſtined time of its being emitted. On ſqueezing the hinder parts, alſo, may be forced out the penis, a ſmall and ſlender fleſhy body, contained be-

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* See *Edinburgh Medical Commentaries*, Vol. IV. p. 352.

tween the horns of a ſomewhat harder ſubſtance, which join at their baſe, but gradually part aſunder as they are continued in length. Theſe parts, found in all the drones, and none of them in any other bees except theſe, ſeem to prove very evidently the difference of ſex. If a hive is opened in the beginning of ſpring, not a ſingle drone will be found in it; from the middle of May till the end of June, hundreds of them will be found, commonly from 200 or 300 to 1000; and from thence to the following ſpring it would be in vain to ſeek for them. They go not out till 11 in the morning, and return before ſix in the evening. But their expeditions are not thoſe of induſtry. They have no ſting, their roſtrum and feet are not adapted for collecting wax and honey, nor indeed are they obliged to labour. They only hover upon flowers to extract the ſweets, and all their thoughts are pleaſure. Their office is, to impregnate the eggs of the queen after they are depoſited in the cells. And while their preſence is thus neceſſary, they are ſuffered to enjoy the ſweets of love and life; but as ſoon as they become uſeleſs in the hive, the working bees declare the moſt cruel war againſt them, and make terrible ſlaughter of them. This war affects not only the bees already in life, but even the eggs and maggots; for the law which has pronounced the deſtruction of the males has no exception, it extends equally to thoſe which do not yet breathe and to thoſe which do; the hive is cleared of every egg, maggot, or nymph; the whole is torn away and carried off. After the ſeaſon proper for increaſing the number of bees is paſt, and when they ſhould attend only to the ſupplying of their magazines ſufficiently with winter-ſtores, every veſtige of the drones is deſtroyed, to make room for honey. Whenever theſe drones are obſerved to remain in a hive late in the autumn, it is held to be a bad ſign of the ſtate of the hive.

But beſides theſe larger drones, Maraldi and Reaumur had long ago diſcovered that there were others of a leſſer ſize, not exceeding that of the common working bees. This fact, however, was not fully aſcertained before the late experiments of Mr Debraw, to be afterwards mentioned. It is well known, as has been already noticed, that the large drones never appear in the hive before the middle of April; that they are all dead before the end of Auguſt, when the principal breeding ſeaſon terminates; and that they are deſtroyed, together with all their worms or nymphs, by the working bees, probably by order of the queen, to ſave honey: yet it is equally certain, that the bees begin to breed early in the ſpring, ſometimes in February, if the weather is mild; and that many broods are completed before theſe drones appear. But if drones of a ſmaller ſize are ſuffered to remain, which in a time of ſcarcity conſume leſs honey than the others, theſe will anſwer the purpoſe of ſupplying the early broods, and the larger drones are produced againſt a time of greater plenty. Some obſervers affirm, that the ſmaller drones are all dead before the end of May, when the larger ſpecies appear and ſuperſede their uſe. Theſe circumſtances accord with the ſuggeſtion of Abbe Le Pluche in his *Spectacle de la Nature*, That a ſmall number of drones are reſerved to ſupply the neceſſities of the enſuing year; and that theſe drones are very little, if at all, larger than the common bees.

The working bees.

The Working Bees compoſe the greateſt body of the ſtate, Columella informs us, that the ancients diſtinguiſhed ſeveral kinds of them. He joins in opinion with Virgil, who approves of thoſe which are ſmall, oblong, ſmooth, bright and ſhining, of a gentle and mild diſpoſition: "for," continues he, by how much the larger and rounder the bee is, by ſo much the worſe it is; but if it be fierce and cruel, it is the worſt of all. The angry diſpoſition of bees of a better character is eaſily ſoftened by the frequent intercourſe of thoſe who take care of them, for they grow more tame when they are often handled." The experience of ages has now eſtabliſhed the ſort of bees which have been found to anſwer beſt the purpoſes of keeping them.

The working bees have the care of the hive, collect the wax and honey, fabricate and work up the wax, build the cells, feed the young, keep the hive clean, drive from thence ſtrangers, and employ themſelves in all other concerns relating to the hive.

The working bee has two ſtomachs; one of which contains the honey, and a ſecond in which is contained the crude wax. The working bees have no parts analogous to the ovaria of the queen, or that reſemble the male organs of the drones. Hence they have generally been ſuppoſed to be neutral or of neither ſex. But a different doctrine has lately been eſtabliſhed; which there will be occaſion to notice in the ſequel.

The ſting is very neceſſary for a working bee, both as an offenſive and as a defenſive weapon: for their honey and wax excite the envy of many greedy and lazy inſects; and they have alſo to defend themſelves againſt enemies, who are fonder of eating them than their honey. There is likewiſe a time when the drones muſt be ſacrificed and exterminated for the good of the ſociety; and as they are larger and ſtronger than the working bees, theſe laſt would have a very unequal match, were it not for this poiſonous ſting.

9
Of their battles.

There happen alſo among bees, either of the ſame or different hives, moſt deadly feuds, in which their ſtings are their chief weapons. In theſe conteſts, great ſkill may be diſcerned in their manner of pointing the ſting between the ſcaly rings which cover their bodies, or to ſome other eaſily vulnerable part. The bee which firſt gains the advantage remains the conqueror: tho' the victory coſts the victor his life, if he has left his ſting in the body of the enemy; for, with the ſting, ſo much of his body is torn out, that death inevitably follows. Bees have very ſevere conflicts when whole hives engage in a pitched battle, and many are ſlain on both ſides. Their fighting and plundering one another ought chiefly to be imputed, as Mr Thorley obſerves, either to their perfect abhorrence of ſloth and idleneſs, or to their inſatiable thirſt for honey; for when in ſpring and autumn, the weather is fair, but no honey can be collected from plants, and is to be found only in the hives of other bees, they will venture their lives to get it there.

Dr Warder aſſigns another cauſe of their fighting; which is, the neceſſity that the bees are reduced to when their hive has been plundered, at a ſeaſon when it is too late for them to repair the loſs by any induſtry in the fields.

Sometimes one of the queens is killed in battle. In this caſe, the bees of both hives unite as ſoon as her death is generally known among them. All then become one people; the vanquiſhed go off with the robbers richly laden with their own ſpoils, and return every day with their new aſſociates to pillage their old habitation. This cauſes a throng, unuſual for the ſeaſon, at the door of the hive they are plundering; and if the owner lifts it up at night, when all are gone home, he will find it empty of inhabitants; though there perhaps will remain in it ſome honey, which he takes as his property.

When two ſwarms take flight at the ſame time, they ſometimes quarrel, and great numbers are deſtroyed on both ſides, till one of the queens is ſlain. This ends the conteſt, and the bees of both ſides unite under the ſurviving ſovereign.

10 Their labours.

When the bees begin to work in their hives, they divide themſelves into four companies: one of which roves in the fields in ſearch of materials; another employs itſelf in laying out the bottoms and partitions of their cells; a third is employed in making the inſide ſmooth from the corners and angles; and the fourth company brings food for the reſt, or relieves thoſe who return with their reſpective burdens. But they are not kept conſtant to one employment; they often change the taſks aſſigned them: thoſe that have been at work, being permitted to go abroad; and thoſe that have been in the fields already, take their places. They ſeem even to have ſigns, by which they underſtand each other: for when any of them want food, it bends down its trunk to the bee from whom it is expected, which then opens its honey-bag, and lets ſome drops fall into the other's mouth, which is at that time opened to receive it. Their diligence and labour is ſo great, that, in a day's time, they are able to make cells which lie upon each other numerous enough to contain 3000 bees.

11 Of the combs.

In the plan and formation of theſe cells they diſcover a moſt wonderful ſagacity. In conſtructing habitations within a limited compaſs, an architect would have three objects in view; firſt to uſe the ſmalleſt quantity, that can be of materials; next, to give the edifice the greateſt capacity on a determined ſpace; and thirdly, to employ the ſpot in ſuch a manner that none of it may be loſt. On examination, it will be found that the bees have obtained all theſe advantages in the hexagonal form of their cells: for, firſt, there is an œconomy of wax, as the circumference of one cell makes part of the circumferences of thoſe contiguous to it; ſecondly, the œconomy of the ſpot, as theſe cells which join to one another leave no void between them; and thirdly, the greateſt capacity or ſpace; as, of all the figures which can be contiguous, that with ſix ſides gives the largeſt area. This thriftineſs prompts them to make the partitions of their cells thin; yet they are conſtructed ſo as that the ſolidity may compenſate for the ſcantineſs of materials. The parts moſt liable to injury are the entrance of the cells. Theſe the bees take care to ſtrengthen, by adding quite round the circumference of the apertures a fillet of wax, by which means this mouth is three or four times thicker than the ſides: and they are ſtrengthened at the bottom by the angle formed by the bottom of three cells falling in the middle of an oppoſite cell. The combs lie parallel to each other; and there is left between every one of them a ſpace which ſerves as a ſtreet, broad enough for two bees to paſs by each other. There are holes which go quite through the combs, and ſerve as lanes for the bees to paſs from one comb to another without being obliged to go a great way about. When they begin their combs, they form at the top of the hive a root or ſtay to the whole edifice, which is to hang from it. Though they generally lay the foundations of the combs ſo that there ſhall be no more between them than what is ſufficient for two bees to paſs, yet they ſometimes place thoſe beginnings of two combs too far aſunder; and, in this caſe, in order to fill up part of the void ſpace ariſing from that bad diſpoſition, they carry their combs on obliqnely, to make them gradually approach each other. This void ſpace is ſometimes ſo conſiderable, that the bees build in it an intermediate comb, which they terminate as ſoon as the original combs have only their due diſtances. As the combs would be apt, when full, to overcome by their weight all the ſecurity which the bees can give them againſt falling; they who prepare hives, ſet in them, croſſwiſe, ſticks which ſerve as props to the combs, and ſave the bees a great deal of labour. It is not eaſy to diſcover the particular manner of their working; for, notwithſtanding the many contrivances uſed for this purpoſe, there are ſuch numbers in continual motion, and ſucceed one another with ſuch rapidity, that nothing but confuſion appears to the ſight. Some of them, however, have been obſerved carrying pieces of wax in their talons, and running to the places where they are at work upon the combs. Theſe they faſten to the work by means of the ſame talons. Each bee is employed but a very ſhort time in this way: but there is ſo great a number of them that go on in a conſtant ſucceſſion, that the comb increaſes very perceptibly. Beſides theſe, there are others that run about beating the work with their wings and the hinder part of their body, probably with a view to make it more firm and ſolid.

Whilſt part of the bees are occupied in forming the cells, others are employed in perfecting and poliſhing thoſe that are new modelled. This operation is performed by their talons, taking off every thing that is rough and uneven. Theſe poliſhers are not ſo deſultory in their operations as thoſe that make the cells; they work long and diligently, never intermitting their labour, excepting to carry out of the cell the particles of wax which they take off in poliſhing. Theſe particles are not allowed to be loſt; others are ready to receive them from the poliſhers, and to employ them in ſome other part of the work.

12 Of their building-materials, and proviſions. 1. *Wax.*

The balls which we ſee attached to the legs of bees returning to the hives, are not wax, but a powder collected from the ſtamina of flowers, not yet brought to the ſtate of wax. The ſubſtance of theſe balls heated in any veſſel, does not melt as wax would do, but becomes dry, and hardens: it may even be reduced to a coal. If thrown into water, it will ſink; whereas wax ſwims. To reduce this crude ſubſtance into wax, it muſt firſt be digeſted in the body of the bee.

Every bee, when it leaves the hive to collect this precious ſtore, enters into the cup of the flower, particularly ſuch as ſeem charged with the greateſt quantities of this yellow farina. As the animal's body is covered over with hair, it rolls itſelf within the flower, and quickly becomes quite covered with the duſt, which it ſoon after bruſhes off with its two hind legs, and kneads into two little balls. In the thighs of the hind-legs there are two cavities, edged with hair; and into theſe, as into a baſket, the animal ſticks its pellets. Thus employed, the bee flits from flower to flower, increaſing its ſtore, and adding to its ſtock of wax, until the ball upon each thigh becomes as big as a grain of pepper; by this time having got a ſufficient load, it returns, making the beſt of its way to the hive.

After the bees have brought home this crude ſubſtance, they eat it by degrees; or, at other times, three or four bees come and eaſe the loaded bee, by eating each of them a ſhare, the loaded bee giving them a hint ſo to do. Hunger is not the motive of their thus eating the balls of waxy matter, eſpecially when a ſwarm is firſt hived; but it is their deſire to provide a ſpeedy ſupply of real wax for making the combs. At other times, when there is no immediate want of wax, the bees lay this matter up in repoſitories, to keep it in ſtore.

When this waxy matter is ſwallowed, it is, by the digeſtive powers of the bee, converted into real wax, which the bees again diſgorge as they work it up into combs; for it is only while thus ſoft and pliant from the ſtomach that they can fabricate it properly. That the wax thus employed is taken from their ſtomachs, appears from their making a conſiderable quantity of comb ſoon after they are hived, and even on any tree or ſhrub where they have reſted but a ſhort while before their being hived, though no balls were viſible on their legs, excepting thoſe of a few which may be juſt returned from the field. This is farther confirmed by what happened in a ſwarm newly hived: for two days together from the time of their quitting their former home it rained conſtantly, inſomuch that not one bee was able to ſtir out during that time; yet at the end of the two days they had made a comb 15 or 16 inches long, and thick in proportion.

The crude wax, when brought home by the bees, is often of as different colours as are the flowers from which it is collected: but the new combs are always of a white colour, which is afterwards changed only by the impurities ariſing from the ſteam, &c. of the bees.

Bees collect crude wax alſo for food; for if this was not the caſe, there would be no want of wax after the combs are made: but they are obſerved, even in old hives, to return in great numbers loaded with ſuch matter, which is depoſited in particular cells, and is known by the name of *bee-bread*. We may gueſs that they conſume a great deal of this ſubſtance in food by the quantity collected; which, by computation, may in ſome hives, amount to an hundred weight in a ſeaſon, whilſt the real wax in ſuch an hive does not perhaps exceed two pounds.

13
2. The *propolis*.

It is well known that the habitation of bees ought to be very cloſe; and what their hives want from the negligence or unſkilfulneſs of man, theſe animals ſupply by their own induſtry; ſo that it is their principal care, when firſt hived, to ſtop up all the crannies. For this purpoſe they make uſe of a reſinous gum, which is more tenacious than wax, and differs greatly from it. This the ancients called *propolis*. It will grow conſiderably hard in the hive, though it will in ſome meaſure ſoften by heat; and is often found different in conſiſtence, colour, and ſmell. It has generally an agreeable aromatic odour when it is warmed; and by ſome it is conſidered as a moſt grateful perſume. When the bees begin to work with it, it is ſoft; but it acquires a firmer conſiſtence every day, till at length it aſſumes a brown colour, and becomes much harder than wax. The bees carry it on their hinder legs; and ſome think it is met with on the birch, the willow, and poplar. However it is procured, it is certain that they plaſter the inſide of their hives with this compoſition.

14
3. The *honey*.

Honey is originally a juice digeſted in plants, which ſweats through their pores, and chiefly in their flowers, or is contained in reſervoirs in which nature ſtores it. The bees ſometimes penetrate into theſe ſtores, and at other times find the liquor exſuded. This they collect in their ſtomachs; ſo that, when loaded with it, they ſeem, to an inattentive eye, to come home without any booty at all.

Beſides the liquor already mentioned, which is obtained from the flowers of plants, another ſubſtance, called *honey-dew* *, has been diſcovered, of which the bees are equally fond. Of this ſubſtance there are two kinds, both deriving their origin from vegetables, tho' in very different ways.

The firſt kind, the only one known to huſbandmen, and which paſſes for a dew that falls on trees, is no other than a mild ſweet juice, which having circulated through the veſſels of vegetables, is ſeparated in proper reſervoirs in the flowers, or on the leaves, where it is properly called the *honey-dew*: ſometimes it is depoſited in the pith, as in the ſugar-cane; and, at other times, in the juice of pulpy ſummer-fruits when ripe. Such is the origin of the manna which is collected on the aſh and maple of Calabria and Briançon, where it flows in great plenty from the leaves and trunks of theſe trees, and thickens into the form in which it is uſually ſeen.

The ſecond kind of honey-dew, which is the chief reſource of bees after the ſpring-flowers and dew by tranſpiration on leaves are paſt, owes its origin to a ſmall mean inſect †, the excrement thrown out by which makes a part of the moſt delicate honey we ever taſte.

From whatever ſource the bees have collected their honey, the inſtant they return home, they ſeek cells in which they may diſgorge and depoſite their loads. They have two ſort of ſtores: one of which conſiſts of honey laid up for the winter; and the other of honey intended for accidental uſe in caſe of bad weather, and for ſuch bees as do not go abroad in ſearch of it. Their method of ſecuring each of theſe is different. They have in each cell a thicker ſubſtance, which is placed over the honey, to prevent its running out of the cell; and that ſubſtance is raiſed gradually as the cell is filled, till the bees, finding that the cell cannot contain any more, cloſe it with a covering of wax, not to be opened till times of want, or during the winter.

15
Of the manner in which bees breed.

It has been already obſerved, that the cells are intended for other purpoſes beſides being places of ſtore for honey. One of the chief uſes is, their being nurſeries for the young. The cells for thoſe which are to be working bees, are commonly half an inch deep; thoſe for drones, three quarters of an inch; and thoſe which are intended for keeping of honey only, ſtill deeper. This accounts for the inequalities obſerved in the ſurface of combs.

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* See the article *Honey-dew*.

† See the articles *Aphis* and *Honey-dew*.

The queen-bee is generally concealed in the moſt ſecret part of the hive, and is never viſible but when ſhe lays her eggs in ſuch combs as are expoſed to ſight. When ſhe does appear, ſhe is always attended by ten or a dozen of the common ſort, who form a kind of retinue, and follow her wherever ſhe goes with a ſedate and grave tread. Before ſhe lays her eggs, ſhe examines the cells where ſhe deſigns to lay them; and if ſhe finds that they contain neither honey, wax, nor any embryo, ſhe introduces the poſterior part of her body into a cell, and fixes to the bottom of it a ſmall white egg, which is compoſed of a thin white membrane, full of a whitiſh liquor. In this manner ſhe goes on, till ſhe fills as many cells as ſhe has eggs to lay, which are generally many thouſands. Sometimes more than one egg has been depoſited in the ſame cell; when this is the caſe, the working bees remove the ſupernumerary eggs, and leave only one in each cell. On the firſt or ſecond day after the egg is lodged in the cell, the drone bee injects a ſmall quantity of whitiſh liquid, which in about a day is abſorbed by the egg. On the third or fourth day is produced a worm or maggot; which, when it is grown ſo as to touch the oppoſite angle, coils itſelf up in the ſhape of a ſemicircle, and floats in a proper liquid, whereby it is nouriſhed and enlarged in its dimenſions. This liquor is of a whitiſh colour, of the thickneſs of cream, and of an inſipid taſte like flour and water. Naturaliſts are not agreed as to the origin and qualities of this liquid. Some have ſuppoſed, that it conſiſts of ſome generative matter, injected by the working bees into each cell, in order to give fecundity to the egg; but the moſt probable opinion is, that it is the ſame with what ſome writers have called the *bee-bread*; and that it is a mixture of water with the juices of plants and flowers collected merely for the nutrition of the young, whilſt they are in their weak and helpleſs ſtate. Whatever be the nature of this aliment, it is certain that the common working bees are very induſtrious in ſupplying the worms with a ſufficient quantity of it. The worm is fed by the working bees for about eight days, till one end touches the other in the form of a ring; and when it begins to feel itſelf uneaſy in its firſt poſture, it ceaſes to eat, and begins to unroll itſelf, thruſting that end forward towards the mouth of the cell which is to be the head. The attendant bees, obſerving theſe ſymptoms of approaching tranſformation, deſiſt from their labours in carrying proper food, and employ themſelves in faſtening up the top of the cell with a lid of wax, formed in concentric circles, and by their natural heat in cheriſhing the brood and haſtening the birth. In this concealed ſtate the worm extends itſelf at full length, and prepares a web of a ſort of ſilk, in the manner of the ſilk-worm. This web forms a complete lining for the cell, and affords a convenient receptacle for the tranſformation of the worm into a nymph or chryſalis. Some naturaliſts ſuppoſe, that as each cell is deſtined to the ſucceſſive breeding of ſeveral worms, the whole web, which is compoſed of many cruſts or doubles, is in reality a collection of as many webs as there have been worms. M. Maraldi apprehends, that this lining is formed of the ſkin of the worm thrown off at its entrance into the nymph ſtate: but it is urged, that if the cells are opened when newly covered by the bees, the worm within will be found in its own form, and detected in the act of ſpinning its web; and by means of glaſſes it will be found compoſed of fine threads regularly woven together, like thoſe of other ſpinning animals. In the ſpace of 18 or 20 days the whole proceſs of tranſformation is finiſhed, and the bee endeavours to diſcharge itſelf from confinement by forcing an aperture with its teeth through the covering of the cell. The paſſage is gradually dilated; ſo that one horn firſt appears, then the head, and afterwards the whole body. This is uſually the work of three hours, and ſometimes of half a day. The bee, after it has diſengaged itſelf, ſtands on the ſurface of the comb, till it has acquired its natural complexion, and full maturity and ſtrength, ſo as to become fit for labour. The reſt of the bees gather round it in this ſtate, congratulate its birth, and offer it honey out of their own mouths. The exuviæ and ſcattered pieces of wax which are left in the cell are removed by the working bees; and the matrix is no ſooner cleanſed and fit for new fecundation, but the queen depoſites another egg in it; inſomuch that, Mr Maraldi ſays, he has ſeen five bees produced in the ſame cell in the ſpace of three months. The young bees are eaſily diſtinguiſhed from the others by their colour: they are grey, inſtead of the yellowiſh brown of the common bees. The reaſon of this is, that their body is black, and the hairs that grow upon it are white, from the mixture of which ſeen together reſults a grey; but this colour forms itſelf into a browniſh yellow by degrees, the rings of the body becoming more brown and the hairs more yellow.

The eggs from which drones are to proceed, are, as already obſerved, laid in larger cells than thoſe of the working bees. The coverings of theſe cells, when the drones are in the nymph ſtate, are convex or ſwelling outward, whilſt the cells of the working bees are flat. This, with the privilege of leading idle effeminate lives, and not working for the public ſtock, is what diſtinguiſhes the drones.

The bees depart from their uſual ſtyle of building when they are to raiſe cells for bringing up ſuch maggots as are deſtined to become queens. Theſe are of a longiſh oblong form, having one end bigger than the other, with their exterior ſurface full of little cavities. Wax, which is employed with ſo geometrical a thriftineſs in the raiſing of hexagonal cells, is expended with profuſion in the cell which is to be the cradle of a royal maggot. They ſometimes fix it in the middle, and at other times on one ſide of a comb. Several common cells are ſacrificed to ſerve as a baſis and ſupport to it. It is placed almoſt perpendicular to the common cells, the largeſt end being uppermoſt. The lower end is open till the ſeaſon for cloſing it comes, or till the maggot is ready for tranſformation. It would be difficult to conceive how a tender maggot can remain in a cell turned bottom upmoſt, if we did not find it buried in a ſubſtance ſcarcely fluid, and if it was not in itſelf, at firſt, ſmall and light enough to be ſuſpended in this clammy paſte. As it grows it fills all the upper and larger part of the cell. As ſoon as the young queen comes out of her cell, that cell is deſtroyed, and its place is ſupplied by common cells; but as the foundation of the royal cell is left, this part of the comb is found thicker than any other. There are ſeveral ſuch cells prepared: for if there was only one reared in each hive, the ſwarms might often want a conductreſs. Many accidents may alſo deſtroy the little maggot before it becomes a bee. It is therefore neceſſary that a number of ſuch cells ſhould be provided; and accordingly there are obſerved ſeveral young queens in the beginning of the ſummer, more than one of which often takes flight when a ſwarm departs.

A young queen is in a condition to lead a ſwarm from a hive in which ſhe was born in four or five days after ſhe has appeared in it with wings. The bees of a ſwarm are in a great hurry when they know that their queen is ready to lay. In this caſe, they give to their new cells but part of the depth they are to have, and defer the finiſhing of them till they have traced the number of cells requiſite for the preſent time. The cells firſt made are intended only for working bees; theſe being the moſt neceſſary.

16 Of their ſwarming.

When the hive is become too much crowded by the addition of the young brood, a part of the bees think of finding themſelves a more commodious habitation, and with that view ſingle out the moſt forward of the young queens. A new ſwarm is therefore conſtantly compoſed of one queen at leaſt, and of ſeveral thouſand working bees, as well as ſome hundreds of drones. The working bees are ſome old, ſome young.

Scarce has the colony arrived at its new habitation, when the working bees labour with the utmoſt diligence to procure materials for food and building. Their principal aim is not only to have cells in which they may depoſit their honey: a ſtronger motive ſeems to animate them. They ſeem to know that their queen is in haſte to lay her eggs. Their induſtry is ſuch, that in twenty-four hours they will have made combs twenty inches long, and wide in proportion. They make more wax during the firſt fortnight, if the ſeaſon is favourable, than they do during all the reſt of the year. Other bees are at the ſame time buſy in ſtopping all the holes and crevices they find in their new hive, in order to guard againſt the entrance of inſects which covet their honey, their wax, or themſelves: and alſo to exclude the cold air, for it is indiſpenſably neceſſary that they be lodged warm.

When the bees firſt ſettle in ſwarming, indeed when they at any time reſt themſelves, there is ſomething very particular in their method of taking their repoſe. It is done by collecting themſelves in a heap, and hanging to each other by their feet. They ſometimes extend theſe heaps to a conſiderable length. It would ſeem probable to us, that bees from which the others hang muſt have a conſiderable weight ſuſpended to them. All that can be ſaid is, that the bees muſt find this to be a ſituation agreeable to themſelves. They may perhaps have a method of diſtending themſelves with air, thereby to leſſen their ſpecific gravity; in the ſame manner as fiſhes do, in order to alter their gravity compared with water.

When a ſwarm divides into two or more bands, which ſettle ſeparately, this diviſion is a ſure ſign that there are two or more queens among them. One of theſe cluſters is generally larger than the other. The bees of the ſmaller cluſter, or cluſters, detach themſelves by little and little, till at laſt the whole, together with the queen or queens, unite with the larger cluſter. As ſoon as the bees are ſettled, the ſupernumerary queen, or queens, muſt be ſacrificed to the peace and tranquillity of the hive. This execution generally raiſes a conſiderable commotion in the hive; and ſeveral other bees, as well as the queen or queens, loſe their lives. Their bodies may be obſerved on the ground, near the hive. The queen that is choſen is of a more reddiſh colour than thoſe which are deſtroyed: ſo that fruitfulneſs ſeems to be a great motive of preference in bees; for the nearer they are to the time of laying their eggs, the bigger, larger, and more ſhining are their bodies. The method of hiving theſe ſwarms will be explained hereafter.

17 Other inſtincts.

Beſides the capital inſtincts above mentioned, bees are poſſeſſed of others, ſome of which are equally neceſſary for their preſervation and happineſs.—They anxiouſly provide againſt the entrance of inſects into the hive, by gluing up with wax the ſmalleſt holes in the ſkep. Some ſtand as centinels at the mouth of the hive, to prevent inſects of any kind from getting in. But if a ſnail, or other large inſect ſhould get in, notwithſtanding all reſiſtance, they ſting it to death; and then cover it over with a coat of propolis, to prevent the bad ſmell or maggots which might proceed from the putrefaction of ſuch a large animal.—Bees ſeem to be warned of the appearance of bad weather by ſome particular feeling. It ſometimes happens, even when they are very aſſiduous and buſy, that they on a ſudden ceaſe from their work; not a ſingle one ſtirs out; and thoſe that are abroad hurry home in ſuch prodigious crowds, that the doors of their habitations are too ſmall to admit them. On this occaſion, look up to the ſky, and you will ſoon diſcover ſome of thoſe black clouds which denote impending rain. Whether they ſee the clouds gathering for it, as ſome imagine, or whether (as is much more probable) they feel ſome other effects of it upon their bodies, is not yet determined; but it is alledged, that no bee is ever caught even in what we call a ſudden ſhower, unleſs it have been a very great diſtance from the hive, or have been before injured by ſome accident, or be ſickly and unable to fly ſo faſt as the reſt.—Cold is a great enemy to them. To defend themſelves againſt its effects during a hard winter, they crowd together in the middle of the hive, and buzz about, and thereby excite a warmth which is often perceptible by laying the hand upon the glaſs-windows of the hive.—They ſeem to underſtand one another by the motions of their wings: When the queen wants to quit the hive, ſhe gives a little buzz; and all the others immediately follow her example, and retire along with her.

18 Age of bees

As to the age of bees, the large drones live but a little while, being deſtroyed without mercy by the working bees, probably to ſave honey, as already noticed. But of the other ſort lately diſcovered, no larger than the working bees, and not eaſily to be diſtinguiſhed from them, the age has not yet been aſcertained. Writers are not agreed as to the age of the working bees. Some maintain that they are annual, and others ſuppoſe that they live many years. Many of them, it is well known, die annually of hard labour; and though they may be preſerved by ſucceſſion in hives or colonies for ſeveral years, the moſt accurate obſervers are of opinion that their age is but a year, or at the longeſt no more than two ſummers.

19 Opinions concerning the ſex and fecundation of bees.

Concerning the ſex and fecundation of bees, various experiments have been made of late years, by which new light has been thrown upon the ſubject, and ſeveral difficulties which embarraſſed the proceſs of generation among theſe curious inſects ſeem to have been removed.

Swammerdam, and after him Maraldi, diſcovered in the ſtructure of the drones ſome reſemblance to the male organs of generation, as has already been deſcribed; and from thence concluded that they were the males: but neither of thoſe accurate and induſtrious obſervers could detect them in the act of copulation. Swammerdam, therefore, entertained a notion, that the female or queen-bee was fecundated without copulation; that it was ſufficient for her to be near the males; and that her eggs were impregnated by a kind of vivifying aura exhaled from the body of the males, and abſorbed by the female. However, M. Reaumur thought that he had diſcovered the actual copulation of the drones with the female bee, and he has very minutely diſcribed the proceſs of it. A very ingenious naturaliſt* of the preſent day, without taking any notice of recent diſcoveries, ſeems to have given into the ſame idea. "The office of the males or drones (ſays he) is to render the queen pregnant. One ſingle female ſhould in the midſt of ſeven or eight hundred males, one would think, be inceſſantly aſſailed. But nature has provided againſt that inconvenience, by making them of a conſtitution extremely frigid. The female chooſes out one that pleaſes her; ſhe is obliged to make the firſt advances, and excite him to love by her careſſes. But this favour proves fatal to him: ſcarce has he ceaſed from amorous dalliance, but he is ſeen to periſh. The pleaſure of theſe obſervations may be taken, by putting a female with ſeveral males into a bottle."

Others again, as M. Schirach and M. Hattorff, reject the drones as bearing no ſhare at all in the buſineſs of propagation, and aſſert the queen-bee to be ſelf-prolific. But for what purpoſe then ſhould wiſe nature have furniſhed the drones with that large quantity of ſeminal liquor; to what uſe ſo large an apparatus of fecundating organs ſo well deſcribed by Reaumur and Maraldi? The fact is, that the above gentlemen have founded their opinion upon obſervations that hives are peopled at a time of the year when (as they ſuppoſed) there are no drones in being. But we have already noticed, that nature has provided drones of different ſizes for the purpoſe of impregnation, adapted to different times, occaſions, and circumſtances: And the miſtake of Meſſrs Schirach and Hattorff ſeems to have proceeded from their miſſing the large ſized drones, and not being acquainted with or not adverting to the other ſort ſo hardly diſtinguiſhable from the working bees.

Laſtly, many of the ancients as well as moderns have ſuppoſed that the eggs of the female bee are not impregnated with the male ſperm, while in the body of the creature, but that they are depoſited unimpregnated in the cells; and that the male afterwards ejects the male ſperm on them as they lie in the cells, in the ſame manner as the generation of fiſhes is ſuppoſed to be performed by the males impregnating the ſpawn after it is caſt out by the females. M. Maraldi † long ſince conjectured that this might be the caſe; and he was confirmed in his opinion, by obſerving a liquid whitiſh ſubſtance ſurrounding each egg at the bottom of the cell a little while after it has been laid, and that a great number of eggs, which were not encompaſſed by this liquor, remained barren in the cell.

This method of impregnation has been lately eſtabliſhed beyond all contradiction by the obſervations of Mr Debraw of Cambridge*. Having put ſome bees into glaſs-hives with a large number of drones, he obſerved on the firſt or ſecond day (always before the third) from the time in which the eggs were placed in the cells, which the queen generally lays on the fourth or fifth day after they are put into the hive, that a great number of bees faſtened themſelves to one another, and formed a kind of curtain from the top to the bottom of the hive, probably in order to conceal the proceſs of generation. Mr Debraw, however, could ſoon perceive ſeveral bees, whoſe ſize he was not able to diſtinguiſh, inſerting the poſterior part of their bodies each into a cell, and ſinking into it; after a little while they retired, and he could ſee with the naked eye a ſmall quantity of whitiſh liquor left in the angle of the baſe of each cell, containing an egg; this liquor was leſs liquid than honey, and had no ſweet taſte.

20 Mr Debraw's experiments and diſcoveries.

In order to prove farther that the eggs are fecundated by the males, and that their preſence is neceſſary at the time of breaking, Mr Debraw made the following experiments. They conſiſt in leaving in a hive the queen, with only the common or working bees, without any drones, to ſee whether the eggs ſhe laid would be prolific. To this end, he took a ſwarm, and ſhook all the bees into a tub of water, leaving them there till they were quite ſenſeleſs: by which means he could diſtinguiſh the drones, without any danger of being ſtung: Leaving theſe out, therefore, he reſtored the queen and working-bees, to their former ſtate, by ſpreading them on a brown paper in the ſun; after this he replaced them in a glaſs hive, where they ſoon began to work as uſual. The queen laid eggs, which, to his great ſurpriſe, were impregnated; for he imagined he had ſeparated all the drones or males, and therefore omitted watching them; at the end of twenty days he found ſeveral of his eggs had, in the uſual courſe of changes, produced bees, while ſome had withered away, and others were covered with honey. Hence he inferred, that ſome of the males had eſcaped his notice, and impregnated part of the eggs. To convince himſelf of this, he took away all the brood comb that was in the hive, in order to oblige the bees to provide a freſh quantity, being determined to watch narrowly their motions after new eggs ſhould be laid in the cells. On the ſecond day after the eggs were placed in the cells, he perceived the ſame operation that was mentioned before, namely, that of the bees hanging down in the form of a curtain, while others thruſt the poſterior part of the body into the cells. He then introduced his hand into the hive, and broke off a piece of the comb, in which there were two of theſe inſects: he found in neither of them any ſting (a circumſtance peculiar to the drones); upon diſſection, with the aſſiſtance of a microſcope, he diſcovered the four cylindrical bodies which contain the glutinous liquor, of a whitiſh colour, as obſerved by Maraldi in the large drones. He was therefore now under a neceſſity of repeating his experiments, in deſtroying the males, and even thoſe which might be ſuſpected to be ſuch.

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* *Barbut, Genera of Inſects*, p. 268.

† *Hiſt. Acad. S.* 1712, p. 332.

* *Phil. Tra.* vol. 67. part i. art. 3.

He once more immerſed the ſame bees in water; and when they appeared in a ſenſeleſs ſtate, he gently preſſed every one, in order to diſtinguiſh thoſe armed with ſtings from thoſe which had none, and which of courſe he ſuppoſed to be males: of theſe laſt he found fifty-ſeven, and replaced the ſwarm in a glaſs hive, where they immediately applied again to the work of making cells; and on the fourth or fifth day, very early in the morning, he had the pleaſure to ſee the queen-bee depoſit her eggs in thoſe cells: he continued watching moſt part of the enſuing days, but could diſcover nothing of what he had ſeen before.

The eggs after the fourth day, inſtead of changing in the manner of caterpillars, were found in the ſame ſtate they were the firſt day, except that ſome were covered with honey. A ſingular event happened the next day about noon: all the bees left their own hive, and attempted to get into a neighbouring hive, probably in ſearch of males; but the queen was found dead, having been killed in the engagement.

To be further ſatisfied, Mr Debraw took the brood-comb, which had not been impregnated, and divided it into two parts: one he placed under a glaſs bell, N° 1. with honey-comb for the bees food, taking care to leave a queen, but no drones, among the bees confined in it; the other piece of brood-comb he placed under another glaſs bell, N° 2. with a few drones, a queen, and a proportionable number of common bees. The reſult was, that in the glaſs N° 1. there was no impregnation, the eggs remained in the ſame ſtate they were in when put into the glaſs; and on giving the bees their liberty on the the ſeventh day, they all flew away, as was found to be the caſe in the former experiment: whereas in the glaſs N° 2. the very day after the bees had been put into it, the eggs were impregnated by the drones, the bees did not leave their hives on receiving their liberty, the eggs at the uſual time underwent the neceſſary transformations, and a numerous young colony was produced.

Naturaliſts have obſerved, that the queen bees are produced in a manner peculiar to themſelves, and different from the drones and working bees. Some have ſuppoſed, that the eggs laid by the queen in a hive, and deſtined for the production of Queen bees, are of a peculiar kind: but though this is not the caſe, as M. Schirach has lately diſcovered, yet there are particular cells appropriated for this purpoſe. Theſe cells are generally near the edges, and at the bottom of the combs, and ſometimes on the ſides of a honey-comb: they are of an oblong orbicular form, and very ſtrong; and are more or leſs numerous in different hives as occaſion ſeems to require. It has been alſo ſuppoſed, that the matter with which they are nouriſhed is of a different kind and quality from that employed for the nouriſhment of the other bees; that which has been collected out of the royal cells being of a gummy glutinous nature, of a deep tranſparent red, and diſſolving in the fire rather than crumbling to powder.

21 Mr Schirach's diſcoveries.

It has been generally ſuppoſed, that the queen-bee is the only female contained in the hive; and that the working bees are neutral, or of neither ſex. But M. Schirach* has lately eſtabliſhed a different doctrine, which has been alſo confirmed by the later obſervations of Mr Debraw†. According to Mr Schirach, all the working or common bees are females in diſguiſe; and the queen-bee lays only two kinds of eggs, viz. thoſe which are to produce the drones, and thoſe from which the working bees are to proceed: and from any one or more of theſe, one or more queens may be produced; ſo that every worm of the latter or common kind, which has been hatched about three days, is capable, under certain circumſtances, of becoming the queen, or mother of a hive. In proof of this doctrine, new and ſingular as it may ſeem, he alleges a number of ſatisfactory and deciſive experiments, which have ſince been verified by thoſe of Mr Debraw. In the early months of the ſpring, and in any preceding month, even ſo late as November, he cut off from an old hive, a piece of that part of the comb which contains the eggs of the working bees; taking care, however, that it contained likewiſe worms which had been hatched about three days. He fixed this in an empty hive, or box, together with a portion of honey-comb, &c. or, in other words, with a ſufficiency of food and building materials, or wax, for the uſe of the intended colony. He then put into, and confined within, the ſame box, a ſufficient number of common working bees, taken from the ſame or any other hive. As ſoon as the members of this ſmall community found themſelves deprived of their liberty, and without a queen, a dreadful uproar enſued, which continued generally, with ſome ſhort intervals of ſilence, for the ſpace of about twenty-four hours; during which time it is to be ſuppoſed they were alternately meditating and holding council on the future ſupport of the new republic. On the final ceſſation of this tumult, the general and almoſt conſtant reſult was, that they betook themſelves to work; firſt proceeding to the conſtruction of a royal cell, and then taking the proper meaſures for hatching and feeding the brood incloſed with them. Sometimes even on the ſecond day the foundations of one or more royal cells were to be perceived; the view of which furniſhed certain indications that they had elected one of the incloſed worms to the ſovereignty.

The operation has been hitherto conducted in the houſe. This new colony may now be ſafely truſted in the garden, if the weather be warm, and have the liberty allowed them of paſſing out of the box; of which they inſtantly avail themſelves, and are ſeen in a ſhort time almoſt totally to deſert their new habitation. In about two hours, however, they begin to re-enter it. We ſhould not neglect to obſerve, that if they ſhould be placed near the old hive, from which they were taken, they will very often attempt to enter it, but are as conſtantly repulſed by their former companions and brethren. It is prudent, therefore, to place them at a diſtance from the mother ſtate, in order to avoid the inconveniences of a civil war. The final reſult of the experiment is, that the colony of working bees thus ſhut up, with a morſel of common brood, not only hatch it, but are found, at the end of eighteen or twenty days, to have produced from thence one or two queens; which have apparently proceeded from worms of the common ſort, pitched upon by them for that purpoſe; and which, under other circumſtances, that is, if they had remained in the old hive, there is reaſon to ſuppoſe would have been changed into common working bees. In the preſent inſtance, the common worm appears to be converted by them into a queen-bee, merely becauſe the hive was in want of one. Hence we may juſtly infer, that the kingdom of the bees is not, if the expreſſion may be uſed, a *jure divino* or hereditary monarchy, but an elective kingdom; in which the choice of their future ruler is made by the body of the people, while ſhe is yet in the cradle, or in embryo; and who are determined by motives of preference which will perhaps for ever elude the penetration of the moſt ſagacious naturaliſts.

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* *Hiſt. Nat. de la Reine des Abeilles*, &c.

† *Phil. Tranſ.* vol. 67. part i.

The concluſions drawn by M. Schirach, from experiments of the preceding kind, often repeated by himſelf and others with the ſame ſucceſs, are, that all the common or working bees were originally of the female ſex; but that when they had undergone their laſt metamorphoſis, they are condemned to a ſtate of perpetual virginity, and the organs of generation are obliterated; merely becauſe they have not been lodged, fed, and brought up in a particular manner, while they were in the worm ſtate. He ſuppoſes that the worm, deſigned by the community to be a queen, or mother, owes its metamorphoſis into a queen, partly to the extraordinary ſize of its cell, and its peculiar poſition in it; but principally to a certain appropriate nouriſhment found there, and carefully adminiſtered to it by the working bees while it was in the worm ſtate; by which, and poſſibly other means unknown, the developement and extenſion of the germ of the female organs, previouſly exiſting in the embryo, is effected; and thoſe differences in its form and ſize are produced, which afterwards ſo remarkably diſtinguiſh it from the common working bees.

This diſcovery is capable of being applied towards forming artificial ſwarms, or new colonies of bees, by which means their number might be increaſed, and their produce in honey and wax proportionably augmented.

Explanation of Plate XCVI. Fig. 1. is the queen-bee. 2. Is the drone. 3. Is the working bee. 4. Repreſents the bees hanging to each other by the feet, which is the method of taking their repoſe. 5. The proboſcis or trunk, which is one of the principal organs of the bees, wherewith they gather the honey and take their nouriſhment. 6. One of the hind-legs of a working bee, loaded with wax. 7. a comb, in which the working bees are bred. The cells are the ſmalleſt of any. Two of them have the young bees incloſed. A royal cell is ſuſpended on one ſide. 8. A comb in which the drones are bred, being larger than the former; the young drones being included in ſeveral of them; with two royal cells ſuſpended on the ſide. 9. A Similar comb, in which the royal cell is fixed in the middle of the comb; and ſeveral common cells are ſacrificed to ſerve as a baſis and ſupport to it. In general, the royal cells are ſuſpended on the ſide of a comb, as in fig. 7, 8. To the ſide of fig. 9. two royal cells are begun, when they reſemble pretty much the cup in which an acorn lies. The other royal cells have the young queens included in them. Fig. 10 exhibits the ſting and all its parts. The ſting is compoſed of a ſheath or caſe, and two ſhanks, united to each other, and terminating in a ſharp point, ſo as to look like a ſingle part. *b*, The poiſonous bag. *c*, The tube that ſerves to convey the poiſon from its bag to the thickeſt part of the ſting's ſheath. *dd*, The two ſhanks of the ſting, mutually conveying to each other. *ee*, The ſheath of the ſting. *ff*, The thickeſt end of the ſheath, where the tube opens into it, by which it receives the inſects poiſon. *g*, The extreme point of the ſting, formed by the two ſhanks of that organ, that are in this place cloſely united. *hh*, The beards with which the ſhanks of the ſting are armed at their extremities. *i*, The tube that ſerves to ſecrete the poiſon, which it diſcharges into the poiſon-bag. *kk*, The two blind extremities of the ſaid tube. *llll*, Two pair of cartilages, of different forms, which are for the moſt part of a deep black, and articulated among themſelves, and with the ſhanks of the ſting. *mm*, Two other cartilages leſs conſpicuous than the former, with one pair of which they are articulated. Theſe two cartilages *m m*, are almoſt entirely of a membranaceous ſubſtance. *n n n n n n n n*, Eight places in which the foregoing cartilages are articulated among themſelves, and with the ſhanks of the ſting *dd*. *oooo*, Four muſcles ſerving to move the ſting different ways, by the aſſiſtance of the ſame cartilages. *pp*, Two muſcles, which draw the ſhanks of the ſting into its ſheath. *qq*, Two appendages of the ſting which are moved along with it, and ſeem to anſwer no other purpoſe but that of ornament.—Fig. 11. The ovary.—Fig. 12. Six eggs drawn after nature, and placed on their ends: Theſe eggs are oblong, very ſlender, but ſomewhat thicker on the upper parts.—Fig. 13. An egg viewed with a microſcope: it reſembles the ſkin of a fiſh, diveſted of its ſcale, but ſtill retaining the mark of their inſertion.—Fig. 14. Worms of bees of different ſizes, drawn after nature. *a*, A worm newly hatched. *b c d e*, Four worms that received more nouriſhment, and are more grown. *fg*, Two worms ſtill bigger than the former, having had more time to make uſe of the nouriſhment provided for them. They are here repreſented as they lie doubled in their cells. *h*, A worm placed on its belly, ſo as to ſhow on its back a black line, inclining to a light blue or grey. This line denotes the ſtomach, which appears in this place through the tranſparent parts that lie over it. *i*, A worm lying on its back, and beginning to draw in the hinder part of its body, and move its head.—Fig. 15. A full-grown worm viewed with a microſcope. *aa*, Its 14 annular inciſions or diviſions. *h*, The head and eyes, &c. *ccc*, Ten breathing-holes.—Fig. 16. The worm forming its web. *a a*, The ſides of the cell that contain it. *b*, The bottom of the cell, *c*, The entrance or door of the cell. The worm is here repreſented as making its web in the propereſt manner to ſhut up this entrance.—Fig. 17. Worm taken out of the web in which it had incloſed itſelf, and juſt ready to caſt its ſkin.—Fig. 18. A cell containing the worm changed into a nymph, and perfectly lined with the ſaid worm's web. Likewiſe the ſaid web entire, with the nymph contained in it, as they appear on opening the cell. *aa*, The ſides of the cell, lined with the worm's web. *b*, The mouth of the cell, perfectly cloſed by the web. *c*, The bottom of the cell. *d*, The web entire, as it appears on opening the cell, which it greatly reſembles in form. *e*, The upper part of the web, of a convex form. This

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part ſhows its filaments pretty diſtinctly. *f*, The incloſed nymph appearing through the tranſparent ſides of the web. *g*, The bottom of the web, anſwering to that of the wax-cell.—Fig. 19. Worm changed to a nymph, of its natural ſize and form, yet ſo as to exhibit its limbs, which are folded up in a moſt wonderful manner.—Fig. 20. The nymph of the bee viewed with the microſcope, diſplaying in a diſtinct manner all the parts of the incloſed inſect, and the beautiful manner in which they are laid up. *a*, The head, bloated with humours. *b b*, The eyes, projecting conſiderably. *c c*, The horns, or antenæ. *d*, The lip. *e e*, The teeth, or jaw-bones. *f f*, The firſt pair of joints belonging to the proboſcis. *h*, The proboſcis itſelf. *i i*, The firſt pair of legs. *k k*, Two tranſparent ſtiff little parts, lying againſt the loweſt joints of the firſt pair of legs. Theſe little parts are not to be found as they remain in the ſkin it ſheds on quitting the nymph ſtate. *l l*,. The ſecond pair of legs. *m m*, The wings. *n n*, The bladebones. *o o*, The laſt pair of legs. *p p*, The abdominal rings. *q*, (*g*) The hinder part of the body. The ſting projects a little in this place. *r*, Two little parts accompanying the ſting. *s*, The anus.—Fig. 21. *a*, A cell full of bees-bread, placed in layers. *b*, Little grains, of which the ſaid ſubſtance, viewed with the microſcope, appears to conſiſt.

II. *Of the* Management *of* Bees, *and moſt approved Inventions for ſaving their Lives while we take their Honey and Wax.*

22 Of the apiary.

1. *Of the Apiary, and Hives.* Columella directs that the apiary face the ſouth, and be ſituated in a place neither too hot nor too much expoſed to the cold: that it be in a valley, in order that the loaded bees may with the greater eaſe deſcend to their homes: that it be near the manſion-houſe, on account of the conveniency of watching them; but ſo ſituated as not to be expoſed to noiſome ſmells, or to the din of men or cattle; that it be ſurrounded with a wall, which however ſhould not riſe above three feet high: that, if poſſible, a running ſtream be near them: or, if that cannot be, that water be brought near them in troughs, with pebbles or ſmall ſtones in the water, for the bees to reſt on while they drink; or that the water be confined within gently declining banks, in order that the bees may have ſafe acceſs to it; they not being able to produce either combs, honey, or food for their maggots, without water: that the neighbourhood of rivers or baſons of water with high banks be avoided, becauſe winds may whirl the bees into them, and they cannot eaſily get on ſhore from thence to dry themſelves; and that the garden in which the apiary ſtands be well furniſhed with ſuch plants as afford the bees plenty of good paſture. The trees in this garden ſhould be of the dwarf kind, and their heads buſhy, in order that the ſwarms which ſettle on them may be the more eaſily hived.

The proprietor ſhould be particularly attentive that the bees have alſo in their neighbourhood ſuch plants as yield them plenty of food. Columella enumerates many of theſe fitted to a warm climate: among them he mentions thyme, the oak, the pine, the ſweet-ſmelling cedar, and all fruit-trees. Experience has taught us, that furze, broom, muſtard, clover, heath, &c. are excellent for this purpoſe. Pliny recommends broom, in particular, as a plant exceedingly grateful and very profitable to bees.

Bee.

23 Of hives.

With regard to hives, thoſe made of ſtraw are generally preferred, on ſeveral accounts: they are not liable to be over-heated by the rays of the ſun; they keep out cold better than wood or any other materials; and the cheapneſs renders the purchaſe of them eaſy. As the ingenious Mr Wildman's hives are reckoned to be of a preferable conſtruction to any other, we ſhall give an account of them in his own words.

"My hives (ſays he) are ſeven inches in height and ten in width. The ſides are upright, ſo that the top and bottom are of the ſame diameter. A hive holds nearly a peck. In the upper row of ſtraw there is a hoop of about half an inch in breadth; to which are nailed five bars of deal, full a quarter of an inch in thickneſs and an inch and quarter wide, and half an inch aſunder from one another; a narrow ſhort bar is nailed at each ſide, half an inch diſtant from the bars next them, in order to fill up the remaining parts of the circle,; ſo that there are in all ſeven bars of deal, to which the bees fix their combs. The ſpace of half an inch between the bars allows a ſufficient and eaſy paſſage for the bees from one comb to another. In order to give great ſteadineſs to the combs, ſo that, upon moving the hive, the combs may not fall off, or incline out of their direction, a ſtick ſhould be run thro' the middle of the hive, in a direction directly acroſs the bars, or at right angles with them. When the hives are made, a piece of wood ſhould be worked into the lower row of ſtraw, long enough to allow a door for the bees, of four inches in length, and half an inch in height.

"The proprietor of the bees ſhould provide himſelf with ſeveral flat covers of ſtraw, worked of the ſame thickneſs as the hives, and a foot in diameter, that ſo it may be of the ſame width as the outſide of the hives. Before the cover is applied to the hive, a piece of clean paper, of the ſize of the top of the hive, ſhould be laid over it; and a coat of cow dung, which is the leaſt apt to crack of any cement eaſily to be obtained, ſhould be laid all round the circumference of the hive. Let the cover be laid upon this, and made faſt to the hive with a packing-needle and pack-thread, ſo that neither cold nor vermin may enter.

"Each hive ſhould ſtand ſingle on a piece of deal, or other wood, ſomewhat larger than the bottom of the hive: That part of the ſtand which is at the mouth of the hive ſhould project ſome inches, for the bees to reſt on when they return from the field. This ſtand ſhould be ſupported upon a ſingle poſt, two and a half feet high; to which it ſhould be ſcrewed very ſecurely, that high winds, or other accidents, may not blow down both ſtand and hive. A quantity of ſoot mixed with barley chaff ſhould be ſtrewed on the ground round the poſt; which will effectually prevent ants, ſlugs, and other vermin, from riſing up to the hive. The ſoot and chaff ſhould from time to time be renewed as it is blown or waſhed away; though, as it is ſheltered by the ſtand, it remains a conſiderable time, eſpecially if care be taken that no weeds riſe through it. Weeds, indeed, ſhould not be permitted to riſe near the hive; for they may give ſhelter to vermin which may be hurtful to the bees.

“ The ſtands for bees ſhould be four yards aſunder; or, if the apiary will not admit of ſo much, as far aſunder as may be, that the bees of one hive may not interfere with thoſe of another hive, as is ſometimes the caſe when the hives are near one another or on the ſame ſtand; for the bees, miſtaking their own hives, light ſometimes at the wrong door, and a fray enſues, in which one or more may loſe their lives.

24 Of the proper ſeaſon for purchaſing hives of bees.

“ The perſon who intends to erect an apiary ſhould purchaſe a proper number of hives at the latter part of the year, when they are cheapeſt. The hives ſhould be full of combs, and well ſtored with bees. The purchaſer ſhould examine the combs, in order to know the age of the hives. The combs of that ſeaſon are white, thoſe of the former year are of a darkiſh yellow; and where the combs are black, the hives ſhould be rejected, becauſe old hives are moſt liable to vermin and other accidents.

“ If the number of hives wanted were not purchaſed in the autumn, it will be neceſſary to remedy this neglect after the ſeverity of the cold is paſt in the ſpring. At this ſeaſon, bees which are in good condition will get into the fields early in the morning, return loaded, enter boldly, and do not come out of the hive in bad weather; for when they do, this indicates they are in great want of proviſions. They are alert on the leaſt diſturbance, and by the loudneſs of their humming we judge of their ſtrength. They preſerve their hives free from all filth, and are ready to defend it againſt every enemy that approaches.

“ The ſummer is an improper time for buying bees, becauſe the heat of the weather ſoftens the wax, and thereby renders the combs liable to break, if they are not very well ſecured. The honey, too, being then thinner than at other times, is more apt to run out of the cells; which is attended with a double diſadvantage, namely, the loſs of the honey, and the daubing of the bees, whereby many of them may be deſtroyed. A firſt and ſtrong ſwarm may indeed be purchaſed; and, if leave can be obtained, permitted to ſtand in the ſame garden till the autumn; but, if leave is not obtained, it may be carried away in the night after it has been hived.

“ I ſuppoſe, that, in the ſtocks purchaſed, the bees are in hives of the old conſtruction. The only direction here neceſſary is, that the firſt ſwarm from theſe ſtocks ſhould be put into one of my hives; and that another of my hives ſhould in a few days be put under the old ſtock, in order to prevent its ſwarming again.”

25 Of hiving the ſwarms.

2. *Of Hiving.* Bees, as has been already obſerved, never ſwarm till the hive be too much crowded by the young brood. They firſt begin to ſwarm in May, or in the end of April, but earlier or later according to the warmth of the ſeaſon. They ſeldom ſwarm before ten in the morning, and ſeldom later than three in the afternoon. We may know when they are about to ſwarm, by cluſters of them hanging on the outſide of the hive, and by the drones appearing abroad more than uſual: But the moſt certain ſign is, when the bees refrain from flying into the fields, though the ſeaſon be inviting. Juſt before they take flight, there is an uncommon ſilence in the hive; after this, as ſoon as one takes flight, they all follow. Before the ſubſequent ſwarmings, there is a great noiſe in the hive, which is ſuppoſed to be occaſioned by a conteſt whether the young or the old queen ſhould go out. When the bees of a ſwarm fly too high, they are made to deſcend lower, by throwing handfuls of ſand or duſt among them, which they probably miſtake for rain. For the ſame purpoſe, it is uſual to beat on a kettle or frying-pan: This practice may have taken its riſe from obſerving that thunder or any great noiſe prompts ſuch bees as are in the fields to return home.

As ſoon as the ſwarm is ſettled, the bees which compoſe it ſhould be got into a hive with all convenient ſpeed, to prevent their taking wing again. If they ſettle on a ſmall branch of a tree, eaſy to come at, it may be cut off and laid upon a cloth; the hive being ready immediately to put over them. If the branch cannot be conveniently cut, the bees may be ſwept from off it into a hive. Lodge but the queen into the hive, and the reſt will ſoon follow. If the bees muſt be conſiderably diſturbed in order to get them into a hive, the moſt adviſable way is to let them remain in the place where they have pitched till the evening, when there is leſs danger of their taking wing. If it be obſerved that they ſtill hover about the place they firſt alighted upon, the branches there may be rubbed with rue, or elder-leaves, or any other thing diſtaſteful to them, to prevent their returning to it.

The hive employed on this occaſion ſhould be cleaned with the utmoſt care, and its inſide be rubbed very hard with a coarſe cloth, to get off the looſe ſtraws, or other impurities, which might coſt them a great deal of time and labour to gnaw away. It may then be rubbed with fragrant herbs or flowers, the ſmell of which is agreeable to the bees; or with honey.

The hive ſhould not be immediately ſet on the ſtool where it is to remain; but ſhould be kept near the place at which the bees ſettled, till the evening, leſt ſome ſtragglers ſhould be loſt. It ſhould be ſhaded either with boughs or with a cloth, that the too great heat of the ſun may not annoy the bees.

We ſometimes ſee a ſwarm of bees, after having left their hive, and even alighted upon a tree, return to their firſt abode. This never happens but when the young queen did not come forth with them, for want of ſtrength, or perhaps courage to truſt to her wings for the firſt time; or poſſibly from a conſciouſneſs of her not being impregnated.

26 Of uniting ſwarms.

When a ſwarm is too few in number for a hive, another may be added. The uſual method of thus uniting ſwarms is very eaſy. Spread a cloth at night upon the ground cloſe to the hive in which the two caſts or ſwarms are to be united; lay a ſtick acroſs this cloth; then fetch the hive with the new ſwarm, ſet it over the ſtick, give a ſmart ſtroke on the top of the hive, and all the bees will drop down upon the cloth in a cluſter. This done, throw aſide the empty hive, take the other from off the ſtool, and ſet this laſt over the bees, who will ſoon aſcend into it, mix with thoſe already there, and become one and the ſame family. Others inſtead of ſtriking the bees down upon the cloth, place with its bottom upmoſt the hive in which the united ſwarms are to live, and ſtrike the bees of the other hive down into it. The former of theſe hives is then reſtored to its natural ſituation, and the bees of both hives ſoon unite. If ſome bees ſtill adhere to the other hive, they may be bruſhed off on the cloth, and they

BEE

Fig. 1

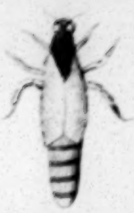

Fig. 2

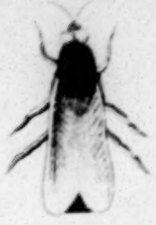

Fig. 3

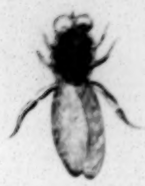

Fig. 4

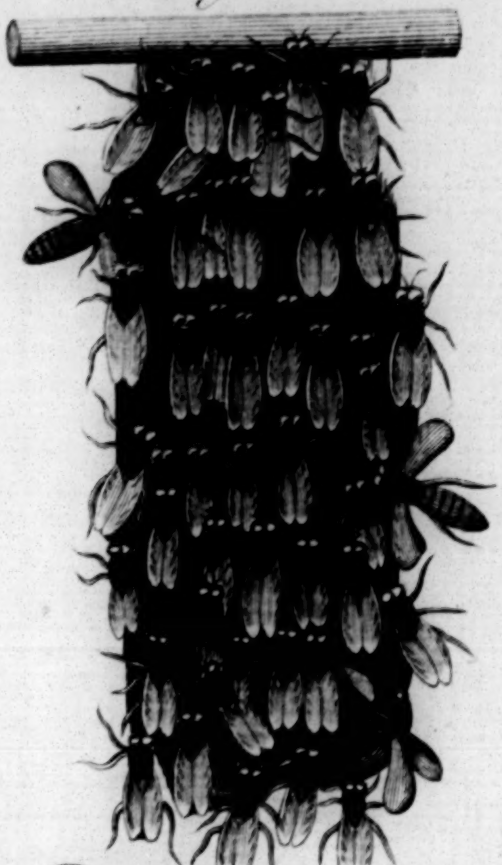

Fig. 10

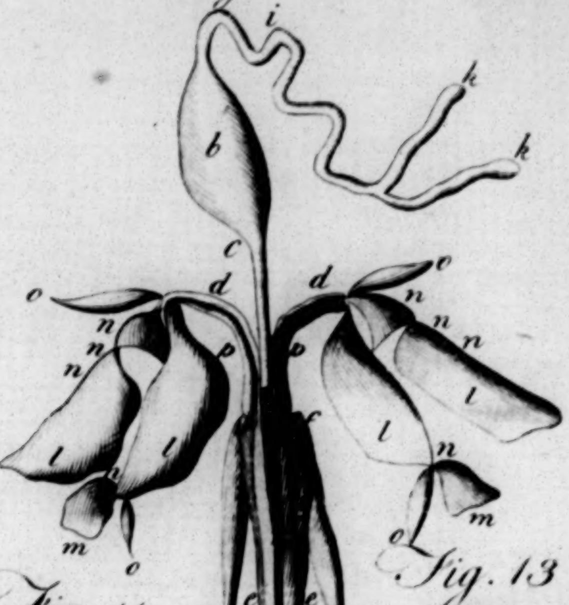
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Fig. 5

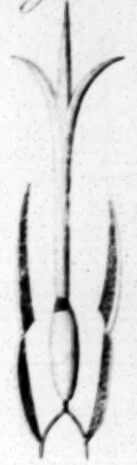


Fig. 12

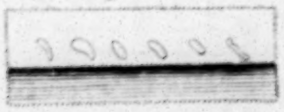


Fig. 16

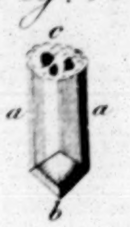


Fig. 17

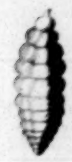


Fig. 11

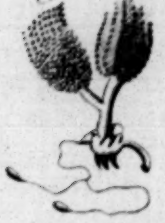


Fig. 13

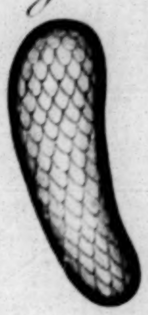


Fig. 6.

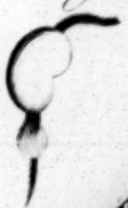


Fig. 14

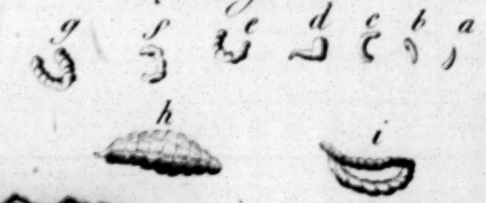


Fig. 8

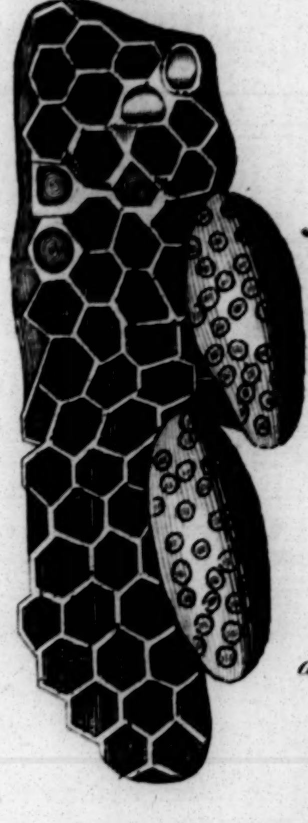


Fig. 9

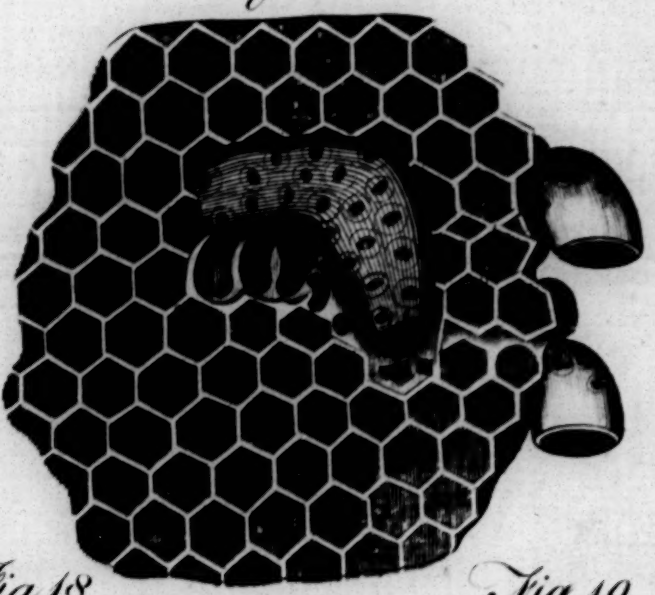


Fig. 7

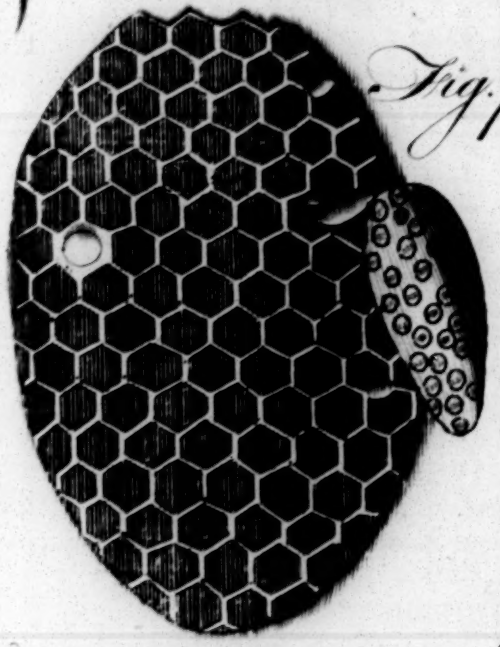


Fig. 18

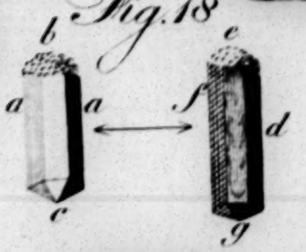


Fig. 19

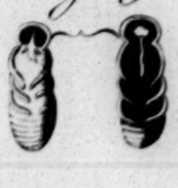


Fig. 21

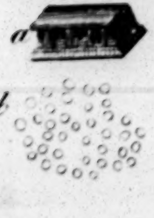


Fig. 15

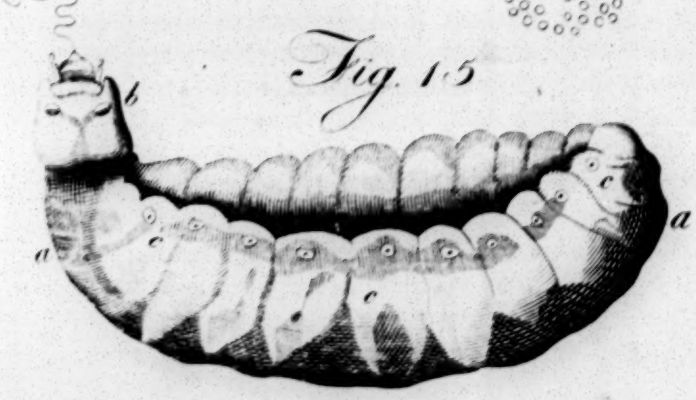
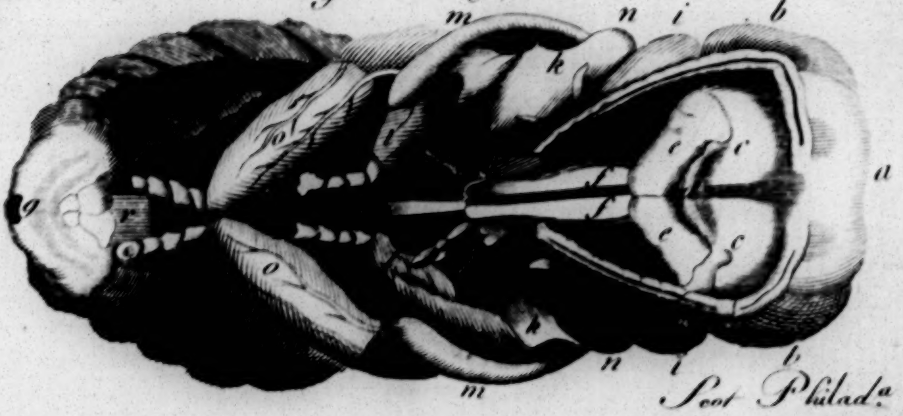


Fig. 20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Scot Philada

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they will ſoon join their brethren. Or one may take the following method, which gives leſs diſturbance to the bees. Set with its mouth upmoſt the hive into which the young ſwarm has been put, and ſet upon it the other hive. The bees in the lower hive, finding themſelves in an inverted ſituation, will ſoon aſcend into the upper.

Though all writers acknowledge, that one of the queens is conſtantly ſlain on theſe occaſions, and generally a conſiderable number of the working bees; yet none of them, Columella excepted, has propoſed the eaſy remedy of killing the queen of the latter caſt or ſwarm before the union is made; a means by which the lives of the working bees may be preſerved. This may be done either by intoxicating them and then picking her out, or by ſearching her out when the bees are beaten down upon the cloth; for this being done in the night, to prevent the battle which might otherwiſe enſue, there will be no great difficulty in finding her.

A large ſwarm may weigh eight pounds, and ſo gradually leſs, to one pound: conſequently a very good one may weigh five or ſix pounds. All ſuch as weigh leſs than four pounds ſhould be ſtrengthened, by uniting to each of them a leſs numerous ſwarm. The ſize of the hive ſhould be proportioned to the number of the bees; and, as a general rule, it ſhould be rather under than over ſized, becauſe bees require to be kept warmer than a large hive will admit of.

27 Bee hunting in America.

In the *Letters from an American Farmer*, we have the following entertaining account of the ſwarming of bees, their flight into the woods, and the method of diſcovering them there. A little experience renders it eaſy to predict the time of their ſwarming: but the "difficult point is, when on the wing, to know whether they want to go to the woods or not. If they have previouſly pitched in ſome hollow trees, it is not the allurements of ſalt and water, of fennel, hickory leaves, &c. nor the fineſt box, that can induce them to ſtay. They will prefer thoſe rude, rough, habitations, to the beſt poliſhed mahogany hive. When that is the caſe with mine, I ſeldom thwart their inclinations. It is in freedom that they work. Were I to confine them, they would dwindle away and quit their labour. In ſuch excurſions we only part for a while. I am generally ſure to find them again the following fall. This elopement of theirs only adds to my recreations. I know how to deceive even their ſuperlative inſtinct. Nor do I fear loſing them, though 18 miles from my houſe, and lodged in the moſt lofty trees in the moſt impervious of our foreſts. After I have done ſowing, by way of recreation I prepare for a week's jaunt in the woods, not to hunt either the deer or the bears, as my neighbours do, but to catch the more harmleſs bees. I cannot boaſt that this chace is ſo noble or ſo famous among men: but I find it leſs fatiguing, and full as profitable; and the laſt conſideration is the only one that moves me. I take with me my dog, as a companion, for he is uſeleſs as to this game; my gun, for no man ought to enter the woods without one; my blanket, ſome proviſions, ſome wax, vermilion, honey, and a ſmall pocket compaſs. With theſe implements I proceed to ſuch woods as are at a conſiderable diſtance from any ſettlements. I carefully examine whether they abound with large trees; if ſo, I make a ſmall fire, on ſome flat ſtones, in a convenient place. On the fire I put ſome wax: cloſe by the fire, on another ſtone, I drop honey in diſtinct drops, which I ſurround with ſmall quantities of vermilion, laid on the ſtone; and then I retire carefully to watch whether any bees appear. If there are any in that neighbourhood, I reſt aſſured that the ſmell of the burnt wax will unavoidably attract them. They will ſoon find out the honey, for they are fond of preying on that which is not their own; and, in their approach, they will neceſſarily tinge themſelves with ſome particles of vermilion, which will adhere long to their bodies. I next fix my compaſs, to find out their courſe; which they keep invariably ſtraight, when they are returning home loaded. By the aſſiſtance of my watch, I obſerve how long thoſe are returning which are marked with vermilion. Thus poſſeſſed of the courſe, and, in ſome meaſure, of the diſtance, which I can eaſily gueſs at, I follow the firſt, and ſeldom fail of coming to the tree where thoſe republics are lodged. I then mark it; and thus, with patience, I have found out ſometimes 11 ſwarms in a ſeaſon; and it is inconceivable what a quantity of honey theſe trees will ſometims afford. It entirely depends on the ſize of the hollow, as the bees never reſt nor ſwarm till it is repleniſhed; for, like men, it is only the want of room that induces them to quit the maternal hive. Next I proceed to ſome of the neareſt ſettlements, where I procure proper aſſiſtance to cut down the trees, get all my prey ſecured, and then return home with my prize. The firſt bees I ever procured were thus found in the woods by mere accident; for, at that time, I had no kind of ſkill in this method of tracing them. The body of the tree being perfectly ſound, they had lodged themſelves in the hollow of one of its principal limbs, which I carefully ſawed off, and, with a good deal of labour and induſtry, brought it home, where I fixed it up in the ſame poſition in which I found it growing. This was in April. I had five ſwarms that year, and they have been ever ſince very proſperous. This buſineſs generally takes up a week of my time every fall, and to me it is a week of ſolitary eaſe and relaxtion."

28 Shifting the bees in ſearch of paſture.

3. *Of ſhifting the Abode of Bees.* Great improvements may certainly be made in the eſſential article of providing plenty of paſture for bees, whenever this ſubject ſhall be more carefully attended to than has hitherto been. A rich corn country is well known to be a barren deſart to them during the moſt conſiderable part of the year; and therefore the practice of other nations, in ſhifting the places of abode of their bees, well deſerves our imitation.

Columella informs us, that, as few places are ſo happily ſituated as to afford the bees proper paſture both in the beginning of the ſeaſon and alſo in the autumn, it was the advice of Celſus, that, after the vernal paſtures are conſumed, the bees ſhould be tranſported to places abounding with autumnal flowers; as was practiſed by conveying the bees from Achaia to Attica, from Eubœa and the Cyclad iſlands to Scyrus; and alſo in Sicily, where they were brought to Hybla from other parts of the iſland. *Lib.* ix. *c.* 14.

We find by Pliny, that this was likewiſe the practice of Italy in his time. "As ſoon," ſays he, "as the ſpring-food for bees has failed in the valleys near *Lib.* xxi. *c.* 12.

our towns, the hives of bees are put into boats, and carried up againſt the ſtream of the river, in the night, in ſearch of better paſture. The bees go out in the morning in queſt of proviſions, and return regularly to their hives in the boats, with the ſtores they have collected. This method is continued, till the ſinking of the boats to a certain depth in the water ſhows that the hives are ſufficiently full; and they are then carried back to their former homes, where their honey is taken out of them." And this is ſtill the practice of the Italians who live near the banks of the Po, (the river which Pliny inſtanced particularly in the above-quoted paſſage).

Vol. II. p. 24. M. Maillet relates, in his curious Deſcription of Egypt, that, "ſpite of the ignorance and ruſticity which have got poſſeſſion of that country, there yet remain in it ſeveral footſteps of the induſtry and ſkill of the ancient Egyptians. One of their moſt admirable contrivances is, their ſending their bees annually into diſtant countries, in order to procure them ſuſtenance there, at the time when they could not find any at home; and their afterwards bringing them back, like ſhepherds who ſhould travel with their flocks, and make them feed as they go. It was obſerved by the ancient inhabitants of Lower Egypt, that all plants bloſſomed, and the fruits of the earth ripened, above ſix week earlier in Upper Egypt than with them. They applied this remark to their bees; and the means then made uſe of by them, to enable theſe uſefully induſtrious inſects to reap advantage from the more forward ſtate of nature there, were exactly the ſame as are now practiſed, for the like purpoſe, in that country. About the end of October, all ſuch inhabitants of the Lower Egypt as have hives of bees, embark them on the Nile, and convey them up that river quite into Upper Egypt; obſerving to time it ſo that they arrive there juſt when the inundation is withdrawn, the lands have been ſown, and the flowers begin to bud. The hives thus ſent are marked and numbered by their reſpective owners, and placed pyramidically in boats prepared for the purpoſe. After they have remained ſome days at their fartheſt ſtation, and are ſuppoſed to have gathered all the wax and honey they could find in the fields within two or three leagues around; their conductors convey them in the ſame boats two or three leagues lower down, and there leave the laborious inſects ſo long time as is neceſſary for them to collect all the riches of this ſpot. Thus, the nearer they come to the place of their more permanent abode, they find the productions of the earth, and the plants which afford them food, forward in proportion. In fine, about the beginning of February, after having travelled through the whole length of Egypt, gathering all the rich produce of the delightful banks of the Nile, they arrive at the mouth of that river, towards the ocean; from whence they ſet out, and from whence they are now returned to their ſeveral homes; for care is taken to keep an exact regiſter of every diſtrict from whence the hives were ſent in the beginning of the ſeaſon, of their numbers, of the names of the perſons who ſent them, and likewiſe of the mark or number of the boat in which they were placed."

In many parts of France, floating bee-houſes are very common. They have on board one barge, threeſcore or an hundred bee-hives, well defended from the inclemency of an accidental ſtorm. With theſe the owners ſuffer themſelves to float gently down the river, the bees continually chooſing their flowery paſture along the banks of the ſtream; and thus a ſingle-floating bee-houſe yields the proprietor a conſiderable income.

They have alſo a method of tranſporting their bees by land, well worth imitation. Their firſt care is, to examine thoſe hives ſome of whoſe honey-combs might be broken or ſeparated by the jolting of the vehicle; they are made faſt one to the other, and againſt the ſides of the hive, by means of ſmall ſticks, which may be diſpoſed differently as occaſion will point out. This being done, every hive is ſet upon a packing-cloth, or ſomething like it, the threads of which are very wide: the ſides of this cloth are then turned up and laid on the outſide of each hive, in which ſtate they are tied together with a piece of ſmall pack-thread wound ſeveral times round the hive. As many hives as a cart built for that purpoſe will hold, are afterwards placed in this vehicle. The hives are ſet two and two, the whole length of the cart. Over theſe are placed others; which make, as it were, a ſecond ſtory or bed of hives. Thoſe which are ſtored with combs ſhould always be turned topſy-turvy. It is for the ſake of their combs, and to fix them the better, that they are diſpoſed in this manner; for ſuch as have but a ſmall quantity of combs in them are placed in their natural ſituation. Care is taken in this ſtowage not to let one hive ſtop up another, it being eſſentially neceſſary for the bees to have air; and it is for this reaſon they are wrapped up in a coarſe cloth, the threads of which were wove very wide, in order that the air may have a free paſſage, and leſſen the heat which theſe inſects raiſe in their hives, eſpecially when they move about very tumultuouſly, as often happens in theſe carts. Thoſe uſed for this purpoſe in Yevre, hold from 30 to 48 hives. As ſoon as all are thus ſtowed, the caravan ſets out. If the ſeaſon is ſultry, they travel only in the night; but a proper advantage is made of cool days. Theſe caravans do not go faſt. The horſes muſt not be permitted even to trot: they are led ſlowly, and through the ſmootheſt roads. When there are not combs in the hives ſufficient to ſupport the bees during their journey, the owner takes the earlieſt opportunity of reſting them wherever they can collect wax. The hives are taken out of the cart, then ſet upon the ground, and after removing the cloth from over them, the bees go forth in ſearch of food. The firſt field they come to ſerves them as an inn. In the evening, as ſoon as they are all returned, the hives are ſhut up; and being placed again in the cart, they proceed in their journey. When the caravan is arrived at the journey's end, the hives are diſtributed in the gardens, or in the fields adjacent to the houſes of different peaſants, who, for a very ſmall reward, undertake to look after them. Thus it is that, in ſuch ſpots as do not abound in flowers at all ſeaſons, means are found to ſupply the bees with food during the whole year.

Theſe inſtances of the great advantages which attend ſhifting of bees in ſearch of paſture, afford an excellent leſſon: they direct particularly the inhabitants of the rich vales, where the harveſt for bees ends early, to remove their ſtocks to places which abound in thoſe flowers which continue in bloom during a conſiderable part of autumn, and yielding great plenty of food to bees. Thoſe in the neighbourhood of hills and mountains will ſave the bees a great deal of labour, by taking alſo the advantage of ſhifting their places of abode.

29 Management of bees in winter.

4. *Of feeding and defending Bees in Winter.* Providence has ordained, that inſects which feed on leaves, flowers, and green ſucculent plants, are in an inſenſible or torpid ſtate from the time that the winter's cold has deprived them of the means of ſubſiſtence. Thus the bees during the winter are in ſo lethargic a ſtate, that little food ſupports them: but as the weather is very changeable, and every warm or ſunny day revives them, and prompts them to return to exerciſe, food becomes neceſſary on theſe occaſions.

Many hives of bees, which are thought to die of cold in the winter, in truth die of famine; where a rainy ſummer has hindered the bees from laying in a ſufficient ſtore of proviſions. The hives ſhould therefore be carefully examined in the autumn, and ſhould then weigh at leaſt 18 pounds.

Columella deſcribes an annual diſtemper which ſeizes bees in the ſpring, when the ſpurge bloſſoms, and the elm diſcloſes its ſeeds; for that, being allured by the firſt flowers, they feed ſo greedily upon them, that they ſurfeit themſelves, and die of a looſeneſs, if they are not ſpeedily relieved.

The authors of the *Maiſon Ruſtique* impute this purging to the bees feeding on pure honey, which does not form a food ſufficiently ſubſtantial for them, unleſs they have bee-bread to eat at the ſame time; and adviſe giving them a honey comb taken from another hive, the cells of which are filled with crude wax or bee-bread.

There is ſtill, however, a want of experiments to aſcertain both the time and the manner in which bees ſhould be fed. The common practice is to feed them in the autumn, giving them as much honey as will bring the whole weight of the hive to near 20 pounds. To this end, the honey is diluted with water, and then put into an empty comb, ſplit reeds, or, as Columella directs, upon clean wool, which the bees will ſuck perfectly dry. But the dilution with water makes the honey apt to be candied, and honey in that ſtate is prejudicial to bees.

Tom. . p. 435.

The following directions given in the *Maiſon Ruſtique* ſeem to be very judicious. Repleniſh the weak hives in September with ſuch a portion of combs full of honey taken from other hives as ſhall be judged to be a ſufficient ſupply for them. In order to do this, turn up the weak hive, after taking the precaution of defending yourſelf with the ſmoke of rags, cut out the empty combs, and put the full ones in their place; where ſecure them with pieces of wood run a-croſs, in ſuch manner that they may not fall down when the hive is returned to its place. The bees will ſoon fix them more effectually. If this method be thought too troubleſome, ſet under the hive a plate of liquid honey, unmixed with water, with ſtraws laid acroſs it, and over theſe a paper pierced full holes, through which the bees will ſuck the honey without daubing themſelves. This ſhould be done in cloudy or rainy weather, when the bees ſtir leaſt abroad; and the hive ſhould be covered, to protect the bees from robbers, who might be allured to it by the ſmell of the honey.

Another circumſtance which may render it very neceſſary to feed the bees is, when ſeveral days of bad weather enſue immediately after they have ſwarmed; for then, being deſtitute of every ſupply beyond what they carried with them, they may be in great danger of ſtarving. In this caſe, honey ſhould be given them in proportion to the duration of the bad weather.

The degree of cold which bees can endure has not been aſcertained. We find that they live in the cold parts of Ruſſia, and often in hollow trees, without any care being taken of them. Their hives are frequently made of the bark of trees, which does not afford them much protection from cold. Mr White, therefore, judiciouſly obſerves, that bees which ſtand on the north ſide of a building whoſe height intercepts the ſun's beams all the winter, will waſte leſs of their proviſions (almoſt by half) than others which ſtand in the ſun: for coming ſeldom forth, they eat little; and yet in the ſpring are as forward to work and ſwarm as thoſe which had twice as much honey in the autumn before. The owner ſhould, however, examine their ſtate in the winter; and if he finds, that, inſtead of being cluſtered between the combs, they fall down in numbers on the ſtool or bottom of the hive, the hive ſhould be carried to a warmer place, where they will ſoon recover. He muſt be cautious in returning them again to the cold, leſt the honey be candied.

Where the winters are extremely ſevere, the authors of the *Maiſon Ruſtique* adviſe to lay on the bottom of an old caſk the depth of half a foot of very dry earth, powdered, and preſſed down hard, and to ſet on this the ſtool with the hive; then, to preſerve a communication with the air, which is abſolutely neceſſary, to cut a hole in the caſk, oppoſite to the mouth of the hive, and place a piece of reed, or of alder made hollow, from the mouth of the hive to the hole in the caſk; and after this to cover the hive with more of the ſame dry earth. If there be any room to fear that the bees will not have a ſufficiency of food, a plate with honey, covered as before directed, may be put under the hive. If the number of hives be great, boxes may be made of deals nailed together, deep enough to contain the hives when covered with dry earth. The bees will thus remain all the winter free from any danger from cold, hunger, or enemies.

30 Methods of taking the honey and the wax. Common method in this country.

5. *Of taking the Honey and Wax.* In this country it is uſual, in ſeizing the ſtores of theſe little animals, to rob them alſo of their lives. The common method is, That when thoſe which are doomed for ſlaughter have been marked out (which is generally done in September), a hole is dug near the hive, and a ſtick, at the end of which is a rag that has been dipped in melted brimſtone, being ſtuck in that hole, the rag is ſet on fire, the hive is immediately ſet over it, and the earth is inſtantly thrown up all round, ſo than none of the ſmoke can eſcape. In a quarter of an hour, all the bees are ſeemingly dead; and they will ſoon after be irrecoverably ſo, by being buried in the earth that is returned back into the hole. By this laſt means it is that they are abſolutely killed: for it has been found by experiment, that all the bees which have been affected only by the fume of the brimſtone, recover again, excepting ſuch as have been ſinged or hurt by the flame. Hence it is evident that the fume of brimſtone might be uſed for intoxicating the bees, with ſome few precautions. The heavieſt and the lighteſt

hives are alike treated in this manner: the former, becauſe they yield the moſt profit, with an immediate return; and the latter, becauſe they would not be able to ſurvive the winter. Thoſe hives which weigh from 15 to 20 pounds are thought to be the fitteſt for keeping.

31 Greek method of ſharing the honey with the bees. See *Wheeler's Journey into Greece*, p. 411.

More humane and judicious methods were practiſed by the ancients †; and the following ſimple method is at this day practiſed at Greece, degenerate as it is. "Mount Hymethus is celebrated for the beſt honey in all Greece. This mountain was not leſs famous in times paſt for bees and admirable honey; the ancients believing that bees were firſt bred here, and that all other bees were but colonies from this mountain; which if ſo, we aſſured ourſelves that it muſt be from this part of the mountain that the colonies were ſent; both becauſe the honey here made is the beſt, and that here they never deſtroy the bees. It is of a good conſiſtence, of a fair gold-colour, and the ſame quantity ſweetens more water than the like quantity of any other doth. I no ſooner knew that they never deſtroy or impair the ſtock of bees in taking away their honey, but I was inquiſitive to underſtand their method of ordering the bees; which being an art ſo worthy the knowledge of the curious, I ſhall not think it beſide the purpoſe, to relate what I ſaw, and was informed of to that effect by ſuch as had ſkill in that place.

Pl XCVII

"The hives they keep their bees in are made of willows or oſiers, faſhioned like our common duſt-baſkets, wide at top and narrow at the bottom, and plaſtered with clay or loam within and without. They are ſet as in fig. 1. with the wide end uppermoſt. The tops are covered with broad flat ſticks, which are alſo plaſtered over with clay; and, to ſecure them from the weather, they cover them with a tuft of ſtraw, as we do. Along each of theſe ſticks, the bees faſten their combs; ſo that a comb may be taken out whole, without the leaſt bruiſing, and with the greateſt eaſe imaginable. To increaſe them in ſpring-time, that is in March or April, until the beginning of May, they divide them; firſt ſeparating the ſticks on which the combs and bees are faſtened, from one another, with a knife: ſo, taking out the firſt comb and bees together on each ſide, they put them into another baſket, in the ſame order as they were taken out, until they have equally divided them. After this, when they are both again accommodated with ſticks and plaſter, they ſet the new baſket in the place of the old one, and the old one in ſome new place. And all this they do in the middle of the day, at ſuch time as the greateſt part of the bees are abroad; who at their coming home, without much difficulty by this means divide themſelves equally. This device hinders them from ſwarming and flying away. In Auguſt, they take out their honey. This they do in the day-time alſo, while they are abroad; the bees being thereby, ſay they, diſturbed leaſt: at which time they take out the combs laden with honey, as before; that is, beginning at each outſide, and ſo taking away, until they have left only ſuch a quantity of combs, in the middle, as they judge will be ſufficient to maintain the bees in winter; ſweeping thoſe bees that are on the combs into the baſket again, and then covering it with new ſticks and plaſter."

The Greek method above related was introduced into France in 1754, as we are informed by M. de Reaumur and Du Hamel, in the Memoirs of the Royal Academy for that year, p. 331.

Attempts have been made in our own country, to attain the deſirable end of getting the honey and wax without deſtroying the bees; the moſt approved of which we ſhall now relate as conciſely as poſſible.

32 Mr Thorley's obſervations, &c.

Mr Thorley, in his *Inquiry into the Nature, Order, and Government of Bees*, thinks colonies preferable to hives, for the following reaſons: *Firſt*, The more certain preſervation of very many thouſands to theſe uſeful creatures; *ſecondly*, Their greater ſtrength (which conſiſts in numbers), and conſequently their greater ſafety from robbers; *thirdly*, Their greater wealth, ariſing from the united labours of the greater number. He tells us, that he has in ſome ſummers taken two boxes filled with honey from one colony; and yet ſufficient ſtore has been left for their maintenance during the winter, each box weighing 40 pounds. Add to theſe advantages, the pleaſure of viewing them, with the greateſt ſafety, at all ſeaſons, even in their buſieſt time of gathering, and their requiring a much leſs attendance in ſwarming time. The bees thus managed are alſo more effectually ſecured from wet and cold, from mice and other vermin.

His boxes are made of deal, which, being ſpongy, ſucks up the breath of the bees ſooner than a more ſolid wood would do. Yellow drain-deal thoroughly ſeaſoned is the beſt.

An octagon, being nearer to a ſphere, is better than a ſquare form; for as the bees, in winter, lie in a round body near the centre of the hive, a due heat is then conveyed to all the out-parts, and the honey is kept from candying.

The dimenſions which Mr Thorley, after many years experience, recommends for the boxes, are ten inches depth, and 12 or 14 inches breadth in the inſide. He has tried boxes containing a buſhel or more, but found them not to anſwer the deſign like thoſe of a leſſer ſize. The larger are much longer in filling; ſo that it is later ere you come to reap the fruits of the labour of the bees: nor is the honey there ſo good and fine, the effluvia even of their own bodies tainting it.

The beſt and pureſt honey is that which is gathered in the firſt five or ſix weeks: and in boxes of leſs dimenſions you may take in a month or little more, provided the ſeaſon be favourable, a box full of the fineſt honey.

The top of the box ſhould be made of an entire board a full inch thick after it has been plained; and it ſhould project on all ſides at leaſt an inch beyond the dimenſions of the box. In the middle of this top there muſt be a hole five inches ſquare, for a communication between the boxes; and this hole ſhould be covered with a ſliding ſhutter, of deal or elm, running eaſily in a groove over the back window. The eight pannels, nine inches deep, and three quarters of an inch thick when planed, are to be let into the top ſo far as to keep them in their proper places; to be ſecured at the corners with plates of braſs, and to be cramped with wires at the bottom to keep them firm; for the heat in ſummer will try their ſtrength. There ſhould be a glaſs-window behind, fixed in a frame, with a thin deal-cover, two ſmall braſs hinges, and a button to faſten it. This window will be ſufficient for inſpecting the progreſs of the bees. Two braſs handles, one on

each

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† Vide *Columella*, *lib.* ix. *c.* 15. and *Varro de Re Ruſtica*, *lib.* iii. *c.* 16.

BEE.

Fig. 1.

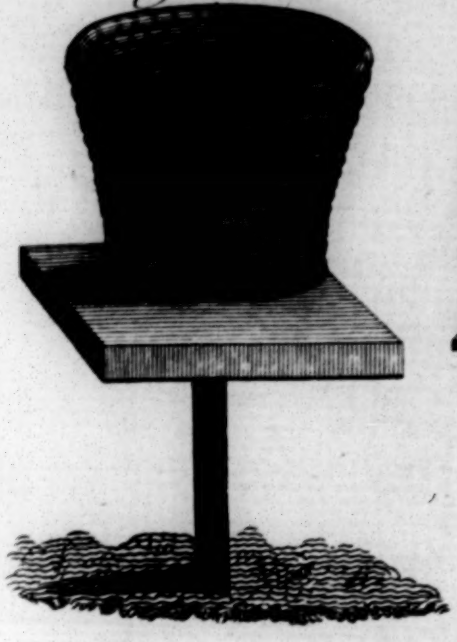


Fig. 4.

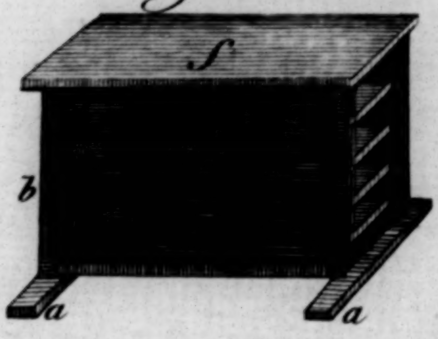


Fig. 5.

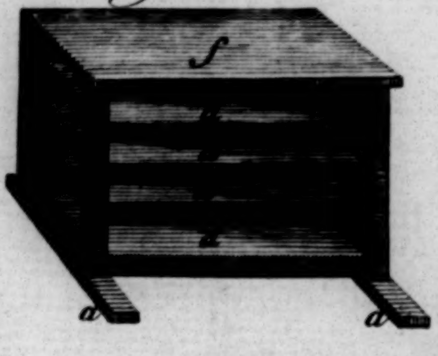


Fig. 2.

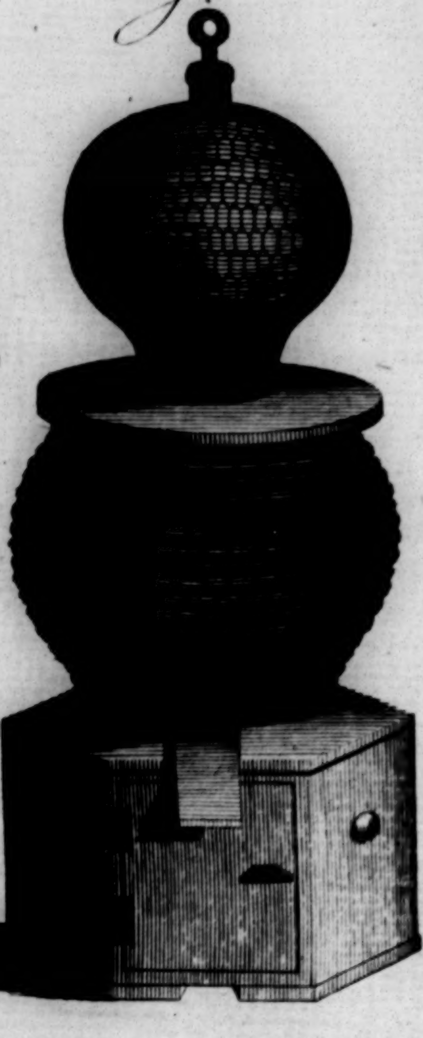


Fig. 3.

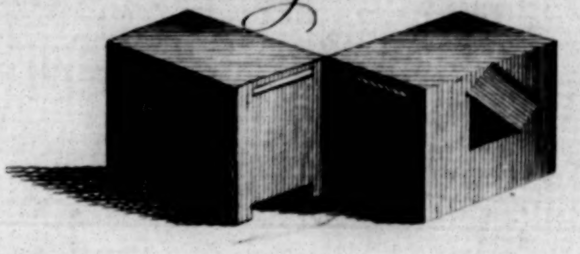
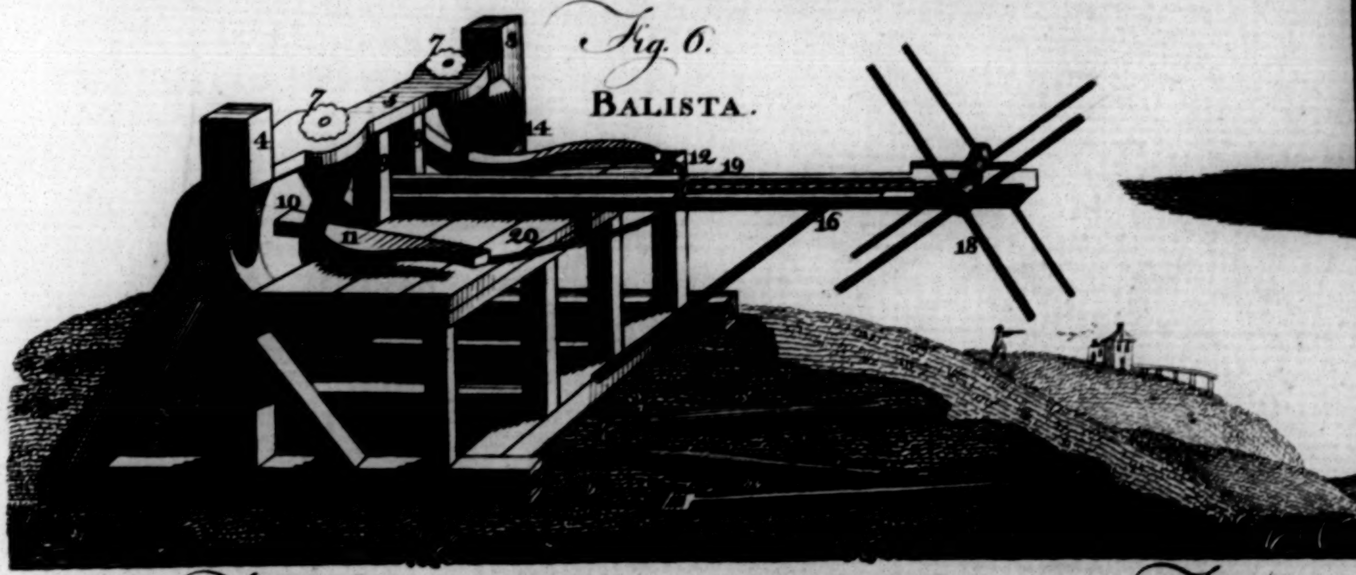


Fig. 6.

BALISTA.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BIRD Catching.

Fig. 8.

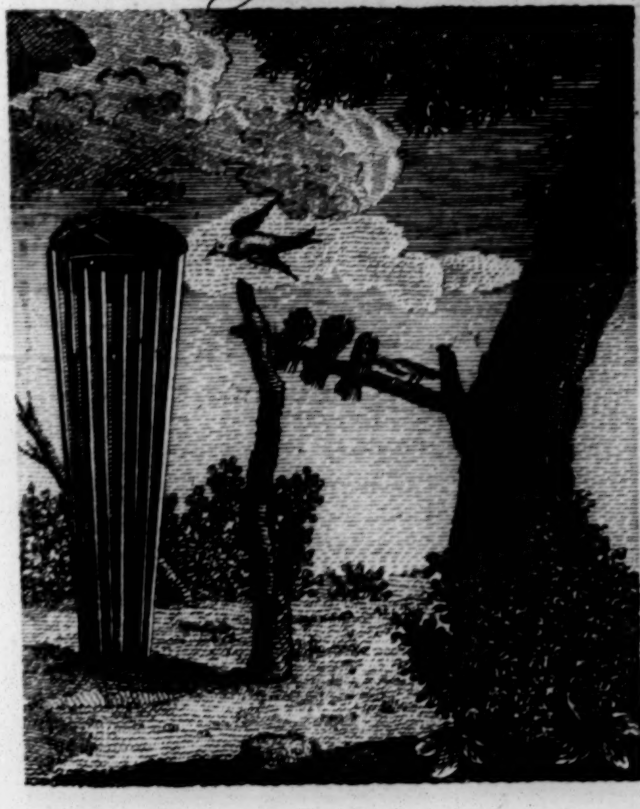
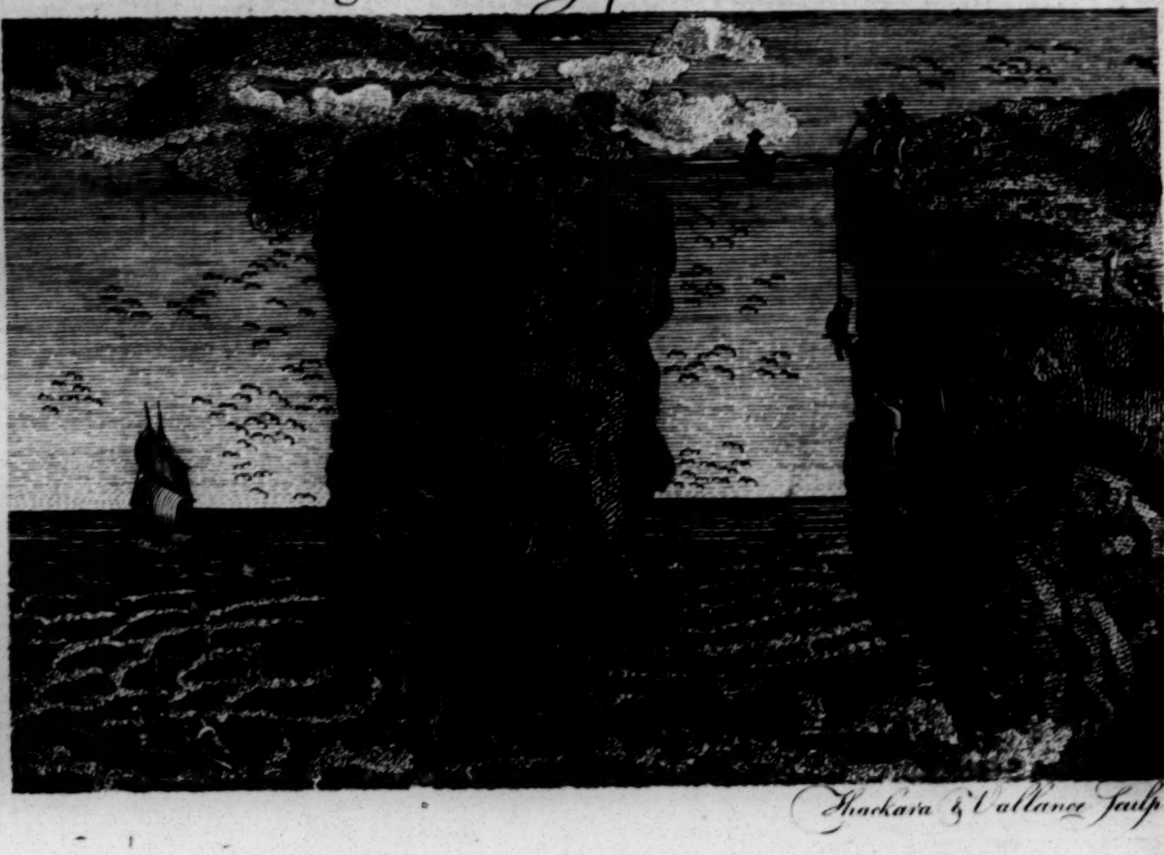


Fig. 7.



Thackara & Vallance Sculp.t

BRITISH MUSEUM

each ſide, are neceſſary to lift up the box: theſe ſhould be fixed in with two thin plates of iron, near three inches long, ſo as to turn up and down, and put three inches below the top-board, which is nailed cloſe down with ſprigs to the other parts of the box.

Thoſe who chooſe a frame within, to which the bees may faſten their combs, need only uſe a couple of deal ſticks of an inch ſquare, placed acroſs the box, and ſupported by two pins of braſs; one an inch and half below the top, and the other two inches below it; by which means the combs will quickly find a reſt. One thing more, which perfects the work, is, a paſſage, four or five inches long, and leſs than half an inch deep for the bees to go in and out at the bottom of the box.

33 Management of bees in colonies, and method of taking their honey and wax.

1. In keeping bees in colonies, an houſe is neceſſary, or at leaſt a ſhade; without which the weather, eſpecially the heat of the ſun, would ſoon rend the boxes to pieces.

Your houſe may be made of any boards you pleaſe, but deal is the beſt. Of whatever ſort the materials are, the houſe muſt be painted, to ſecure it from the weather.

The length of this houſe, we will ſuppoſe for ſix colonies, ſhould be full 12 feet and a half, and each colony ſhould ſtand a foot diſtance from the other. It ſhould be three feet and a half high, to admit four boxes one upon another; but if only three boxes are employed, two feet eight inches will be ſufficient. Its breadth in the inſide ſhould be two feet. The four corner-poſts ſhould be made of oak, and well fixed in the ground, that no ſtormy winds may overturn it; and all the rails ſhould be of oak, ſupported by ſeveral uprights of the ſame, before and behind, that they may not yield or ſink under 6, 7, or 800 weight, or upwards. The floor of the houſe (about two feet from the ground) ſhould be ſtrong and ſmooth, that the loweſt box may ſtand cloſe to it.

This floor may be made with boards or planks of deal the full length of the bee-houſe; or, which is preferable, with a board or plank to each colony, of two feet four inches long, and fixed down to the rails; and that part which appears at the front of the houſe may be cut into a ſemicircle, as a proper alighting place for the bees. Plane it to the ſlope, that the wet may fall off. When this floor to a ſingle colony wants to be repaired, it may eaſily be removed, and another be placed in its room, without diſturbing the other colonies, or touching any other part of the floor.

Upon this floor, at equal diſtances, all your colonies muſt be placed, againſt a door or paſſage cut in the front of the houſe.

Only obſerve farther, to prevent any falſe ſtep, that as the top-board of the box (being a full inch broader than the other part) will not permit the two mouths to come together, you muſt cut a third in a piece of deal of a ſufficient breadth, and place it between the other two, ſo cloſe, that not a bee may get that way into the houſe. And fixing the ſaid piece of deal down to the floor with two lath-nails, you will find afterwards to be of ſervice, when you have occaſion either to raiſe a colony, or take a box of honey, and may prove a means of preventing a great deal of trouble and miſchief.

The houſe being in this forwardneſs, you may cover it to your own mind, with boards, fine ſlates, or tiles. But contrive their poſition ſo as to carry off the wet, and keep out the cold, rain, ſnow, or whatever might any way hurt and prejudice them.

The back-doors may be made of half-inch deal, two of them to ſhut cloſe in a rabbet, cut in an upright pillar, which may be ſo contrived, as to take in and out, by a mortiſe in the bottom rail, and a notch in the inſide of the upper rail, and faſtened with a ſtrong haſp. Place the pillars in the ſpaces between the colonies.

Concluding your houſe made after this model, without front doors, a weather-board will be very neceſſary to carry the water off from the places where the bees ſettle and reſt.

Good painting will be a great preſervative. Forget not to paint the mouths of your colonies with different colours, as red, white, blue, yellow, &c. in form of a half-moon, or ſquare, that the bees may the better know their own home. Such diverſity will be a direction to them.

Thus your bees are kept warm in the coldeſt winter; and in the hotteſt ſummer greatly refreſhed by the cool air, the back-doors being ſet open, without any air-holes made in the boxes.

Dr Warder obſerves, that in June, July, and Auguſt, when the colonies come to be very full, and the weather proves very hot, the appearance of a ſhower drives the bees home in ſuch crowds that preſſing to get in, they ſtop the paſſage ſo cloſe, that thoſe within are almoſt ſuffocated for want of air; which makes the laſt ſo uneaſy, that they are like mad things. In this extremity, he has lifted the whole colony up a little on one ſide; and by thus giving them air, has ſoon quieted them. He has known them, he ſays, come pouring out, on ſuch an occaſion, in number ſufficient to have filled at once two or three quarts; as if they had been going to ſwarm. To prevent this inconvenience, he adviſes cutting a hole two inches ſquare in about the middle of one of the hinder pannels of each box. Over this hole, nail, in the inſide of the box, a piece of tin-plate punched full of holes ſo ſmall that a bee cannot creep through them; and have over it, on the outſide, a very thin ſlider, made to run in grooves; ſo that, when it is thruſt home, all may be cloſe and warm; and when it is opened, in very hot weather, the air may paſs through the holes, and prevent the ſuffocating heat. Or holes may be bored in the pannels themſelves, on ſuch an emergency, in a colony already ſettled.

Such a thorough paſſage for the air may be convenient in extreme heat, which is ſometimes ſo great as to make the honey run out of the combs. The Memoirs of the truly laudable Berne Society, for the year 1764, give us a particular inſtance of this, when they ſay, that, in 1761, many in Swiſſerland were obliged to ſmother their bees, when they ſaw the honey and wax trickling down; not knowing any other remedy for the loſſes they daily ſuſtained. Some ſhaded their hives from the ſun, or covered them with clothes wet ſeveral times a-day, and watered the ground all around.

The beſt time to plant the colonies is, either in ſpring with new ſtocks full of bees, or in ſummer with ſwarms. If ſwarms are uſed, procure if poſſible two of the ſame day: hive them either in two boxes or in a hive and a box: at night, place them in the bee-houſe, one over the other; and with a knife and a little lime and hair, ſtop cloſe the mouth of the hive or upper box, ſo that not a bee may be able to go in or out but at the front-door. This done, you will in a week or ten days with pleaſure ſee the combs appear in the boxes; but if it be an hive, nothing can be ſeen till the bees have wrought down in the box. Never plant a colony with a ſingle ſwarm, as Mr Thorley ſays he has ſometimes done, but with little ſucceſs.

When the ſecond box, or the box under the hive, appears full of bees and combs, it is time to raiſe your colony. This ſhould be done in the duſk of the evening, and in the following manner.

Place your empty box, with the ſliding ſhutter drawn back, behind the houſe, near the colony that is to be raiſed, and at nearly the height of the floor: then lifting up the colony with what expedition you can, let the empty box be put in the place where it is to ſtand, and the colony upon it; and ſhut up the mouth of the then upper box with lime and hair, as before directed.

When, by the help of the windows in the back of the boxes, you find the middle box full of combs, and a quantity of honey ſealed up in it, the loweſt box half full of combs, and few bees in the uppermoſt box, proceed thus.

About five o'clock in the afternoon, drive cloſe with a mallet the ſliding ſhutter under the hive or box that is to be taken from the colony. If the combs are new, the ſhutter may be forced home without a mallet; but be ſure it be cloſe, that no bees may aſcend into the hive or box to be removed. After this, ſhut cloſe the doors of your houſe, and leave the bees thus cut off from the reſt of their companions, for the ſpace of half an hour or more. In this ſpace of time, having loſt their queen, they will fill themſelves with honey, and be impatient to be ſet at liberty.

If, in this interval, you examine the box or boxes beneath, and obſerve all to be quiet in them, you may be confident that the queen is there, and in ſafety. Hereupon raiſe the back part of the hive or box ſo far, by a piece of wood ſlipped under it, as to give the priſoners room to come out, and they will return to their fellows: then lifting the box from off the colony, and turning its bottom upmoſt, cover it with a cloth all night; and the next morning, when this cloth is removed, the bees that have remained in it will return to the colony. Thus you have a hive or box of honey, and all your bees ſafe.

If the bees do not all come out in this manner, Dr Warder's method may be followed, eſpecially if it be with a hive. It is to place the hive with the ſmall end downward in a pail, peck, or flower-pot, ſo as to make it ſtand firm; then to take an empty hive, and ſet it upon the former, and to draw a cloth tight round the joining of the two hives, ſo that none of the bees may be able to get out: after this, to ſtrike the full hive ſo ſmartly as to diſturb the bees that are in it, but with ſuch pauſes between the ſtrokes as to allow them time to aſcend into the empty hive, which muſt be held faſt whilſt this is doing, leſt it fall off by the ſhaking of the other. When you perceive by the noiſe of the bees in the upper hive, that they are got into this laſt, carry it to a cloth ſpread for this purpoſe before the colony, with one end faſtened to the landing-place, and knock them out upon it: they will ſoon crawl up the cloth, and join their fellows, who will gladly receive them.

Mr Thorley next gives an account of his narcotic, and of the manner of uſing it.

The method which he has purſued with great ſucceſs for many years, and which he recommends to the public as the moſt effectual for preſerving bees in common hives, is incorporation, or uniting two ſtocks into one, by the help of a peculiar fume or opiate, which will put them entirely in your power for a time to divide and diſpoſe of at pleaſure. But as that dominion over them will be of ſhort duration, you muſt be expeditious in this buſineſs.

The queen is immediately to be ſearched for, and killed. Hives which have ſwarmed twice, and are conſequently reduced in their numbers, are the fitteſt to be joined together, as this will greatly ſtrengthen and improve them. If a hive which you would take is both rich in honey and full of bees, it is but dividing the bees into two parts, and putting them into two boxes inſtead of one. Examine whether the ſtock to which you intend to join the bees of another, have honey enough in it to maintain the bees of both: it ſhould weigh full 20 pounds.

The narcotic, or ſtupifying fume, is made with the *fungus maximus* or *pulverulentus*, the large muſhroom, commonly known by the name of *bunt*, *puckfiſt*, or *frog-cheeſe*. It is as big as a man's head, or bigger: when ripe; it is of a brown colour, turns to powder, and is exceeding light. Put one of theſe pucks into a large paper, preſs it therein to two-thirds or near half the bulk of its former ſize, and tie it up very cloſe; then put it into an oven ſome time after the houſehold bread has been drawn, and let it remain there all night: when it is dry enough to hold fire, it is fit for uſe. The manner of uſing it is thus:

Cut off a piece of the puck, as large as a hen's egg, and fix it in the end of a ſmall ſtick ſlit for that purpoſe, and ſharpened at the other end; which place ſo that the puck may hang near the middle of an empty hive. This hive muſt be ſet with the mouth upward, in a pail or bucket which ſhould hold it ſteady, near the ſtock you intend to take. This done, ſet fire to the puck, and immediately place the ſtock of bees over it, tying a cloth round the hives, that no ſmoke may come forth. In a minute's time, or little more, you will hear the bees fall like drops of hail into the empty hive. You may then beat the top of the full hive gently with your hand, to get out as many of them as you can: after this, looſing the cloth, lift the hive off to a table, knock it ſeveral times againſt the table, ſeveral more bees will tumble out, and perhaps the queen among them. She often is one of the laſt that falls. If ſhe is not there, ſearch for her among the main body in the empty hive, ſpreading them for this purpoſe on a table.

You muſt proceed in the ſame manner with the other hive, with the bees of which theſe are to be united. One of the queens being ſecured, you muſt put the bees of both hives together, mingle them thoroughly, and drop them among the combs of the hive which they are intended to inhabit. When they are all in, cover it with a packing or other coarſe cloth which will admit air, and let them remain ſhut up all that night and the next day. You will ſoon be ſenſible that they are awaked from this ſleep.

The ſecond night after their union, in the duſk of the evening, gently remove the cloth from off the mouth of the hive (taking care of yourſelf), and the bees will immediately ſally forth with a great noiſe; but being too late, they will ſoon return: then inſerting two pieces of tobacco-pipes to let in air, keep them confined for three or four days, after which the door may be left open.

The beſt time for uniting bees is, after their young brood are all out, and before they begin to lodge in the empty cells. As to the hour of the day, he adviſes young practitioners to do it early in the afternoon, in order that having the longer light, they may the more eaſily find out the queen. He never knew ſuch combined ſtocks conquered by robbers. They will either ſwarm in the ſummer, or yield an hive full of honey.

34 Glaſs-hives. Mr N. Thornley, ſon of the abovementioned clergyman, has added to the edition which he has given of his father's book, a poſtſcript, purporting, that perſons who chooſe to keep bees in glaſs-hives may, after uncovering the hole at the top of a flat-topped ſtraw-hive, or box, place the glaſs over it ſo cloſe that no bee can go in or out but at the bottom of the hive or box. The glaſs-hive muſt be covered with an empty hive or with a cloth, that too much light may not prevent the bees from working. As ſoon as they have filled the ſtraw-hive or box, they will begin to work up into the glaſs-hive. He tells us, that he himſelf has had one of theſe glaſs-hives filled by the bees in 30 days in a fine ſeaſon; and that it contained 38 pounds of fine honey. When the glaſs is completely filled, ſlide a tin-plate between it and the hive or box, ſo as to cover the paſſage, and in half an hour the glaſs may be taken off with ſafety. What few bees remain in it, will readily go to their companions. He has added a glaſs window to his ſtraw-hives, in order to ſee what progreſs bees make; which is of ſome importance, eſpecially if one hive is to be taken away whilſt the ſeaſon ſtill continues favourable for their collecting of honey: for when the combs are filled with honey, the cells are ſealed up, and the bees forſake them, and reſide moſtly in the hive in which their works are chiefly carried on. Obſerving alſo that the bees were apt to extend their combs thro' the paſſage of communication in the upper hive, whether glaſs or other, which rendered it neceſſary to divide the comb when the upper hive was taken away, he now puts in that paſſage a wire ſcreen or netting, the meſhes of which are large enough for a loaded bee to go eaſily through them. This prevents the joining of the combs from one box to the other, and conſequently obviates the neceſſity of cutting them, and of ſpilling ſome of the honey, which running down among
Pl. XCVII. a crowd of bees, uſed before to incommode them much; it being difficult for them to clear their wings of it. Fig. 2. is a drawing of one of his colonies.

35 Of bees in boxes, and method of taking their honey and wax. 2. The reverend Mr White informs us, that his fondneſs for theſe little animals ſoon put upon him endeavouring if poſſible to ſave them from *fire* and *brimſtone*; that he thought he had reaſon to be content to ſhare their labours for the preſent, and great reaſon to rejoice if he could at any time preſerve their lives, to work for him another year; and that the main drift of his obſervations and experiments has therefore been, to diſcover an eaſy and cheap method, ſuited to the abilities of the common people, of taking away ſo much honey as can be ſpared, without deſtroying or ſtarving the bees; and by the ſame means to encourage ſeaſonable ſwarms.

In his directions how to make the bee-boxes of his inventing, he tells us, ſpeaking of the manner of conſtructing a ſingle one, that it may be made of deal or any other well-ſeaſoned boards which are not apt to warp or ſplit. The boards ſhould be near an inch thick; the figure of the box ſquare, and its height and breadth nine inches and five eighths, every way, meaſuring within. With theſe dimenſions it will contain near a peck and an half. The front part muſt have a door cut in the middle of the bottom-edge, three inches wide and near half an inch in height, which will give free liberty to the bees to paſs through, yet not be large enough for their enemy the mouſe to enter. In the back-part you muſt cut a hole with a rabbet in it, in which you are to fix a pane of the cleareſt and beſt crown-glaſs, about five inches in length and three in breadth, and faſten it with putty; let the top of the glaſs be placed as high as the roof within-ſide, that you may ſee the upper part of the combs, where the bees with their riches are moſtly placed. You will by this means be better able to judge of their ſtate and ſtrength, than if your glaſs was fixed in the middle. The glaſs muſt be covered with a thin piece of board, by way of ſhutter, which may be made to hang by a ſtring, or turn upon a nail, or ſlide ſideways between two mouldings. Such as are deſirous of ſeeing more of the bees works, may make the glaſs as large as the box will admit without weakening it too much; or they may add a pane of glaſs on the top, which muſt likewiſe be covered with a ſhutter, faſtened down with pegs, to prevent accidents.

The ſide of the box which is to be joined to another box of the ſame form and dimenſions, as it will not be expoſed to the internal air, may be made of a piece of ſlit deal not half an inch thick. This he calls the *ſide of communication*, becauſe it is not to be wholly incloſed: a ſpace is to be left at the bottom the whole breadth of the box, and a little more than an inch in height: and a hole or paſſage is to be made at top, three inches long, and more than half an inch wide. Through theſe the bees are to have a communication from one box to the other. The lower communication being on the floor, our labourers, with their burdens, may readily and eaſily aſcend into either of the boxes. The upper communication is only intended as a paſſage between the boxes, reſembling the little holes or narrow paſſes which may be obſerved in the combs formed by our ſagacious architects, to ſave time and ſhorten the way when they have occaſion to paſs from one comb to another; juſt as in populous cities, there are narrow lanes and alleys paſſing tranſverſely from one large ſtreet to another.

In the next place you are to provide a looſe board, half an inch thick, and large enough to cover the ſide where you have made the communications. You are likewiſe to have in readineſs ſeveral little iron ſtaples, an inch and a half long, with the two points or ends bended down more than half an inch. The uſe of theſe will be ſeen preſently.

You have now only to fix two ſticks croſſing the box from ſide to ſide, and croſſing each other, to be a ſtay to the combs; one about three inches from the bottom, the other the ſame diſtance from the top; and when you have painted the whole, to make it more durable, your box is finiſhed.

The judicious bee-maſter will here obſerve, that the form of the box now deſcribed is as plain as poſſible for it to be. It is little more than five ſquare pieces of board nailed together; ſo that a poor cottager who has but ingenuity enough to ſaw a board into the given dimenſions, and to drive a nail, may make his own boxes well enough, without the help or expence of a carpenter.

No directions are neceſſary for making the other box, which muſt be of the ſame form and dimenſions. The two boxes differ from each other only in this, that the ſide of communication of the one muſt be on your right hand; of the other, on your left. Fig. 3. repreſents two of theſe boxes, with their openings of communication, ready to join to each other.

Mr White's manner of hiving a ſwarm into one or both of theſe boxes is thus:

You are to take the looſe board, and faſten it to one of the boxes, ſo as to ſtop the communications. This may be done by three of the ſtaples before mentioned; one on the top of the box near the front; the two others on the back, near the top and near the bottom. Let one end of the ſtaple be thruſt into a gimlet-hole made in the box, ſo that the other end may go as tight as can be over the looſe board, to keep it from ſlipping when it is handled. The next morning, after the bees have been hived in this box, the other box ſhould be added, and the looſe board ſhould be taken away. This will prevent a great deal of labour to the bees, and ſome to the proprietor.

Be careful to faſten the ſhutter ſo cloſe to the glaſs, that no light may enter through it; for the bees ſeem to look upon ſuch light as a hole or breach in their houſe, and on that account may not ſo well like their new habitation. But the principal thing to be obſerved at this time is, to cover the box as ſoon as the bees are hived, with a linen cloth thrown cloſely over it, or with green boughs to protect it from the piercing heat of the ſun. Boxes will admit the heat much ſooner than ſtraw-hives; and if the bees find their houſe too hot for them, they will be wiſe enough to leave it. If the ſwarm be larger than uſual, inſtead of faſtening the looſe board to one box, you may join two boxes together with three ſtaples, leaving the communication open from one to the other, and then hive your bees into both. In all other reſpects they are to be hived in boxes after the ſame manner as in common hives.

The door of the ſecond box ſhould be carefully ſtopped up, and be kept conſtantly cloſed, in order that the bees may not have an entrance but through the firſt box.

When the boxes are ſet in the places where they are to remain, they muſt be ſcreened from the ſummer's ſun, becauſe the wood will otherwiſe be heated to a greater degree than either the bees or their works can bear; and they ſhould likewiſe be ſcreened from the winter's ſun, becauſe the warmth of this will draw the bees from that lethargic ſtate which is natural to them, as well as many other inſects in the winter ſeaſon. For this purpoſe, and alſo to ſhelter the boxes from rain, our ingenious young clergyman has contrived the following frame.

Fig. 4. Repreſents the front of a frame for twelve colonies. *a, a*, are two cells of oak lying flat on the ground, more than four feet long. In theſe cells are fixed four oaken poſts, about the thickneſs of ſuch as are uſed for drying linen. The two poſts *b, b*, in the front, are about ſix feet two inches above the cells: the other two, ſtanding bockward, five feet eight inches. You are next to nail ſome boards of ſlit deal horizontally from one of the fore poſts to the other, to ſcreen the bees from the ſun. Let theſe boards be ſeven feet ſeven inches in length, and nailed to the inſide of the poſts; and be well ſeaſoned, that they may not ſhrink or gape in the joints. *c. c*, Are two ſplints of deal, to keep the boards even, and ſtrengthen them.

Fig. 5. repreſents the back of the frame. *d, d, d, d*, Are four ſtrong boards of the ſame length with the frame on which you are to place the boxes. Let the upper ſide of them be very ſmooth and even, that the boxes may ſtand true upon them; or it may be ſtill more adviſable to place under every pair of boxes a ſmooth thin board, as long as the boxes, and about a quarter of an inch wider. The bees will ſoon faſten the boxes to this board in ſuch manner that you may move or weigh the boxes and board together, without breaking the wax or reſin, which for many reaſons ought to be avoided. Theſe floors muſt be ſupported by pieces of wood or bearers, which are nailed from poſt to poſt at each end. They are likewiſe to be well nailed to the frame, to keep them from ſinking with the weight of the boxes. *f* Repreſents the roof, which projects backward about ſeven or eight inches beyond the boxes to ſhelter them from rain. You have now only to cut niches or holes in the frame, over againſt each mouth or entrance into the boxes at *h, h, h*, in fig. 4. Let theſe niches be near four inches long; and under each you muſt nail a ſmall piece of wood for the bees to alight upon. The morning or evening ſun will ſhine upon one or both ends of the frame, let its aſpect be what it will: but you may prevent its over-heating the boxes, by a looſe board ſet up between the poſts, and kept in by two or three pegs.

The ſame gentleman, with great humanity, obſerves, that no true lover of bees ever lighted the fatal match without much concern, and that it is evidently more to our advantage, to ſpare the lives of our bees, and be content with part of their ſtores, than to kill and take pſſeſſion of the whole.

About the latter end of Auguſt, ſays he, by a little inſpection through your glaſſes, you may eaſily diſcover which of your colonies you may lay under contribution. Such as have filled a box and an half with their works, will pretty readily yield you the half box. But you are not to depend upon the quantity of combs without examining how they are ſtored with honey. The bees ſhould, according to him, have eight or nine pounds left them, by way of wages for their ſummer's work.

The moſt proper time for this buſineſs is the middle of the day; and as you ſtand behind the frame, you will need no armour, except a pair of gloves. The operation itſelf is very ſimple, and eaſily performed, thus: open the mouth of the box you intend to take; then with a thin knife cut through the reſin with which the bees have joined the boxes to each other, till you find that you have ſeparated them; and after this, thruſt a ſheet of tin gently in between the boxes. The communication being hereby ſtopped, the bees in the fulleſt box, where it is moſt likely the queen is, will be a little diſturbed at the operation; but thoſe in the other box where we ſuppoſe the queen is not, will run to and fro in the utmoſt hurry and confuſion, and ſend forth a mournful cry, eaſily diſtinguiſhed from their other notes. They will iſſue out at the newly opened door; not in a body as when they ſwarm, nor with ſuch calm and cheerful activity as when they go forth to their labours; but by one or two at a time, with a wild flutter and viſible rage and diſorder. This, however, is ſoon over: for as ſoon as they get abroad and ſpy their fellows, they fly to them inſtantly and join them at the mouth of the other box. By this means, in an hour or two, for they go out ſlowly, you will have a box of pure honey, without leaving a bee in it to moleſt you: and likewiſe without dead bees, which, when you burn them, are often mixed with your honey, and both waſte and damage it.

Mr White acknowledges, that he has ſometimes found this method fail, when the mouth of the box to be taken away has not been conſtantly and carefully cloſed: The bees will in this caſe get acquainted with it as an entrance; and when you open the mouth in order to their leaving this box, many of them will be apt to return, and the communication being ſtopped, will in a ſhort time carry away all the honey from this to the other box; ſo much do they abhor a ſeparation. When this happens, he has recourſe to the following expedient, which he thinks infallible. He takes a piece of deal, a little larger than will cover the mouth of the box, and cut in it a ſquare nich ſomewhat more than half an inch wide. In this nich he hangs a little trap-door, made of a thin piece of tin, turning upon a pin, with another pin croſſing the nich a little lower ſo as to prevent the hanging door from opening both ways. This being placed cloſe to the mouth, the bees which want to get out will eaſily thruſt open the door outwards, but cannot open it the other way to get in again; ſo muſt, and will readily, make to the other box, leaving this in about the ſpace of two hours, with all its ſtore, juſtly due to the tender hearted bee-maſter as a ranſom for their lives.

What led Mr White to prefer collateral boxes to thoſe before in uſe, was, to uſe his own words, his "compaſſion for the poor bees, who, after traverſing the fields, return home weary and heavy laden, and muſt perhaps depoſit their burden up two pair of ſtairs, or in the garret. The lower room, it is likely, is not yet furniſhed with ſtairs: for, as is well known, our little architects lay the foundation of their ſtructures at the top, and build downward. In this caſe, the weary little labourer is to drag her load up the ſides of the walls: and when ſhe has done this, ſhe will travel many times backward and forward, as I have frequently ſeen, along the roof, before ſhe finds the door or paſſage into the ſecond ſtory; and here again ſhe is perplexed with a like puzzling labyrinth, before ſhe gets into the third. What a waſte is here of that precious time which our bees value ſo much, and which they employ ſo well! and what an expence of ſtrength and ſpirits, on which their ſupport and ſuſtenance depend! In the collateral boxes, the rooms are all on the ground-floor; and becauſe I know my bees are wiſe enough to value convenience more than ſtate, I have made them of ſuch a moderate, though decent, height, that the bees have much leſs way to climb to the top of them than they have to the crown of a common hive."

36 Of the management of bees in Mr Wildman's hives

Mr Wildman's hives have been already deſcribed (n° 23, 24.) A good ſwarm will ſoon fill one of theſe hives, and therefore another hive may be put under it the next morning. The larger ſpace allowed the bees will excite their induſtry in filling them with combs. The queen will lay ſome eggs in the upper hive; but ſo ſoon as the lower hive is filled with combs, ſhe will lay moſt of them in it. In little more than three weeks, all the eggs laid in the upper hive will be turned into bees; and if the ſeaſon is favourable, their cells will be ſoon filled with honey.

As ſoon as they want room, a third hive ſhould be placed under the two former; and in a few days after the end of three weeks from the time the ſwarm was put into the hive, the top hive may be taken away at noon of a fair day; and if any bees remain in it, carry it to a little diſtance from the ſtand, and turning its bottom up, and ſtriking it on the ſides, the bees will be alarmed, take wing, and join their companions in the ſecond and third hives. If it is found that the bees are very unwilling to quit it, it is probable that the queen remains among them. In this caſe, the bees muſt be treated in the manner that ſhall be directed when we deſcribe Mr Wildman's method of taking the honey and the wax. The upper hive now taken away ſhould be put in a cool place, in which no vermin, mice, &c. can come at the combs, or other damage can happen to them, and be thus preſerved in reſerve.

When the hives ſeem to be again crowded, and the upper hive is well ſtored or filled with honey, a fourth hive ſhould be placed under the third, and the upper hive be taken off the next fair day at noon, and treated as already directed. As the honey made during the ſummer is the beſt, and as it is needleſs to keep many full hives in ſtore, the honey may be taken out of the combs of this ſecond hive for uſe.

If the ſeaſon is very favourable, the bees may ſtill fill a third hive. In this caſe, a fifth hive muſt be put under the fourth, and the third taken away as before. The bees will then fill the fourth for their winter ſtore.

As the honey of the firſt hive is better than the honey collected ſo late as that in the third, the honey may be taken out of the combs of the firſt, and the third may be preſerved with the ſame care as directed for that.

In the month of September, the top hive ſhould be examined: if full, it will be a ſufficient proviſion for the winter; but if light, that is, not containing 20 pounds of honey, the more the better, then, in the month of October, the fifth hive ſhould be taken away, and the hive kept in reſerve ſhould be put upon the remaining one, to ſupply the bees with abundant proviſions for the winter. Nor need the owner grudge them this ample ſtore; for they are faithful ſtewards, and will be proportionably richer and more forward in the ſpring and ſummer, when he will reap an abundant profit. The fifth hive which was taken away ſhould be carefully preſerved during the winter, that it may be reſtored to the ſame ſtock of bees, when an additional hive is wanted next ſummer; or the firſt ſwarm that comes off may be put into it. The combs in it, if kept free from filth and vermin, will ſave much labour, and they will at once go to the collecting of honey.

It is almoſt needleſs to obſerve, that when the hives are changed, a cover, as already directed, (ſee nº 23.) ſhould be put upon every upper hive; and that when a lower hive becomes an upper hive, the door of it ſhould be ſhut up, that ſo their only paſſage out ſhall be by the lower hive; for otherwiſe the queen would be apt to lay eggs in both indiſcriminately. The whole of the above detail of the management of one hive may be extended to any number: it may be proper to keep a regiſter to each ſet; becauſe, in reſtoring hives to the bees, they may be better pleaſed at receiving their own labours than that of other ſtocks.

If in the autumn the owner has ſome weak hives, which have neither proviſion nor numbers ſufficient for the winter, it is adviſable to join the bees to richer hives: for the greater number of bees will be a mutual advantage to one another during the winter, and accelerate their labours much in the ſpring. For this purpoſe, carry a poor and a richer hive into a room, a little before night: then force the bees out of both hives into two ſeparate empty hives, in a manner that ſhall be hereafter directed: ſhake upon a cloth the bees out of the hive which contains the feweſt; ſearch for the queen; and as ſoon as you have ſecured her with a ſufficient retinue, bring the other hive which contains the greater number, and place it on the cloth on which the other bees are, with a ſupport under one ſide, and with a ſpoon ſhovel the bees under it. They will ſoon aſcend; and, while under this impreſſion of fear, will unite peaceably with the other bees; whereas, had they been added to the bees of the richer hive, while in poſſeſſion of their caſtle, many of the new-comers muſt have paid with their lives for their intruſion.

It appears from the account of the management of bees in Mr Wildman's hives, that there is very little art wanting to cauſe the bees to quit the hives which are taken away, unleſs a queen happens by chance to be among them. In that caſe, the ſame means may be uſed as are neceſſary when we would rob one of the common hives of part of their wealth. The method is as follows:

37
His method of taking the honey and wax.

Remove the hive from which you would take the wax and honey into a room, into which admit but little light, that it may at firſt appear to the bees as if it was late in the evening. Gently invert the hive, placing it between the frames of a chair or other ſteady ſupport, and cover it with an empty hive, keeping that ſide of the empty hive raiſed a little, which is next the window, to give the bees ſufficient light to get up into it. While you hold the empty hive ſteadily ſupported on the edge of the full hive, between your ſide and your left arm, keep ſtriking with the other hand all round the full hive from top to bottom, in the manner of beating a drum, ſo that the bees may be frightened by the continued noiſe from all quarters; and they will in conſequence mount out of the full hive into the empty one. Repeat the ſtrokes rather quick than ſtrong round the hive, till all the bees are got out of it, which in general will be in about five minutes. It is to be obſerved, that the fuller the hive is of bees, the ſooner they will have left it. As ſoon as a number of them have got into the empty hive, it ſhould be raiſed a little from the full one, that the bees may not continue to run from the one to the other, but rather keep aſcending upon one another.

So ſoon as all the bees are out of the full hive, the hive in which the bees are muſt be placed on the ſtand from which the other hive was taken, in order to receive the abſent bees as they return from the fields.

If this is done early in the ſeaſon, the operator ſhould examine the royal cells, that any of them that have young in them may be ſaved, as well as the combs which have young bees in them, which ſhould on no account be touched, though by ſparing them a good deal of honey be left behind. Then take out the other combs with a long, broad, and pliable knife, ſuch as the apothecaries make uſe of. The combs ſhould be cut from the ſides and crown as clean as poſſible, to ſave the future labour of the bees, who muſt lick up the honey ſpilt, and remove every remains of wax; and then the ſides of the hive ſhould be ſcraped with a table ſpoon, to clear away what was left by the knife. During the whole of this operation, the hive ſhould be placed inclined to the ſide from which the combs are taken, that the honey which is ſpilt may not daub the remaining combs. If ſome combs were unavoidably taken away, in which there are young bees, the parts of the comb in which they are ſhould be returned into the hive, and ſecured by ſticks in the beſt manner poſſible. Place the hive then for ſome time upright, that any remaining honey may drain out. If the combs are built in a direction oppoſite to the entrance, or at right angles with it, the combs which are the furtheſt from the entrance are to be preferred; becauſe there they are beſt ſtored with honey, and have the feweſt young bees in them.

Having thus finiſhed taking the wax and honey, the next buſineſs is to return the bees to their old hive; and for this purpoſe place a table covered with a clean cloth near the ſtand, and giving the hive in which the bees are a ſudden ſhake, at the ſame time ſtriking it pretty forcibly, the bees will be ſhaken on the cloth. Put their own hive over them immediately, raiſed a little on one ſide, that the bees may the more eaſily enter; and when all are entered, place it on the ſtand as before. If the hive in which the bees are be turned bottom uppermoſt, and their own hive be placed over it, the bees will immediately aſcend into it, eſpecially if the lower hive is ſtruck on the ſides to alarm them.

As the chief object of the bees during the ſpring and beginning of the ſummer is the propagation of their kind, honey during that time is not collected in ſuch quantity as it is afterwards: and on this account it is ſcarcely worth while to rob a hive before the latter end of June; nor is it ſafe to do it after the middle of July, leſt rainy weather may prevent their reſtoring the combs they have loſt, and laying in a ſtock of honey ſufficient for the winter, unleſs there is a chance of carrying them to a rich paſture.

BEE is alſo uſed figuratively to denote ſweetneſs, induſtry,

duſtry, &c. Thus Xenophon is called the *Attic bee*, on account of the great ſweetneſs of his ſtyle. Antonius got the denomination *Meliſſa* or *Bee*, on account of his collection of common-places.—Leo Allatius gave the appellation *apes urbanæ* to the illuſtrious men at Rome from the year 1630 to the year 1632.

Bee's-Bread. See Bee, n° 12 par. *ult.*

Bee-Eater, in zoology. See Merops.

Bee-Flower. See Ophrys.

Bee-Glue, called by the ancients *propolis*, is a ſoft, unctuous, glutinous matter, employed by bees to cement the combs to the hives, and to cloſe up the cells. See Bee, n° 13.

Bee-Hives, See Bee, n° 19, 34, 36.

BEECH-tree, in botany. See Fagus.

Beech-Maſt, the fruit of the beech-tree, ſaid to be good for fattening hogs, deer, &c.—It has ſometimes, even to men, proved an uſeful ſubſtitute for bread. Chios is ſaid to have endured a memorable ſiege by means of it.

Beech-Oil, an oil drawn by expreſſion from the maſt of the beech-tree, after it has been ſhelled and pounded. This oil is very common in Picardy, and uſed there and in other parts of France inſtead of butter; but moſt of thoſe who take a great deal of it complain of pains and a heavineſs in the ſtomach.

BEEF, the fleſh of black-cattle prepared for food. According to Dr Cullen †, beef, though of a more firm texture and leſs ſoluble than mutton, is equally alkaleſcent, perſpirable, and nutritious: and if in the ſouthern countries it is not eſteemed ſo, it is on account of its imperfection there.

BEELE, a kind of pick-axe, uſed by the miners for ſeparating the ores from the rocks in which they lie: this inſtrument is called a *tubber* by the miners of Cornwall.

BEER, is a ſpirituous liquor made from any farinaceous grain, but generally from barley. It is, properly ſpeaking, the wine of barley. The meals of any of theſe grains being extracted by a ſufficient quantity of water, and remaining at reſt in a degree of heat requiſite for the ſpirituous fermentation, naturally undergo this fermentation, and are changed into a vinous liquor. But as all theſe matters render the water mucilaginous, fermentation proceeds ſlowly and imperfectly in ſuch liquors. On the other ſide, if the quantity of farinaceous matter be ſo diminiſhed that its extract or decoction may have a convenient degree of fluidity, this liquor will be impregnated with ſo ſmall a quantity of fermentable matter, that the beer or wine of the grain will be too weak, and have too little taſte.

Theſe inconveniences are remedied by preliminary operations which the grain is made to undergo.—Theſe preparations conſiſt in ſteeping it in cold water, that it may ſoak and ſwell to a certain degree; and in laying it in a heap with a ſuitable degree of heat, by means of which, and of the imbibed moiſture, a germination begins, which is to be ſtopped by a quick drying, as ſoon as the bud ſhows itſelf. To accelerate this drying, and render it more complete, the grain is ſlightly roaſted, by making it paſs down an inclined canal ſufficiently heated. This germination, and this ſlight roaſting, changes conſiderably the nature of the mucilaginous fermentable matter of the grain. The germination attenuates much, and in ſome meaſure totally deſtroys, the viſcoſity of the mucilage; and it does this, when not carried too far, without depriving the grain of any of its diſpoſition to ferment. On the contrary, it changes the grain into a ſaccharine ſubſtance, as may be perceived by maſhing grains beginning to germinate. The ſlight roaſting contributes alſo to attenuate the mucilaginous fermentable matter of the grain. When the grain is thus prepared, it is fit to be ground, and to impregnate water with much of its ſubſtance without forming a glue or viſcous maſs. The grain thus prepared is called *malt*. This malt is then to be ground; and all its ſubſtance, which is fermentable and ſoluble in water, is to be extricated by means of hot water. This extract or infuſion is ſufficiently evaporated by boiling in caldrons; and ſome plant of an agreeable bitterneſs, ſuch as hops, is at that time added, to heighten the taſte of the beer, and to render it capable of being longer preſerved. Laſtly, this liquor is put into caſks, and allowed to ferment; nature performs the reſt of the work, and is only to be aſſiſted by the other moſt favourable circumſtances for the ſpirituous fermentation. See Fermentation.

Foreigners have framed divers conjectures to account for the excellency of the Britiſh beer, and its ſuperiority to that of other countries, even of Bremen, Mons, and Roſtoch. It has been pretended the brewers throw dead dogs flea'd into their wort, and boiled them till the fleſh is all conſumed. Others, more equitable, attribute the excellency of the beer to the quality of the malt and water, and the ſkill of the brewers in preparing it.

Sour beer may be reſtored divers ways; as by ſalt made of the aſhes of barley-ſtraw, put into the veſſel and ſtirred; or by three or four handfuls of beech-aſhes thrown into the veſſel, and ſtirred; or, where the liquor is not very ſour, by a little put into a bag, without ſtirring: chalk calcined, oyſter ſhells, egg-ſhells burnt, ſea-ſhells, crab eyes, alkalized coral, &c. do the ſame, as they imbibe the acidity, and unite with it into a ſweetneſs.—Beer, it is ſaid, may be kept from turning ſour in ſummer, by hanging into the veſſel a bag containing a new laid egg, pricked full of little pin-holes, ſome laurel-berries, and a few barley-grains; or by a new-laid egg and walnut-tree leaves. Glauber commends his ſal mirabile and fixed nitre, put in a linen bag, and hung on the top of the caſk ſo as to reach the liquor, not only for recovering ſour beer, but preſerving and ſtrengthening it.

Laurel-berries, their ſkin being peeled off, will keep beer from *deadneſs*; and beer already dead may be reſtored by impregnating it with fixed air.

Beer *taſting of the caſk* may be freed from it by putting a handful of wheat in a bag, and hanging it in the veſſel.

BEEROTH, a village of Judea, ſituated at the foot of Mount Gabaon, ſeven miles from Ælia or Jeruſalem, on the road to Nicopolis (Jerome).

BEER-SHEBA (Moſes), a city to the ſouth of the tribe of Judah, adjoining to Idumea (Joſephus). See Bersabe.

BEESTINGS, or Breastings, a term uſed by country-people for the firſt milk taken from a cow after calving.—The beeſtings are of a thick conſiſtence, and yellow colour, ſeeming impregnated with ſulphur.

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† Lect. on Mat. Med.

Dr Morgan imagines them peculiarly fitted and intended by nature to cleanſe the young animal from the recrements gathered in its ſtomach and inteſtines during its long habitation *in utero*. The like quality and virtue he ſuppoſes in womens firſt milk after delivery; and hence infers the neceſſity of the mother's ſuckling her own child, rather than committing it to a nurſe whoſe firſt milk is gone.

BEET, in botany. See BETA.

BEETLE, in the hiſtory of inſects. See SCARABÆUS.

BEETLE alſo denotes a wooden inſtrument for driving piles, &c. It is likewiſe called a *ſtamper*, and by paviors a *rammer*.

BEEVES, a general name for oxen. See BOS.

BEFORT, a ſmall but ſtrong town of France, and capital of Suntgaw in Alſace. It was ceded to France by the treaty of Weſtphalia in 1648. There are not above 100 houſes in this town, but it is important on account of the great road by this place from Franche Compte. The fortifications were greatly augmented by Louis XIV. It is ſeated at the foot of a mountain. E. Long. 6. 2. N. Lat. 47. 38.

BEG, or BEY, in the Turkiſh affairs. See BEY.

Beg is more particularly applied to the lord of a banner, called alſo in the ſame language *ſangiak-beg*. A beg has the command of a certain number of the ſpahis, or horſe, maintained by the province under the denomination of *timariots*. All the begs of a province obey one governor-general called *begler-beg*, or *beyler-beg*, q. d. lord of lords, or of the beys of the province.

BEGS, or BEGHS, of Egypt, denote twelve generals, who have the command of the militia or ſtanding forces of the kingdom; and are to ſecure the country from the inſults of Arabs, as well as to protect the pilgrims in their annual expeditions to Mecca. The begs, ſeveral of whom are deſcended from the ancient race of the Mamalukes, are very rich and powerful, maintaining each 500 fighting men for their own guard, and the ſervice of their court. On diſcontents, they have frequently riſen in rebellion. They are often at variance with the baſhaw, whom they have more than once plundered and impriſoned.

BEGA (Cornelius), painter of landſcape, cattle, and converſations, was born at Haerlem in 1620, and was the diſciple of Adrian Oſtade. Falling into a diſſipated way of life, he was diſinherited by his father: for which reaſon he caſt off his father's name, which was Begyn, and aſſumed that of Bega; his early pictures being marked with the former, and his latter works with the other. He had a fine pencil, and a delicate manner of handling his colours, ſo as to give them a look of neatneſs and tranſparence; and his performances are ſo much eſteemed in the Low Countries as to be placed among the works of the beſt artiſts. He took the plague from a woman with whom he was deeply enamoured; and he ſhowed ſo much ſincerity of affection, that, notwithſtanding the expoſtulations of all his friends and phyſicians, he would attend her to the lateſt moments of her life, and died a few days after, aged 44.

BEGHARDS. See BEGUARDS.

BEGLERBEG, a governor of one of the principal governments in the Turkiſh empire, and next in dignity of the grand vizier. To every beblerbeg the grand ſignior gives three enſigns or ſtaves, trimmed with a horſe-tail; to diſtinguiſh them from the baſhaws, who have but two; and from ſimple begs, or ſangiac begs, who have but one.

The province or government of beglerbeg is called *beglerbeglik*, or *beglierbeglik*. Theſe are two ſorts; the firſt called *baſial beglerbeglik*, which have a certain rent aſſigned out of the cities, countries, and ſigniories allotted to the principality; the ſecond called *ſalianæ beglerbeglik*, for maintenance of which is annexed a ſalary or rent, collected by the grand ſignior's officers with the treaſure of the empire. The beglerbegs of the firſt ſort are in number 22, *viz*. thoſe of Anatolia, Caramania, Diarbekir, Damaſcus, Aleppo, Tripoli, Trebizond, Buda, Temiſwar, &c. The beglerbegs of the ſecond ſort are in number ſix, *viz*. thoſe of Cairo, Babylon, &c. Five of the beglerbegs have the title of *viziers*, viz. thoſe of Anatolia, Babylon, Cairo, Romania, and Buda.

The beglerbegs appear with great ſtate, and a large retinue, eſpecially in the camp, being obliged to bring a ſoldier for every 5000 aſpers of rent which they enjoy. Thoſe of Romania brought 10,000 effective men into the field.

The beglerbegs are become almoſt independent, and have under their juriſdiction ſeveral ſangiacs or particular governments, and begs, agas, and other officers who obey them.

BEGUARDS, or BEGHARDS, religious of the third order of St Francis in Flanders. They were eſtabliſhed at Antwerp in the year 1228, and took St Begghe for their patroneſs, whence they had their name. From their firſt inſtitution they employed themſelves in making linen cloth, each ſupporting himſelf by his own labour, and united only by the bonds of charity, without having any particular rule. But, when Pope Nicholas IV. had confirmed that of the third order of St Francis in 1289, they embraced it the year following. They were greatly favoured by the Dukes of Brabant, particularly John II. and John III. who exempted them from all contributions and taxes. In the year 1425, they began to live in common, and made ſolemn vows in 1467, after having taken the habit of the Terciaries (or religious of the third order of St Francis) of Liege. At laſt, in 1472 they became ſubject to the general of the congregation of Zepperen in the dioceſe of Liege, to which they were united by Pope Sixtus IV. As the convent of Antwerp is ſince become very conſiderable, the name of *Beguards* has been given to all the other religious of the ſame congregation. But, in 1650, Pope Innocent X. having ſuppreſſed the general of the congregation of Zepperen, all the convents of the third order of St Francis, in the dioceſes of Liege, Malines, and Antwerp, were ſubmitted to the viſitation, juriſdiction, and correction, of the general of Italy, and erected into a province, under the title of *the province of Flanders*. This province has at preſent 10 or 12 convents, the principal of which are thoſe of Antwerp, Bruſſels, Maeſtricht, and Louvain.

BEGUINES, a congregation of religious or nuns founded either by St Begghe, founder likewiſe of the Beguards, or by Lambert le Begue; of whom the former died about the end of the ſeventh century, the latter about the end of the 12th. They were eſtabliſhed firſt at Liege, and afterwards at Neville, in 1207; and from this laſt ſettlement ſprang the great number of Beguinages, which are ſpread over all Flanders, and which have paſſed from Flanders into Germany. In the latter country, ſome of theſe religious fell into extravagant errors, perſuading themſelves that it was poſſible, in the preſent life, to arrive at the higheſt perfection, even to impeccability, and a clear view of God; in ſhort, to ſo eminent a degree of contemplation, that there was no neceſſity, after this, either to obſerve the faſts of the church, or ſubmit to the direction and laws of mortal men. The council of Vienna, in 1113, condemned theſe errors, and aboliſhed the order of Beguines; permitting, nevertheleſs, thoſe among them, who continued in the true faith, to live in chaſtity and penitence, either with or without vows. It is by favour of this latter clauſe, that there ſtill ſubſiſt ſo many communities of Beguines in Flanders; who, ſince the council of Vienna, have conducted themſelves with ſo much wiſdom and piety, the Pope John XXII. by his decretal, which explains that of his predeceſſor made in the council of Vienna, took them under his protection; and Boniface VIII. in another, exempted them from the ſecular tribunal, and put them under the juriſdiction of the biſhops.

There is ſcarce a town in the Low-Countries, in which there is not a ſociety of Beguines; and, notwithſtanding the change of religion at Amſterdam, there is a very flouriſhing one in that city. Theſe ſocieties conſiſt of ſeveral houſes placed together in one incloſure, with one or more churches, according to the number of Beguines. There is in every houſe a prioreſs, or miſtreſs, without whoſe leave they dare not ſtir out. They make a ſort of vow, which is conceived in the following terms: "I. N. promiſe to be obedient and chaſte as long as I continue in this Beguinage." They obſerve a three years noviciate before they take the habit. The rector of the pariſh is ſuperior of the Beguinage; and he does nothing without the advice of eight Beguines. They were formerly habited in different manners; ſome in grey, others in blue: but at preſent they all wear black. When they go abroad, in Amſterdam, they put on a black veil. Formerly they had as many different ſtatutes as there were ſocieties. In the viſitations of the year 1600 and 1601, by the archbiſhop Matthias Hovius, they were forbidden, under the penalty of a fine, to have lap-dogs. The fineſt Beguinage in Flanders is that of Malines. That of Antwerp likewiſe is very ſpacious, and has two ſeparate churches.

BEHEADING, a capital puniſhment, wherein the head is ſevered from the body by the ſtroke of an axe, ſword, or other cutting inſtrument.

Beheading was a military puniſhment among the Romans, known by the name of *decollatio*. Among them the head was laid on a *cippus* or block, placed in a pit dug for the purpoſe; in the army, without the *vallum*: in the city, without the walls, at a place near the *parta decumana*. Preparatory to the ſtroke, the criminal was tied to a ſtake, and whipped with rods. In the early ages the blow was given with an axe; but in after-times with a ſword, which was thought the more reputable manner of dying. The execution was but clumſily performed in the firſt times; but afterwards they grew more expert, and took the head off clean, with one circular ſtroke.

In England and France, beheading is the puniſhment of nobles; being reputed not to derogate from nobility, as hanging does.

In Scotland they do not behead with an axe, as in England; nor with a ſword, as in Holland and France; but with an edged inſtrument called the MAIDEN.

BEHEMOTH, the hippopotamus or river-horſe. See HIPPOPOTAMUS.

BEHEN, in botany. See CUCUBALUS.

BEHMEN. See BOEKMEN.

BEHN (Aphara), a celebrated authoreſs, deſcended from a good family in the city of Canterbury, was born ſome time in Charles I.'s reign, but in what year is uncertain. Her father's name was *Johnſon*, who through the intereſt of the Lord Willoughby, to whom he was related, being appointed lieutenant-general of Surinam and 36 iſlands, undertook a journey to the Weſt-Indies, taking with him his whole family, among whom was our poeteſs, at that time very young. Mr Johnſon died in the voyage; but his family reaching Surinam, ſettled there for ſome years. Here it was that ſhe learned the hiſtory of, and acquired a perſonal intimacy with, the American prince Oroonoko and his beloved Imoinda, whoſe adventures ſhe hath ſo pathetically related in her celebrated novel of that name, and which Mr Southerne afterwards made ſuch an admirable uſe of in adopting it as the ground-work of one of the beſt tragedies in the Engliſh language.

On her return to London, ſhe became the wife of one Mr Behn, a merchant, reſiding in that city, but of Dutch extraction. How long he lived after their marriage, is not very apparent, probably not very long; for her wit and abilities having brought her into high eſtimation at court, King Charles II. fixed on her as a proper perſon to tranſact ſome affairs of importance abroad during the courſe of the Dutch war. To this purpoſe ſhe went over to Antwerp, where, by her intrigues and gallantries, ſhe ſo far crept into the ſecrets of ſtate, as to anſwer the ends propoſed by ſending her over. Nay, in the latter end of 1666, ſhe, by means of the influence ſhe had over one Vander Albert, a Dutchman of eminence, whoſe heart was warmly attached to her, ſhe wormed out of him the deſign formed by De Ruyter, in conjunction with the family of the De Wits, of ſailing up the Thames and burning the Engliſh ſhips in their harbours, which they afterwards put in execution at Rocheſter. This ſhe immediately communicated to the Engliſh court: but though the event proved her intelligence to be well grounded, yet it was at that time only laughed at; which, together probably with no great inclination ſhown to reward her for the pains ſhe had been at, determined her to drop all further thoughts of political affairs, and during the remainder of her ſtay at Antwerp to give herſelf up entirely to the gaiety and gallantries of the place. Vander Albert continued his addreſſes, and after having made ſome unſucceſsful attempts to obtain the poſſeſſion of her perſon on eaſier terms than matrimony, at length conſented to make her his wife; but while he was preparing at Amſterdam for a journey to England with that intent, a fever carried him off, and left her free from any amorous engagements. In her voyage back to England, ſhe was very near being loſt, the veſſel ſhe was in being driven on the coaſt by a ſtorm; but happening to founder within ſight of land, the paſſengers were, by the timely aſſiſtance of boats from the ſhore, all fortunately preſerved.

From this period ſhe devoted her life entirely to pleaſure and the muſes. Her works are extremely numerous, and all of them have a lively and amorous turn. It is no wonder then that her wit ſhould have gained her the eſteem of Mr Dryden, Southerne, and other men of genius, as her beauty, of which in her younger part of life ſhe poſſeſſed a great ſhare, did the love of thoſe of gallantry. Nor does ſhe appear to have been any ſtranger to the delicate ſenſations of that paſſion, as appears from ſome of her letters to a gentleman, with whom ſhe correſponded under the name of Lycida, and who ſeems not to have returned her flame with equal ardour, or received it with that rapture her charms might well have been expected to command.

She publiſhed three volumes of Miſcellany Poems; two volumes of Hiſtories and Novels; tranſlated Fontenelle's Plurality of Worlds, and annexed a Criticiſm on it; and her Plays make four volumes. In the dramatic line, the turn of her genius was chiefly to comedy. As to the character her plays ſhould maintain in the records of dramatic hiſtory, it will be difficult to determine, ſince their faults and perfections ſtand in ſtrong oppoſition to each other. In all, even the moſt indifferent of her pieces, there are ſtrong marks of genius and underſtanding. Her plots are full of buſineſs and ingenuity, and her dialogue ſparkles with the dazzling luſtre of genuine wit, which every where glitters among it. But then ſhe has been accuſed, and that not without great juſtice, of interlarding her comedies with the moſt indecent ſcenes, and giving an indulgence in her wit to the moſt indelicate expreſſions. To this accuſation ſhe has herſelf made ſome reply in the Preface to the Lucky Chance; but the retorting the charge of prudery and preciſeneſs on her accuſers, is far from being a ſufficient exculpation of herſelf. The beſt and perhaps the only true excuſe that can be made for it is, that, as ſhe wrote for a livelihood, ſhe was obliged to comply with the corrupt taſte of the times.

After a life intermingled with numerous diſappointments, ſhe departed from this world on the 16th of April 1689, and lies interred in the cloyſters of Weſtminſter-Abbey.

BEJA, an ancient town of Portugal, in the province of Alentejo. It is ſeated in a very agreeable and fruitful plain, remarkable for excellent wine. There are three gates remaining, which are of Roman architecture, and a great many Roman antiquities are dug out of the earth. The town has a ſtrong caſtle for its defence, and is ſituated W. Long. 7. 20. N. Lat. 37. 58. It was taken from the Moors in 1162.

BEJAR, a town of Eſtremadura in Spain, famous for its baths. It is ſeated in a very agreeable valley, ſurrounded with high mountains whoſe tops are always covered with ſnow. Here the dukes of Bejar have an handſome palace. In this neighbourhood are foreſts filled with game, and watered by fine ſprings; alſo a lake abounding with excellent fiſh, particularly trouts. They pretend that this lake makes ſuch a noiſe before a ſtorm, that it may he heard 15 miles off.

BEICHLINGEN, a town of Thuringia in Upper Saxony, in E. Long. 11. 50. N. Lat. 51. 20.

BEILA, a town of Italy, in Piedmont. E. Long. 7. 45. N. Lat. 45. 2.

BEILSTEIN, a town of the landgraviate of Heſſe in Germany, in E. Lon. 8. 0. N. Lat. 50. 30.

BEINASCHI (Giovanni Battiſta), called *Cavalier Beinaſchi*, hiſtory painter, was a Piedmonteſe, and born in 1634. He ſtudied in Rome, under the direction of Pietro del Po; and ſome authors affirm, that he was afterwards the diſciple of Lanfranc. It is certain that he was peculiarly fond of the works of Lanfranc, and at laſt became ſo thoroughly acquainted with the ſtyle, manner, and touch of that excellent maſter, than many of the pictures of Beinaſchi are at this day accounted the work of Lanfranc's own hand He was an admirable deſigner; his lively invention furniſhed him with a ſurpriſing variety; his thought was noble; he was not only expeditious but correct; and as a public acknowledgment of his merit, the honour of knighthood was conferred upon him.

BEINHEIM, a fort of Alſace in France, ſeated on the river Sur, near its confluence with the Rhine, in E. Long. 8. 12. N. Lat. 45. 2.

BEIRA, a province of Portugal, bounded on the weſt by the ocean, on the ſouth by the Portugueſe Eſtremadura, on the ſouth-eaſt by the Spaniſh province of the ſame name, on the eaſt by the province of Tra los Montos, and on the north by the river Douro. It extends in length about 34 leagues, and in breadth about 30 leagues, and is divided into ſix commarcas. Within this province lies Lamego, where the firſt aſſembly of the ſtates was held; the chief Epiſcopal city of Conimbra, or Coimbra, which is likewiſe an univerſity; and Viſeo, alſo a biſhopric, and formerly the capital of a dukedom. The country is equally agreeable and fruitful, producing corn, wines, &c. in abundance, and the hills affording excellent paſture to cattle and ſheep. The ſettled militia conſiſts of about 10,000 men.

BEIRAM, or BAIRAM. See BAIRAM.

BEIRALSTON, a town in Devonſhire, which ſends two members to parliament.

BEIZA, or BEIZATH, in Hebrew antiquity, a word ſignifying an *egg*; as alſo a certain meaſure in uſe among the Jews. The beiza was likewiſe a gold coin, weighing 40 drachms, among the Perſians, who gave out, that Philip of Macedon owed their king Darius 1000 beizaths or golden eggs, for tribute-money; and that Alexander the Great refuſed to pay them, ſaying, that the bird which laid theſe eggs was flown into the other world.

BEKKER (Balthazar), one of the moſt famous Dutch divines, and author of the celebrated book, The World bewitched, an ingenious piece againſt the vulgar notion of ſpirits. This raiſed a terrible clamour againſt him. He was depoſed from the office of miniſter; but the magiſtrates of Amſterdam continued him his penſion. He died in 1698.

BEL (MATTHIAS), was born in Hungary, and became a Lutheran miniſter at Preſburg, and hiſtoriographer to the Emperor Charles VI. He wrote, among other works, a Hiſtory of Hungary, which was ſo much admired, that the emperor ſent him letters of nobility; and notwithſtanding his being a Lutheran, the Pope, in 1736, ſent him his picture, and many large gold medals. He was a member of the Royal Society of London, and of the academies of Berlin and Peterſburg; and died in 1749, at 66 years of age.

Bel, or *Belus*, the ſupreme god of the ancient Chaldeans, or Babylonians. He was the founder of the Babylonian empire; and is ſuppoſed to be the Nimrod of Scripture, and the ſame as the Phœnician Baal. This god had a temple erected to him in the city of Babylon, on the very uppermoſt range of the famous tower of Babel, or Babylon, wherein were many ſtatues of the deity; and one, among the reſt, of maſſy gold, 40 feet high. The whole furniture of this magnificent temple was of the ſame metal, and valued at 800 talents of gold.—This temple, with its riches, was in being till the time of Xerxes, who, returning from his unfortunate expedition into Greece, demoliſhed it, and carried off the immenſe wealth which it contained. It was the ſtatue of this god which Nebuchadnezzar, being returned to Babylon after the end of the Jewiſh war, ſet up and dedicated in the plain of Dura; the ſtory of which is related at large in the third chapter of Daniel.

Bel and the Dragon (the hiſtory of); an apocryphal, and uncanonical, book of Scripture. It was always rejected by the Jewiſh church, and is extant neither in the Hebrew nor the Chaldee language, nor is there any proof that it ever was ſo. St Jerom gives it no better title than *the Fable of Bel and the Dragon*. It is however permitted to be read, as well as the other apocryphal writings, for the inſtruction and improvement of manners.

BELAC, a ſmall city of France, in the province of the Lyonnois, and diſtrict of La Marche. E. Long. 1. 15. N. Lat. 46. 15.

BELAY, on board a ſhip, ſignifies the ſame as faſten.—Thus they ſay, belay the ſheet, or tack, that is, faſten it to the kevel, by winding it ſeveral times round a laſt, &c.

BELCASTRO, an epiſcopal city of Italy in the farther Calabria, and kingdom of Naples. It is ſeated on a mountain, in E. Long. 17. 15. N. Lat. 39. 6.

BELCHITE, a town of Spain, in the kingdom of Arragon, ſeated on the river Almonazir, in W. Long. 0. 30. N. Lat. 41. 19.

BELCHOE, a town of Ireland, in the province of Ulſter, and county of Fermanagh, ſeated on Lough Nilly, in W. Long. 6. 6. N. Lat. 54. 2.

BELEM, a town of Eſtremadura in Portugal, about a mile from Liſbon. It is ſeated on the north ſide of the river Tajo, and is deſigned to defend the entrance to Liſbon; and here all the ſhips that ſail up the river muſt bring to. In this place they inter the kings and queens of Portugal.

BELEMNITES, vulgarly called *thunder-bolts* or *thunder-ſtones*. They are compoſed of ſeveral cruſts of ſtone encircling each other, of a conical form, and various ſizes; uſually a little hollow, and ſomewhat tranſparent, formed of ſeveral ſtriæ radiating from the axis to the ſurface of the ſtone; and when burnt or rubbed againſt one another, or ſcraped with a knife, yield an odour like raſped horn. Their ſize is various, from a quarter of an inch to eight inches; and their colour and ſhape differ. They are ſuppoſed to be originally either a part of ſome ſea production; or a ſtone formed in the cavity of ſome worm-ſhell, which being of a tender and brittle nature, has periſhed, after giving its form to the ſtone. They are very frequently found in many parts of England; and the common people have a notion, that they are always to be met with after a ſtorm. They are often incloſed in, or adhere to, other ſtones; and are moſt frequent amongſt gravel, or in clay: they abound in Glouceſterſhire; and are found near Dedington in Oxfordſhire, where they ſometimes contain the ſilver marcaſite.

BELERIUM, (anc. geog.), a promontory of the Damnonii or Dumnonii, the weſtmoſt Britons. Now called the *land's end*, in Cornwall.

BELESIS, or NANYBRUS, ſaid to have been the founder of the ancient Babyloniſh empire, and in conjunction with Arbaces the Mede to have put an end to the kingdom of the Aſſyrians by the defeat and death of Sardanapalus. The firſt prince is repreſented as a crafty and mean-ſpirited knave; and at the ſame time, as nothing leſs than an hero. It is ſaid, he was baſe enough to circumvent Arbaces his colleague and friend in the moſt ſhameful manner; by pretending a vow he had, in the midſt of the war, made to his god Belus, That if ſucceſs was the event of it, and the palace of Sardanapalus was conſumed, as it was, he would be at the charge and trouble of removing the aſhes that were left, to Babylon; where he would heap them up into a mount near the temple of his god; there to ſtand as a monument to all who ſhould navigate the Euphrates, of the ſubverſion of the Aſſyrian empire. He, it ſeems, had been privately informed, by an eunuch, of the immenſe treaſure which had been conſumed in the conflagration at Nineveh; and knowing it to be a ſecret to Arbaces, his avarice ſuggeſted to him this artifice. Arbaces not only granted him his requeſt; but appointed him king of Babylon, with an exemption from all tribute. Beleſis, by this artifice, carried a prodigious treaſure with him to Babylon; but when the ſecret was diſcovered, he was called to an account for it, and tried by the other chiefs who had been aſſiſtant in the war, and who, upon his confeſſion of the crime, condemned him to loſe his head. But Arbaces, a magnificent and generous prince, freely forgave him, left him in poſſeſſion of the treaſure, and alſo in the independent government of Babylon, ſaying, The good he had done ought to ſerve as a veil to his crime; and thus he became at once a prince of great wealth and dominion.

In proceſs of time, and under the ſucceſſor of Arbaces, he became a man of dreſs, ſhew, and effeminacy, unworthy of the kingdom or province he held. Nanybrus, for ſo we muſt now call Beleſis, underſtanding a certain robuſt Mede, called *Parſondas*, held him in the utmoſt contempt, and had ſolicited the emperor of the Medes to diveſt him of his dominions, and to confer them upon himſelf, offered a very great reward to the man who ſhould take Parſondas, and bring him to him. Parſondas hunting ſomewhere near Babylon with the king of the Medes, and ſtraggling from the company, happened to fall in with ſome of the ſervants of the Babylonian Nanybrus, who had been tempted with the promiſed reward. They were purveyors to the king; and Parſondas being very thirſty, aſked them for a draught of wine; which they not only granted, but prevailed upon him to take a meal with them. As he drank freely, ſuſpecting no treachery, he was eaſily perſuaded to paſs that night in company with ſome beautiful women, brought on purpoſe to detain him. But, while he was in a profound ſleep, the ſervants of Nanybrus ruſhing upon him, bound him, and carried him to their prince; who bitterly reproached him for endeavouring to eſtrange his maſter the king of the Medes from him, and by that means place himſelf in his room on the throne of Babylon. Parſondas did not deny the charge; but with great intrepidity owned, that he thought himſelf more worthy of a crown than ſuch an indolent and effeminate prince as he was. Nanybrus, highly provoked at the liberty he took, ſwore by the gods Belus and Molis, or rather Mylitta, that Parſondas himſelf ſhould in a ſhort time become ſo effeminate as to reproach none with effeminacy. Accordingly, he ordered the eunuch who had the charge of his muſic-women, to ſhave, paint, and dreſs him after the manner of thoſe women, to teach him the art, and in ſhort to transform him by all poſſible means into a woman. His orders were obeyed; and the manly Parſondas ſoon exceeded the faireſt female in ſinging, playing, and the other arts of allurements.

In the mean time the king of the Medes, having in vain ſought after his favourite ſervant, and in vain offered great rewards to ſuch as ſhould give him any information concerning him, concluded he had been deſtroyed by ſome wild beaſt in the chace. At length, after ſeven years, the Mede was informed of his ſtate and condition by an eunuch, who, being cruelly ſcourged by Nanybrus's order, fled, at the inſtigation of Parſondas, into Media; and there diſcloſed the whole to the king, who immediately diſpatched an officer to demand him. Nanybrus pretended to know nothing of any ſuch perſon; upon which another officer was ſent by the Mede, with a peremptory order to ſeize on Nanybrus if he perſiſted in the denial, to bind him with his girdle, and lead him to immediate execution. This order had the deſired effect: the Babylonian owned what he had before denied, promiſing to comply, without further delay, with the king's demand; and in the mean time invited the officer to a banquet, at which 150 women, among whom was Parſondas, made their appearance, ſinging and playing upon various inſtruments. But, of all, Parſondas appeared by far the moſt charming; inſomuch, that Nanybrus inquiring of the Mede which he liked beſt, he immediately pointed at him. At this the Babylonian clapt his hands; and, falling into an immoderate fit of laughter, told him who the perſon was whom he thus preferred to all the reſt; adding, that he could anſwer what he had done before the king of the Medes. The officer was no leſs ſurpriſed at ſuch an aſtoniſhing change than his maſter was afterwards, when Parſondas appeared before him. The only favour Parſondas begged of the king, for all his paſt ſervices, was, that he would avenge on the Babylonian the baſe and highly injurious treatment he had met with at his hands. The Mede marched accordingly at his inſtigation to Babylon; and, notwithſtanding the remonſtrances of Nanybrus, urging, that Parſondas had, without the leaſt provocation, endeavoured to deprive him of both his life and kingdom, declared that in ten days time he would paſs the ſentence on him which he deſerved, for preſuming to act as judge in his own cauſe, inſtead of appealing to him. But Nanybrus having in the mean time gained with a large bribe Mitraphernes the Mede's favourite eunuch, the king was by him prevailed upon to ſentence the Babylonian only to a fine; which made Parſondas curſe the man who firſt found out gold, for the ſake of which he was to live the ſport and deriſion of an effeminate Babylonian.

BELESME, a town of Perche in France, in W. Long. 0. 16. N. Lat. 48. 23.

BELEZERO, a town of Ruſſia, and capital of a province of the ſame name. It is ſituated on the ſouth-eaſt ſhore of the White ſea, in E. Long. 36. 10. N. Lat. 61. 50.

BELFAST, a town of Ireland, in the county of Antrim. It is ſeated at the bottom of Carrickfergus bay, and is the chief town and port in this part of Ireland, as well for beauty and the number of its inhabitants, as for its wealth, trade, and ſhipping. It has a conſiderable trade with Glaſgow, and the inhabitants are moſtly Scots, and of the preſbyterian religion. W. Long. 6. 15. N. 54. 38.

BELFRY, Belfredus, is uſed by military writers of the middle age for a ſort of tower erected by beſiegers to overlook and command the place beſieged. Belfry originally denoted a high tower, whereon centinels were placed to watch the avenues of a place, and prevent ſurpriſe from parties of the enemies, or to give notice of fires by ringing a bell. In the cities of Flanders, where there is no belfry on purpoſe, the tower of the chief church ſerves the ſame end. The word *belfry* is compounded of the Teutonic *bell*, and *freid* "peace," becauſe the bells were hung for preſerving the peace.

Belfry is alſo uſed for that part of a ſteeple wherein the bells are hung. This is ſometimes called by middle-age writers *campanile, clocaria, and triſtegum.*

Belfry is more particularly uſed for the timber-work which ſuſtains the bells in a ſteeple, or that wooden ſtructure to which the bells in church ſteeples are faſtened.

BELGÆ (anc. geog.), a people of Britain, to the weſt: Now Hampſhire, Wiltſhire, and Somerſetſhire, (Camden).

BELGICA, a town of the Ubii in Gallia Belgica, midway between the rivers Rhine and Roer: Now called *Balchuſen* (Cluverius); a citadel of Juliers (Baudrand).

Belgica Gallia, one of Cæſar's three diviſions of Gaul, contained between the ocean to the north, the rivers Seine and Marne to the weſt, the Rhine to the eaſt, but on the ſouth at different times within different limits. Auguſtus, inſtituting every where a new partition of provinces, added the Sequani and Helvetii, who till then made a part of Celtic Gaul, to the Belgic (Pliny, Ptolemy). The gentilitious name is *Belgæ*, called by Cæſar the braveſt of the Gauls, becauſe untainted by the importation of luxuries. The epithet is *Belgicus* (Virgil).

BELGARDEN, a town of Germany, in Eaſt Pomerania, in the province of Caſſubia, and ſubject to Pruſſia. E. Long. 16. 5. N. Lat. 54. 10.

BELGINUM, a town of the Treviri, in Gallia Belgica: Now called *Baldenau*, in the electorate of Triers.

BELGIUM, manifeſtly diſtinguiſhed from Belgica, as a part from the whole (Cæſar); who makes Belgium the country of the Bellovaci; Hirtius adding the Atrebates. But as the Ambiani lay between the Bellovaci and Atrebates, we muſt alſo add theſe; and thus Belgium reached to the ſea, becauſe the Ambiani lay upon it: and theſe three people conſtituted the proper and genuine Belgæ (all the reſt being adventitious, or foreigners); and theſe were the people of Beauvais, Amiens, and Artois.

BELGOROD, a town of Ruſſia, and capital of a province of the ſame name. It is ſeated on the river Donnets, in E. Long. 18. 5. N. Lat. 51. 20.

Belgorod, a ſtrong town of Beſſarabia in European Turkey, ſeated on the mouth of the river Neiſter, on the Black Sea, 80 miles ſouth-eaſt of Bender. E. Long. 31. 0. N. Lat. 46. 30.

BELGRADE, a city of Turkey in Europe, and capital of Servia, ſeated on the confluence of the Save and the Danube, in E. Long. 21. 2. N. Lat. 45. 10. The Danube is very rapid near this city, and its waters look whitiſh. Belgrade is built on a hill, and was once large, ſtrong, and populous. It was ſurrounded with a double wall, flanked with a great number of towers, and had a caſtle ſituated on a riſing ground, and built with ſquare ſtones. The ſuburbs are very extenſive; and reſorted to by Turkiſh, Jewiſh, Greek, Hungarian, and Sclavonian merchants. The ſtreets where the greateſt trade is carried on are covered with wood, to ſhelter the dealers from the ſun and rain. The rivers render it very convenient for commerce; and as the Danube falls into the Black Sea, the trade is eaſily extended to diſtant countries, which renders it the ſtaple town in theſe parts; and as the Danube runs up to Vienna, they ſend goods from thence with a great deal of eaſe. The Armenians have a church here, and the Jews a ſynagogue, both theſe being employed as factors. The ſhops are but ſmall; and the ſellers ſit on tables, diſpoſing of their commodities out of a window, for the buyers never go on the inſide. The richeſt merchandize are expoſed to ſale in two bezeſteins or bazars, built croſſwiſe. There are two exchanges, built with ſtone, and ſupported with pillars not unlike the Royal Exchange at London. There is likewiſe a caravanſera or public inn, and a college for young ſtudents. It has been taken by the Turks and Imperialiſts alternately ſeveral times; but was ceded to the Turks in 1739, and the fine fortifications demoliſhed.

BELGRADO, a town of Friuli, in the Venetian territories in Italy. It ſtands near the river Tejamento, in E. Long. 13. 5. N. Lat. 46. 0.

BELIA (anc. geog.), a town of hither Spain: Now *Belchite*, in the kingdom of Arragon. See Belchite.

BELIAL, בליעל, a Hebrew word which ſignifies a wicked worthleſs man, one who is reſolved to endure no ſubjection. Thus the inhabitants of Gibeah, who abuſed the Levite's wife (Judges xix. 22.), have the name of Belial given them. Hophni and Phineas, the high prieſt Eli's ſons, are likewiſe called ſons of Belial (1 Sam. ii. 12.), upon account of the ſeveral crimes they had committed, and the unbecoming manner in which they behaved themſelves in the temple of the Lord. Sometimes the name Belial is taken to denote the devil. Thus St Paul ſays (2 Cor. vi. 15.), "What concord hath Chriſt with Belial?" Whence it appears, that in his time the Jews, under the name of Belial, commonly underſtood the devil in the places where this term occurs in the Old Teſtament.

BELIDOR (Bernard Foreſt de), a Catalonian engineer in the ſervice of France, and member of the academies of ſciences at Paris and Berlin, and of the royal ſociety at London; a celebrated mathematician, and author of a number of military tracts in which the ſcience of mathematics is applied to military uſes. Died in 1765, aged 70.

BELIEF, in its general and natural ſenſe, denotes a perſuaſion, or a ſtrong aſſent of the mind to the truth of any propoſition. In which ſenſe, belief has no relation to any particular kind of means or arguments, but may be produced by any means whatever. Thus we are ſaid to believe our ſenſes, to believe our reaſon, to believe a witneſs, &c. And hence, in rhetoric, all ſorts of proofs, from whatever topics deduced, are called ϖιϛεις, becauſe apt to get belief or perſuaſion touching the matter in hand.

Belief, in its more reſtrained and technical ſenſe, invented by the ſchoolmen, denotes that kind of aſſent which is grounded only on the authority or teſtimony of ſome perſon or perſons, aſſerting or atteſting the truth of any matter propoſed.

In this ſenſe, belief ſtands oppoſed to knowledge and ſcience. We do not ſay we believe that ſnow is white, or that the whole is equal to its parts; but we ſee and know them to be ſo. That the three angles of a triangle are equal to two right angles, or that all motion is naturally rectilinear, are not ſaid to be things credible, but ſcientifical; and the comprehenſion of ſuch truths is not belief but ſcience.

But when a thing propounded to us is neither apparent to our ſenſe, nor evident to our underſtanding; neither certainly to be collected from any clear and neceſſary connection with the cauſe from which it proceeds, nor with the effects which it naturally produces; nor is taken up upon any real arguments, or relation thereof to other acknowledged truths; and yet, notwithſtanding, appears as true, not by manifeſtation, but by an atteſtation of the truth, and moves us to aſſent, not of itſelf, but in virtue of a teſtimony given to it—this is ſaid to be properly credible; and an aſſent to this is the proper notion of belief or faith.

BELIEVERS, an appellation given toward the cloſe of the firſt century to thoſe Chriſtians who had been admitted into the church by baptiſm, and inſtructed in all the myſteries of religion. They had alſo acceſs to all the parts of divine worſhip, and were authoriſed to vote in the eccleſiaſtical aſſemblies. They were thus called in contradiſtinction to the catechumens, who had not been baptized, and were debarred from theſe privileges.

BELIO (anc. geog.), a river of Louſitania, called otherwiſe *Limæas*, *Limeas*, *Limius*, and *Lethe* or the *River of Oblivion*: the boundary of the expedition of Decimus Brutus. The ſoldiers refuſing out of ſuperſtition to croſs, he ſnatched an enſign out of the hands of the bearer, and paſſed over, by which his army was encouraged to follow (Livy). He was the firſt Roman who ever proceed ſo far, and ventured to croſs. The reaſon of the appellation, according to Strabo, is, that in a military expedition a ſedition ariſing between the Celtici and Turduli after croſſing that river, in which the general was ſlain, they remained diſperſed there; and from this circumſtance it came to be called the *River of Lethe* or *Oblivion*. Now called *El Lima*, in Portugal, running weſtward into the Atlantic, to the ſouth of the Minho.

BELISARIUS, general of the emperor Juſtinian's army, Beliſarius, Bell.

army, who overthrew the Perſians in the Eaſt, the Vandals in Africa, and the Goths in Italy. See Rome. But after all his great exploits, he was falſely accuſed of a conſpiracy againſt the emperor. The real conſpirators had been detected and ſeized, with daggers hidden under their garments. One of them died by his own hand, and the other was dragged from the ſanctuary. Preſſed by remorſe, or tempted by the hopes of ſafety, he accuſed two officers of the houſehold of Beliſarius; and torture forced them to declare that they had acted according to the ſecret inſtructions of their patron. Poſterity will not haſtily believe, that an hero who in the vigour of life had diſdained the faireſt offers of ambition and revenge, ſhould ſtoop to the murder of his prince, whom he could not long expect to ſurvive. His followers were impatient to fly; but flight muſt have been ſupported by rebellion, and he had lived enough for nature and for glory. Beliſarius appeared before the council with leſs fear than indignation: after 40 years ſervice, the emperor had prejudged his guilt; and injuſtice was ſanctified by the preſence and authority of the patriarch. The life of Beliſarius was graciouſly ſpared: but his fortunes were ſequeſtered; and, from December to July, he was guarded as a priſoner in his own palace. At length his innocence was acknowledged; his freedom and honors were reſtored; and death, which might be haſtened by reſentment and grief, removed him from the world about eight months after his deliverance. That he was deprived of his eyes, and reduced by envy to beg his bread, "Give a penny to Beliſarius the general!" is a fiction of later times; which has obtained credit, or rather favour, as a ſtrange example of the viciſſitudes of fortune.—The ſource of this idle fable may be derived from a miſcellaneous work of the 12th century, the Chiliads of John Tzetzes, a monk. He relates the blindneſs and beggary of Beliſarius in ten vulgar or political verſes (Chiliad iii. N°88. 339—348. in Corp. Poet. Græc. tom. ii. 311).

Εκπωμα ξυλινον κρατων εβοα τω μιλιῳ
Βελισαριῳ οβολον δοτε τῳ στρατηλατη
Ον τυχη μεν εδοξασεν, αποτυφλοι δ' ὁ φθονος.

This moral or romantic tale was imported into Italy with the language and manuſcripts of Greece; repeated before the end of the 15th century by Crinitus, Pontanus, and Volaterranus; attacked by Alciat for the honour of the law, and defended by Baronius (A. D. 561. N°2, &c.) for the honour of the church. Yet Tzetzes himſelf had read in other chronicles, that Beliſarius did not loſe his ſight, and that he recovered his fame and fortunes.—The ſtatue in the Villa Borgheſe at Rome, in a ſitting poſture, with an open hand, which is vulgarly given to Beliſarius, may be aſcribed with more dignity to Auguſtus in the act of propitiating Nemeſis (*Wickelman, Hiſt. de l'Art*, tom. iii. p. 266.). "Ex nocturno viſu etiam ſtipem, quotannis, die certo, emendicabat a populo, cavam manum aſſes porrigentibus prebens" (*Sueton. in Aug.* c. 91.)

BELL, a well known machine ranked by muſicians among the muſical inſtruments of percuſſion.

The conſtituent parts of a bell are the body or *barrel*, the *clapper* on the inſide, and the ear or *cannon* by which it hangs to a large beam of wood. The matter of which it is uſually made is a compoſition called *bell-metal*. The thickneſs of a bell's edges is uſually $\frac{1}{15}$ of the diameter, and its height 12 times it thickneſs. The bell-founders have a diapaſon, or bell-ſcale, wherewith they meaſure the ſize, thickneſs, weigh, and tone, of their bells. For their method of caſting bells, ſee Foundery.

Bell.

The ſound of a bell is conjectured to conſiſt in a vibratory motion of its parts, much like that of a muſical chord. The ſtroke of the clapper muſt neceſſarily change the figure of the bell, and of a round make it oval; but the metal having a great degree of elaſticity, that part will return back again which the ſtroke drove fartheſt off from the centre, and that even ſome ſmall matter nearer the centre than before; ſo that the two parts which before were extremes of the longeſt diameter, do then become thoſe of the ſhorteſt; and thus the external ſurface of the bell undergoes alternate changes of figure, and by that means gives that tremulous motion to the air in which the ſound conſiſts. M. Perrault maintains, that the ſound of the ſame bell or chord is a compound of the ſounds of the ſeveral parts thereof, ſo that where the parts are homogeneous, and the dimenſions of the figure uniform, there is ſuch a perfect mixture of all theſe ſounds as conſtitutes one uniform, ſmooth, even ſound; and the contrary circumſtances produce harſhneſs. This he proves from the bells differing in tone according to the part you ſtrike; and yet ſtrike it any where, there is a motion of all the parts. He therefore conſiders bells as a compound of an infinite number of rings, which according to their different dimenſions have different tones, as chords of different lengths have; and when ſtruck, the vibrations of the parts immediately ſtruck determine the tone, being ſupported by a ſufficient number of conſonant tones in the other parts.

Bells are obſerved to be heard farther placed on plains than on hills; and ſtill farther in valleys than on plains: the reaſon of which will not be difficult to aſſign, if it be conſidered that the higher the ſonorous body is, the rarer is its medium; conſequently, the leſs impulſe it receives, and the leſs proper vehicle it is to convey it to a diſtance.

Mr Reamur, in the Memoirs of the Paris Academy, has the following obſervations relating to the ſhape moſt proper for bells, to give them the loudeſt and cleareſt ſound. He obſerves, "that as pots and other veſſels more immediately neceſſary to the ſervice of life were doubtleſs made before bells, it probably happened that the obſerving theſe veſſels to have a ſound when ſtruck, gave occaſion to making bells, intended only for ſound, in that form; but that it does not appear that this is the moſt eligible figure; for lead, a metal which is in its common ſtate not at all ſonorous, yet becomes greatly ſo on its being caſt into a particular form, and that very different from the common ſhape of bells. In melting lead for the common occaſions of caſting in ſmall quantities, it is uſually done in an iron ladle: and as the whole is ſeldom poured out, the remainder, which falls to the bottom of the ladle, cools into a maſs of the ſhape of that bottom. This is conſequently a ſegment of a ſphere, thickeſt in the middle, and thinner towards the edges; nor is the ladle any neceſſary part of the operation, ſince if a maſs of lead be caſt in that form in a mould of earth or ſand, in any of theſe caſes it is found to be very ſonorous. Now if this ſhape alone can give ſound to a metal which in other forms is perfectly mute, how much more muſt it neceſſarily give it to other metals naturally ſonorous in whatever form? It ſhould ſeem, that bells would much better perform their office in this than in any other form: and that it muſt particularly be a thing of great advantage to the ſmall bells of common houſe-clocks, which are required to have a ſhrill note, and yet are not allowed any great ſize." He adds, "that had our forefathers had opportunities of being acquainted with the ſound of metal in this ſhape, we ſhould probably have had all our bells at preſent of this form."

The uſe of bells is very ancient, as well as extenſive. We find them among Jews, Greeks, Romans, Chriſtians and Heathens, variouſly applied; as on the necks of men, beaſts, birds, horſes, ſheep: but chiefly hung in buildings, either religious, as in churches, temples, and monaſteries; or civil, as in houſes, markets, baths; or military, as in camps and frontier towns.

Among the Jews it was ordained, that the lower part of the blue tunic which the high prieſt wore when he performed religious ceremonies, ſhould be adorned with pomegranates and gold bells, intermixed equally and at equal diſtances. As to the number of the bells worn by the high prieſt, the ſcripture is ſilent; and authors are not very well agreed: but the ſacred hiſtorian has let us into the uſe and intent of them in theſe words (Exod. xxviii. 33—35.), "And it ſhall be upon Aaron to miniſter, and his ſound ſhall be heard when he goeth into the holy place before the Lord, and when he cometh out, that he die not." The kings of Perſia are ſaid to have the hem of their robes adorned like the Jewiſh high prieſts with pomegranates and gold bells. It was, in the opinion of Calmet, with a deſign of giving notice that the high-prieſt was paſſing by, that he wore little bells on the hem of his robe; or rather it was as it were a kind of public notice that he was going to the ſanctuary: for as, in the king of Perſia's court, no one was ſuffered to enter the apartments without giving notice thereof by the ſound of ſomething; ſo the high prieſt out of reſpect to the divine preſence reſiding in the holy of holies, did, by the ſound of little bells faſtened to the bottom of his robe, deſire as it were permiſſion to enter, that the ſound of the bells might be heard, and he not be puniſhed with death for an unmannerly intruſion. The figure of theſe bells is not known to us. The prophet Zachariah (xiv. 20.) ſpeaks of bells hung to war horſes. "In that day (ſays the prophet) there ſhall be on the bells of horſes, Holineſs unto the Lord."

Among the Greeks, thoſe who went the nightly rounds in camps or garriſons, carried with them a little bell, which they rung at each centry-box to ſee that the ſoldiers on watch were awake. A codonophorus or bell-man alſo walked in funeral proceſſions, at a diſtance before the corpſe, not only to keep off the crowd, but to advertiſe the *flamen dialis* to keep out of the way, for fear of being polluted by the ſight, or by the funerary muſic. The prieſt of Proſerpine at Athens, called *hierophantus*, rung a bell to call the people to ſacrifice.

There were alſo bells in the houſes of great men to call up the ſervants in a morning. Zonaras aſſures us, that bells were hung with whips on the triumphal chariots of their victorious generals, to put them in mind that they were ſtill liable to public juſtice.

Bells were put on the necks of criminals going to execution, that perſons might be warned by the noiſe to get out of the way of ſo ill an omen as the ſight of the hangman or the condemned criminal, who was devoted and juſt going to be ſacrificed to the *dii manes*.

For bells on the necks of brutes, expreſs mention is made of them in Phædras,—*Celſa cervice eminens, Clarumque collo jactans tintinnabulum.* Taking theſe bells away was conſtrued by the civil law, theft; and if the beaſt was loſt by this means, the perſon who took away the bells was to make ſatisfaction.

As to the origin of *church-bells*, Mr Whitaker † obſerves, That bells being uſed, among other purpoſes, by the Romans to ſignify the times of bathing, were naturally applied by the Chriſtians of Italy to denote the hours of devotion, and ſummon the people to church. The firſt application of them to this purpoſe is, by Polydore, Virgil and others, aſcribed to Paulinus biſhop of Nola, a city of Campania, about the year 400. Hence, it is ſaid, the name *nolæ* and *campanæ* were given them; the one referring to the city, the other to the country. Though others ſay they took the latter of theſe names, not from their being invented in Campania, but becauſe it was here the manner of hanging and balancing them, now in uſe, was firſt practiſed; at leaſt that they were hung on the model of a ſort of balance invented or uſed in Campania: for in Latin writers we find *campana ſtatera*, for a ſteelyard; and in the Greek καμπανιζειν, and *ponderare*, "to weigh." In Britain, bells were applied to church-purpoſes before the concluſion of the ſeventh century, in the monaſtic ſocieties of Northumbria, and as early as the ſixth even in thoſe of Caledonia. And they were therefore uſed from the firſt erection of pariſh-churches in Britain.—Thoſe of France and England appear to have been furniſhed with ſeveral bells. In the time of Clothair II. king of France, and in the year 610, the army of that king was frighted from the ſiege of the city of Sens, by ringing the bells of St Stephen's church. The ſecond excerption of Egbert, about the year 750, which is adopted in a French Capitulary of 801, commands every prieſt, at the proper hours, to ſound the bells of his church, and then to go through the ſacred offices to God. And the council of Enham, in 1011, requires all the mulcts for ſins to be expended in the reparation of the church, clothing and feeding the miniſter of God, and the purchaſe of church-veſtments, church-books, and church-bells. Theſe were ſometimes compoſed of iron in France; and in England, as formerly at Rome, were frequently made of braſs. And as early as the ninth century, there were many caſt of a large ſize and deep note.

Ingulphus mentions, that Turketulus abbot of Croyland, who died about the year 870, gave a great bell to the church of that abbey, which he named *Guthlac*; and afterwards ſix others, viz. two which he called *Bartholomew* and *Bettelin*, two called *Turketul* and *Tatwin*, and two named *Pega* or *Bega*, all which rang together; the ſame author ſays, *Non erat tunc tanta conſonantia campanarum in tota Anglia.* Not long

† *Hiſt. of Mancheſter.*

long after. Kinſeus, archbiſhop of York, gave two great bells to the church of St John at Beverly, and at the ſame time provided that other churches in his dioceſe ſhould be furniſhed with bells. Mention is made by St Aldhem, and William of Malmeſbury, of bells given by St Dunſtan to the churches in the weſt. The number of bells in every church gave occaſion to the curious and ſingular piece of architecture in the campanile or bell tower; an addition which is more ſuſceptible of the grander beauties of architecture than any other part of the edifice, and is generally therefore the principle or rudiments of it. It was the conſtant appendage to every pariſh-church of the Saxons, and is actually mentioned as ſuch in the laws of Athelſtan.

The Greek Chriſtians are uſually ſaid to have been unacquainted with bells till the ninth century, when their conſtruction was firſt taught them by a Venetian. Indeed, it is not true that the uſe of bells was entirely unknown in the ancient eaſtern churches, and that they called the people to church, as at preſent, with wooden mallets. Leo Allatius, in his diſſertation on the Greek temples, proves the contrary from ſeveral ancient writers. It is his opinion, that bells firſt began to be diſuſed among them after the taking of Conſtantinople by the Turks; who, it ſeems prohibited them, leſt their ſound ſhould diſturb the repoſe of ſouls, which, according to them, wander in the air. He adds, that they ſtill retain the uſe of bells in places remote from the intercourſe of the Turks; particularly, very ancient ones in Mount Athos. F. Simon thinks the Turks prohibited the Chriſtians the uſe of bells, rather out of political than religious reaſons; inaſmuch as the ringing of bells migh ſerve as a ſignal for the execution of revolts, &c.

In the ancient monaſteries we find ſix kinds of bells enumerated by Durandus, viz. *Squilla*, rung in the refectory; *cymbalum*, in the cloiſter; *nola*, in the choir; *nolula* or *dupla*, in the clock; *campana*, in the ſteeple; and *ſignum* in the tower. Belethus has much the ſame; only that for *ſquilla* he puts *tintinnabulum*, and places the *campana* in the tower, and *campanella* in the cloiſter. Others place the *tintinnabulum* or *tinniolum* in the refectory or dormitory; and add another bell called *corrigiuncula*, rung at the time of giving diſcipline, to call the monks to be flogged. The *cymbalum* is ſometimes alſo ſaid to have been rung in the cloiſter, to call the monks to meat.

In the funeral monuments of Weever, are the following particulars relating to bells: Bells had frequently theſe inſcriptions on them:

“ *Funera plango, Fulgura frango, Sabbata pango,*
“ *Excito lentos, Diſſipo ventos, Paco cruentos.*

“ In the Little Sanctuary at Weſtminſter King Edward III. erected a clochier, and placed therein three bells for the uſe of St Stephen's chapel: about the biggeſt of them were caſt in the metal theſe words:

“ King Edward made mee thirtie thouſand weight and three.
“ Take me down and wey me, and more you ſhall fynd mee.

“ But theſe bells being to be taken down in the reign of King Henry VIII. one writes underneath with a coale:

“ But Henry the eight
“ Will bait me of my weight.” *Ibid.* 492.

This laſt diſtich alludes to a fact mentioned by Stow in his ſurvey of London, ward of Farringdon Within, to wit, that near to St Paul's ſchool ſtood a clochier, in which were four bells called *Jeſus's bells*, the greateſt in all England, againſt which Sir Miles Partridge ſtaked an hundred pounds, and won them of King Henry VIII. at a caſt of dice. Nevertheleſs it appears that abroad there are bells of greater magnitude. In the ſteeple of the great church at Roan in Normandy is a bell with this inſcription:

Je ſuis George de Ambois,
Qui trente cinque mille pois.
Mes lui qui me peſera,
Trente ſix mille trouera.

I am George of Ambois,
Thirtie five thouſand in pois:
But he that ſhall weigh me,
Thirtie ſix thouſand ſhall find me. *Ibid.*

And it is a common tradition that the bells of King's-college chapel, in the univerſity of Cambridge, were taken by Henry V. from ſome church in France, after the battle of Agincourt. They were taken down ſome years ago, and ſold to Phelps the bell-founder in White-Chapel, who melted them down.

The uſes of bells were ſummed up in the following diſtich, as well as that firſt abovementioned:

Laudo Deum verum, plebem voco, conjugo clerum,
Defunctos ploro, peſtem fugo, feſta decoro.

Matthew Paris obſerves, that anciently the uſe of bells was prohibited in time of mourning; though at preſent they make one of the principal ceremonies of mourning. Mabillon adds, that it was an ancient cuſtom to ring the bells for perſons about to expire, to advertiſe the people to pray for them; whence our paſſing-bells. The paſſing-bell, indeed, was anciently rung for two purpoſes: one, to beſpeak the prayers of all good Chriſtians for a ſoul juſt departing: the other, to drive away the evil ſpirits who ſtood at the bed's foot, and about the houſe, ready to ſeize their prey, or at leaſt to moleſt and terrify the ſoul in its paſſage: but by the ringing of that bell (for Durandus informs us, evil ſpirits are much afraid of bells), they were kept aloof; and the ſoul, like a hunted hare, gained the ſtart, or had what is by ſportſmen called *law*. Hence, perhaps, excluſive of the additional labour, was occaſioned the high price demanded for tolling the greateſt bell of the church; for, that being louder, the evil ſpirits muſt go farther off to be clear of its ſound, by which the poor ſoul got ſo much more the ſtart of them: beſides, being heard farther off, it would likewiſe procure the dying man a greater number of prayers. This diſlike of ſpirits to bells is mentioned in the Golden Legend, by W. de Worde. “ It is ſaid, the evill ſpirytes that ben in the regyon of thayre, doubte moche when they here the belles rongen: and this is the cauſe why the belles ben rongen whan it thondreth, and whan great tempeſte and outrages of wether happen, to the ende that the feinds and wycked ſpirytes ſhold be abaſhed and flee, and ceaſe of the movynge of tempeſte.” Lobineau obſerves, that the cuſtom of ringing bells, at the approach of thunder, is of ſome antiquity; but that the deſign was not ſo much to ſhake the air, and ſo diſſipate the thunder, as to call the people to church, to pray that the pariſh might be preſerved from that terrible meteor.

In the times of Popery, bells were baptized and anointed *oleo chriſmatis:* they were exorciſed, and bleſſed by the biſhop; from a belief, that, when theſe ceremonies were performed, they had power to drive the devil out of the air, to calm tempeſts, to extinguiſh fire, and to recreate even the dead. The ritual for theſe ceremonies is contained in the Roman pontifical; and it was uſual in their baptiſm to give to bells the name of ſome ſaint. In Chauncy's hiſtory of Hertfordſhire, page 383, is a relation of the baptiſm of a ſet of bells in Italy with great ceremony, a ſhort time before the writing that book. The bells of the pariſh church of Winnington in Bedfordſhire had their names caſt about the verge of every one in particular, with theſe rhiming hexameters:

Nomina Campanis hæc indita ſunt quoque noſtris.
1. *Hoc ſignum Petri pulſatur nomine Chriſti.*
2. *Nomen Magdalene campana ſonat melode.*
3. *Sit nomen Domini benedictum ſemper in eum.*
4. *Muſa Raphaelis ſonat auribus Immanuelis.*
5. *Sum Roſa pulſata mundique Maria vocata.*
Weev. Fun. 12.

By an old chartulary, once in the poſſeſſion of Weever the antiquary, it appears that the bells in the priory of Little Dunmow in Eſſex were, anno 1501, new caſt, and baptized by the following names:

Prima in honore Sancti Michaelis Archangeli.
Secunda in honore S. Johannis Evangeliſti.
Tertia in honore S. Johannis Baptiſti.
Quarta in honore Aſſumptionis beatæ Mariæ.
Qinta in honore ſancti Trinitatis, et omnium ſanctorum.
Ib. 633.

The bells of Oſney abbey near Oxford were very famous; their ſeveral names were Douce, Clement, Auſtin, Hautecter [potius Hautcleri), Gabriel, and John.

Nankin in China was anciently famous for the largeneſs of its bells; but their enormous weight brought down the tower, the whole building fell to ruin, and the bells have ever lain on the ground. One of theſe bells is near 12 Engliſh feet high, the diameter ſeven and an half, and its circumference 23; its figure almoſt cylindric, except for a ſwelling in the middle; and the thickneſs of the metal about the edges ſeven inches. From the dimenſions of this bell, its weight is computed at 50,000 pounds, which is more than double the weight of that of Erfort, ſaid by Father Kircher to be the greateſt bell in the world. Theſe bells were caſt by the firſt emperor of the preceding dynaſty, about 300 years ago. They have each their name; the hanger (*tchoui*), the eater (*che*), the ſleeper (*choui*), the will (*ſi*). Father le Compte adds, that there are ſeven other bells in Pekin, caſt in the reign of Youlo, each of which weighs 120,000 pounds. But the ſounds even of their biggeſt bells are very poor; being ſtruck with a wooden in lieu of an iron clapper.

The practice of ringing bells in change, or regular peals, is ſaid to be peculiar to England; whence Britain has been termed the *ringing iſland*. The cuſtom ſeems to have commenced in the time of the Saxons, and was common before the conqueſt. The ringing of bells, though a recreation chiefly of the lower ſort, is in itſelf not incurious. The tolling a bell is nothing more than the producing a ſound by a ſtroke of the clapper againſt the ſide of the bell, the bell itſelf being in a pendant poſition and at reſt. In ringing, the bell, by means of a wheel and a rope, is elevated to a perpendicular; in its motion to this ſituation the clapper ſtrikes forcibly on one ſide, and in its return downwards on the other ſide of the bell, producing at each ſtroke a ſound. There are in London ſeveral ſocieties of ringers, particularly one known by the name of the *College Youths:* of this it is ſaid Sir Matthew Hale, lord chief juſtice of the court of King's Bench, was, in his youthful days, a member; and in the life of this learned and upright judge, written by Biſhop Burnet, ſome facts are mentioned which favour this relation. In England the practice of ringing is reduced to a ſcience, and peals have been compoſed which bear the name of the inventors. Some of the moſt celebrated peals now known were compoſed about 50 years ago by one Patrick. This man was a maker of barometers: in his advertiſements he ſtyled himſelf *Torricellian Operator*, from Torricelli, who invented inſtruments of this kind. In the year 1684, one Abraham Rudhall, of the city of Glouceſter, brought the art of bell-founding to great perfection. His deſcendants in ſucceſſion have continued the buſineſs of caſting bells; and by a liſt publiſhed by them it appears, That at Lady-day 1774 the family, in peals and odd bells, had caſt to the amount of 3594. The peals of St Dunſtan's in the Eaſt, and St Bride's, London, and St Martin's in the Fields Weſtminſter, are in the number.

Hawkin's Hiſt. of Muſic, Vol. IV. p. 152.

The muſic of bells is altogether melody; but the pleaſure ariſing from it conſiſts in the variety of interchanges, and the various ſucceſſion and general predominance of the conſonances in the ſound produced. Muſical authors ſeem to have written but little upon this ſubject.

Electrical Bells are uſed in a variety of entertaining experiments by Electricians. The apparatus, which is originally of German invention, conſiſts of three ſmall bells ſuſpended from a narrow plate of metal; the two outermoſt by chains, and that in the middle, from which a chain paſſes to the floor, by a ſilken ſtring. Two ſmall knobs of braſs are alſo hung by ſilken ſtrings, one on each ſide of the bell in the middle, which ſerve for clappers. When this apparatus is connected with an electrified conductor, the outermoſt bells ſuſpended by the chains will be charged, attract the clappers, and be ſtruck by them. The clappers becoming electrified likewiſe will be repelled by theſe bells, and attracted by the middle bell, and diſcharge themſelves upon it by means of the chain extending to the floor. After this they will be again attracted to the outermoſt bells; and thus by ſtriking the bells alternately, occaſion a ringing, which may be continued at pleaſure. Flaſhes of light will be ſeen in the dark between the bells and clappers; and if the electrification be ſtrong, the diſcharge will be made without actual contact, and the ringing will ceaſe. An apparatus of this kind, connected with one of thoſe conductors that are erected for ſecuring buildings from lightning, will ſerve to give notice of the approach and paſſage of an electrical cloud.

Bell-Animal. See Animalcule, n° 24—28.

Bell-Metal. See Chemistry-*Index*.

Bell, in chemiſtry, denotes a glaſs veſſel placed over ſome matter in a ſtate of exhalation, either to collect the vapour or gather the flowers. Chemical bells are a ſort of receptacles chiefly uſed in preparing the oil or ſpirit of ſulphur, for gathering and condenſing fumes into a liquor.

Diving-Bell. See Diving.

Bell-Foundery. See Foundery.

Bell-Flower, in botany. See Campanula.

Bell-Weed, in botany. See Jacea.

BELLA (Stefano de la), a moſt eminent engraver, was born at Florence, A. D. 1610. His father was a goldſmith; and he himſelf began to work at his father's buſineſs. But whilſt he was learning to draw, in order to perfect himſelf in that profeſſion, ſome of the prints of Callot fell by accident into his hands; with which he was ſo delighted, that he prevailed upon his father to permit him to apply himſelf to engraving; and he became the diſciple of Canta Gallina, who was alſo the inſtructor of Callot. De la Bella at firſt imitated the manner of Callot. His abilities ſoon began to manifeſt themſelves; and as by degrees he acquired a facility in the handling of the point, he quitted the ſtyle in which he only ſhone as an imitator, and adopted one entirely his own, which in freedom and ſpirit is ſaid even to have ſurpaſſed that of his fellow diſciple. He went to Paris A. D. 1642, where he formed an acquaintance with Iſrael Silveſtre, then newly returned from Rome; and he was much employed by Henriete the uncle of Silveſtre. Some time after, Cardinal Richelieu engaged him to go to Arras and make drawings of the ſiege and taking of that town by the royal army; which drawings he engraved at his return. He alſo went to Holland, where it is reported, he ſaw ſome of the prints of Rembrant Gerretſz, and attempted to imitate them; but finding he did not ſucceed to his expectations, he dropped that deſign, and continued to purſue his own manner, as moſt ſuitable to his genius. After abiding ſome conſiderable time at Paris, his family affairs obliged him to return to Florence; where he obtained a penſion from the Great Duke, and was appointed to inſtruct the prince Coſmus his ſon in the art of deſign. Being ſubject to violent pains in the head, his life was rendered very uncomfortable by this cruel diſorder, which at laſt put an end to it A. D. 1664, when he was only 54 years of age. De la Bella drew very correctly, and with great taſte. His works manifeſt much genius and vaſt fertility of invention. The fire and animation which appears in them compenſates for their ſlightneſs; and we may reaſonably expect to find them ſlight when we are told that he engraved 1400 plates.

BELLAC, a town of La Marche in France, ſituated on the little river Union. It contains about 770 houſes, and 3000 inhabitants. E. Long. 1. 14. N. Lat. 46. 4.

BELLADONA, in botany, the trivial name of a ſpecies of Atropa. See Atropa.

BELLAI (William du), lord of Langey, a French general, who ſignalized himſelf in the ſervice of Francis I. He was alſo an able negociator, ſo that the emperor Charles V. uſed to ſay, "that Langey's pen had fought more againſt him than all the lances in France." He was ſent to Piedmont in quality of viceroy, where he took ſeveral towns from the Imperialiſts. His addreſs in penetrating into the enemy's deſigns was ſurpriſing. In this he ſpared no expence, and thereby had intelligence of the moſt ſecret councils of the emperor and his generals. He was extremely active in influencing ſome of the univerſities of France to give their judgment agreeable to the deſires of Henry VIII. king of England, when this prince wanted to divorce his queen, in order to marry Anne Bullen. It was then the intereſt of France to favour the king of England in this particular, it being an affront to the emperor, and a gratification to Henry, which might ſerve to form a ſtrict alliance between him and Francis I. He was ſent ſeveral times into Germany to the princes of the Proteſtant league, and was made a knight of the order of St Michael. He was alſo a man of learning, having given proofs of his abilities and genius as a writer. He compoſed ſeveral works; the moſt remarkable of which was, the Hiſtory of his Own Times, in Latin; divided into ogdoades, that is, ſeveral parts, each conſiſting of eight books; moſt of which, however, have been loſt. When Langey was in Piedmont in 1542 he had ſome remarkable intelligence which he was deſirous himſelf to communicate to the king, and being very infirm, he ordered a litter for his conveyance; but after having paſſed the mountain of Tarara, between Lyons and Roan, he found himſelf ſo extremely bad at St Saphorin that he was obliged to ſtop there, where he died the 9th of January, in the year 1543. He was buried in the church of Mans, and a noble monument was erected to his memory.

BELLARMIN (Robert), an Italian Jeſuit, one of the beſt controverſial writers of his time. In 1576 he read lectures at Rome on controverſies; which he did with ſuch applauſe, that Sixtus V. ſending a legate into France in 1590, appointed him as a divine, in caſe any diſpute in religion ſhould happen to be diſcuſſed. He returned to Rome, and was raiſed ſucceſſively to different offices, till at laſt, in 1599, he was honoured with a cardinal's hat; to accept of which dignity, it is ſaid, they were obliged to force him by the threats of an anathema. It is certain, that no Jeſuit ever did greater honour to his order than he; and that no author ever defended the cauſe of the Romiſh church in general, and that of the pope in particular, to more advantage. The Proteſtants have owned this ſufficiently: for during the ſpace of 50 years, there was ſcarcely any conſiderable divine among them who did not fix upon this author for the ſubject of his books of controverſy. Notwithſtanding the zeal with which this Jeſuit maintained the power of the pope over the temporality of kings, he diſpleaſed Sixtus V. in his work *De Romano Pontifice*, by not inſiſting that the power which Jeſus Chriſt gave to his vicegerent was direct, but only indirect; and had the mortification to ſee it put into the index of the inquiſition, though it was afterwards removed. He left at his death, to the Virgin Mary one half of his ſoul, and to Jeſus Chriſt the other.—Bellarmin is ſaid to have been a man of great chaſtity and temperance, and remarkable for his patience. His ſtature was low, and his mien very indifferent; but the excellence of his genius might be diſcovered from the traces of his countenance. He expreſſed himſelf with great perſpicuity; and the words which he firſt made uſe of to explain his thoughts were generally ſo proper, that there appeared no raſure in his writings.

BELLATRIX, in aſtronomy, a ruddy glittering ſtar of the ſecond magnitude, in the left ſhoulder of Orion. It takes its name from *bellum*, as being anciently ſuppoſed to have a great influence in kindling wars, and forming warriors. Its longitude, according to Hevelius, for the year 1700, was 16° 47′ 20″; and its latitude ſouthward 16° 52′ 11″.

BELLCLARE, a town of Ireland, in the province of Connaught, and county of Sligo. W. Long. 9. 5. N. Lat. 53. 56.

BELLE, a town of the French Netherlands, ſeated in E. Long. 2. 40. N. Lat. 50. 45.

BELLEAU (Remi), a French poet, born at Nogent le Rotrou, in the territory of Parche, and province of Orleanois. He lived in the family of Renatus of Lorrain, marquis of Elbeuf, general of the French galleys; and attended him in his expedition into Italy, in 1557. This prince highly eſteemed Belleau for his courage; and having alſo a high opinion of his genius and abilities, entruſted him with the education of his ſon Charles of Lorrain. Belleau was one of the ſeven poets of his time who were denominated the *French-Pleiades*. He wrote ſeveral pieces; and tranſlated the odes of Anacreon into the French language, but in this he is thought not to have preſerved all the natural beauties of the original. His paſtoral pieces are in greateſt eſteem. His verſes in that way (according to his eulogiſts) are expreſſed with ſuch beauty and ſimplicity, that they ſeem to be a living picture of what they deſcribe. He alſo wrote an excellent poem on the nature and difference of precious ſtones, which by ſome has been reputed his beſt performance. Belleau died at Paris, in the family of the duke d'Elbeuf, on the 6th of March, 1577. He was interred in the church De Peres Auguſtines, near the Pont-neuf: ſeveral eulogiums were made to his memory.

BELLEFOREST (Francis de), a French author, born in the province of Guienne, in 1530. He was but ſeven years of age when he loſt his father; and his mother was left in poor circumſtances, but ſhe contributed all in her power to his education. He was ſupported ſome years by the queen of Navarre, ſiſter to Francis I. Some time after he went to ſtudy at Bourdeaux; thence he removed to Toulouſe; and at laſt to Paris, where he got acquainted with ſeveral men of learning, and was honoured with the friendſhip of many perſons of quality. He wrote, 1. A hiſtory of the nine Charles's of France; 2. Annotations on the books of St Auguſtin; 3. An univerſal hiſtory of the world; 4. The chronicles of Nicholas Gillet, augmented; 5. An univerſal coſmography; 6. Annals, or a general hiſtory of France: and many other works. In ſhort, he ſupported his family by writing books on whatever ſubject was propoſed to him by the bookſellers, according to the taſte of the public. He died in 1583.

BELLEGARDE, a ſtrong town of France in Rouſillon, on the frontiers of Catalonia. It is an important place on account of its being a paſſage to the Pyrenean mountains. E. Long. 3. 0. N. Lat. 42. 20.

BELLEGARDE, a town of Burgundy in France, with the title of a duchy. It is ſeated on the river Saone, in E. Long. 4. 0. N. Lat. 46. 57.

BELLEISLE, and iſland of France, on the coaſt of Brittany. It is the largeſt of all the European iſlands belonging to the French king, being between 12 and 13 leagues in circumference. It is a mixture of craggy rocks and fertile ſoil; but the inhabitants are very poor, and the only trade carried on in it is the curing of pilchards. There are three harbours in the iſland, *viz.* Palais, Sauzon, and Goulford; every one of which labours under ſome capital defect, either in being expoſed, ſhallow or dangerous in the entrance. It contains only one little city called *Le Palais*, three county towns, 103 villages, and about 5000 inhabitants. The iſland originally belonged to the earl of Cornouaille; but was afterwards yielded to the king, who in 1742 erected it into a duchy, in favours of marſhal Belleiſle. The town of Palais takes its name from a caſtle belonging to the duke de Belleiſle, which ſtood in its neighbourhood; but was afterwards converted into a citadel fronting the ſea, and ſtrongly fortified. Its fortifications are compoſed principally of hornworks; and it is provided with two dry ditches, the one next the counterſcarp, and the other ſo contrived as to ſecure the interior fortifications. This citadel is divided from the largeſt part of the town by an inlet of the ſea, over which there is a bridge of communication. From the other part of the town, and which is moſt inhabited, it is only divided by its own fortifications and a glacis. In this ſtate was the iſland in 1761, when an expedition was undertaken againſt it by a Britiſh fleet under the command of commodore Keppel, having on board a conſiderable land force commanded by general Hodgſon. The fleet ſailed from Spithead on the 29th of March, and arrived before Belleiſle on the 7th of April. The next day it was agreed to attempt a landing on the ſouth-eaſt part of the iſland, in a ſandy bay, near Lochmana point. Here the enemy were in poſſeſſion of a little fort; they had moreover entrenched themſelves on a hill exceſſively ſteep, the foot of which was ſcarped away. The attempt was made in three places with great reſolution; but the Britiſh were at laſt repulſed with the loſs of 500 men. It was not before the 25th of April that the weather allowed a ſecond attempt. This was made on a very ſtrong place, where the enemy were rather leſs attentive, on account of the exceſſive ſteepneſs and difficulty of climbing up the rocks. Beſides the principal attack, two feints were made at the ſame time to diſtract the enemy, whilſt the men of war directed their fire with great ſucceſs on the hills. Theſe manœuvres gave brigadier-general Lambert, with an handful of men, an opportunity of climbing up a very ſteep rock without moleſtation. This little body formed themſelves in good order without delay, and were immediately attacked by 300 French. The Britiſh, however, ſuſtained this attack until the whole corps of brigadier Lambert, which had now likewiſe aſcended, came to their aſſiſtance, with whoſe help they repulſed the enemy. The landing of all the forces being ſoon after made good, the French were driven into the town of Palais. Here the chevalier de St Croix who commanded them, a brave and experienced officer, reſolved to hold out to the laſt extremity; and it was not till the 7th June that he capitulated, and the garriſon marched out with the honours of war. The iſland, however was reſtored to the French by the treaty concluded in 1763.

Belleisle, an iſland of North America, lying at the mouth of the ſtrait between the country of the Eſquimaux, or New Britain, and the north end of Newfoundland; whence the ſtraits take alſo the name of *Belleiſle*. W. Long. 58. 5. N. Lat. 51. 50.

BELLENDEN, or **Ballantine**, (William), a Scotch writer who flouriſhed in the beginning of the 17th century, was profeſſor of humanity or belles-lettres at Edinburgh, and maſter of the requeſts to James I. of England. But the former is ſuppoſed to have been only nominal, or early given up, and the latter alſo to have conſiſted in the name only, ſince he appears to have reſided almoſt conſtantly at Paris, where by the favour of his ſovereign he was enabled to live in eaſy circumſtances. There he publiſhed, in 1608, his *Cicero princeps*, a ſingular work; in which he extracted, from Cicero's writings detached paſſages, and compriſed them into one regular body, containing the rules of monarchical government, with the line of conduct to be purſued, and the virtues proper to be encouraged, by the Prince himſelf: And the treatiſe, when finiſhed, he dedicated from a principle of patriotiſm and gratitude, to the ſon of his maſter, Henry, then Prince of Wales. Four years afterwards, namely, in 1612, he proceeded to publiſh another work of a ſimilar nature, which he called *Cicero Conſul, Senator Senatuſque Romanus*, in which he treated, with much perſpicuity, and a fund of ſolid information, on the nature of the Conſular office, and the conſtitution of the Roman Senate. Finding theſe works received, as they deſerved, with the unanimous approbation of the learned, he conceived the plan of a third work, *De Statu priſci Orbis*, which was to contain a hiſtory of the progreſs of government and philoſophy, from the times before the flood to their various degrees of improvement under the Hebrews, Greeks, and Romans. He proceeded ſo far as to print a few copies of this work, in the year 1615, when it ſeems to have been ſuggeſted that his treatiſes, *De Statu Principis, De Statu Reipublicæ*, and *De Statu Orbis*, being on ſubjects ſo nearly reſembling each other, there might be a propriety in uniting them into one work, by republiſhing the two former, and intitling the whole *Bellendenus de Statu*. With this view, he recalled the few copies of his laſt work that were abroad, and after a delay of ſome months, publiſhed the three treatiſes together, under their new title, in 1616. Theſe pieces have been lately reprinted by an ingenious political editor, who has thought proper to inſcribe them to Mr Burke, Lord North, and Mr Fox, whoſe reſpective portraits are prefixed to each dedication, and whoſe talents and virtues he celebrates and defends in a preface of 76 pages, containing a very free and bold diſcuſſion of public men and meaſures in very claſſical language, and a ſtrong and ſatirical repreſentation, under borrowed names of antiquity, of the chiefs of the other party, or the preſent miniſtry. Bellenden wrote another work, publiſhed after his death, *De tribus Luminibus Romanorum*, whom he conceives to be Cicero, Seneca, and the elder Pliny. The editor gives an account of this work, from whence he took his idea of drawing his characters of the three luminaries of Great Britain. He marks the proficiency in Greek and Roman literature which once diſtinguiſhed the Scotch, before the civil diſſentions drove their brighteſt geniuſes abroad, and celebrates the ardour for philoſophy and literature ſo prevalent in North Britain at preſent. Dr Middleton has been charged with borrowing not only the matter, but the arrangement, of his "Life of Cicero," from Bellenden, without the leaſt acknowledgment, and the editor confeſſes himſelf of this opinion. It is ſurpriſing how little is known of Bellenden or his writings: concerning his lineage, birth, private life, and death, no notices have been tranſmitted even by tradition.

BELLEROPHON, in fabulous hiſtory, the ſon of Glaucus king of Epirus, happening accidentally to kill his brother fled to Prœtus king of Aargos, who gave him a hoſpitable reception: but Sthenobea, his queen, falling in love with the beautiful ſtranger, and finding that nothing could induce him to injure his benefactor, ſhe accuſed him to her huſband of an attempt to violate her honour. Prœtus, however, not being willing to act contrary to the laws of hoſpitality, ſent him to Iobates king of Lyſia, and the father of Sthenobea, with letters deſiring him to put him to death: whence the proverb *Bellerophontis literas afferet*, equivalent to *Literæ Uriæ*. That prince, at the receipt of thoſe letters, was celebrating a feſtival of nine days, which prevented Bellerophon's deſtruction. Iobates, however, ſent him in the mean time to ſubdue the Solymi, the Amazons, and Lyſians, and thought to get rid of him by expoſing him to the greateſt dangers; but by his prudence and courage he came off victorious. Iobates next employed him to deſtroy the Chimæra; when Minerva, or, according to others, Neptune, in conſideration of his innocence, furniſhed him with the horſe Pegaſus, by whoſe aſſiſtance he killed the Chimæra. Iobates, on his return, being convinced of his truth and integrity, and charmed with his heroic virtues, gave him his daughter Philonoë in marriage, and declared him his ſucceſſor; which when Sthenobea heard, ſhe killed herſelf. Bellerophon at length growing vain with his proſperity, reſolved, by the aſſiſtance of Pegaſus, to aſcend the ſkies; when Jupiter checked his preſumption, by ſtriking him blind in his flight: on which he fell down to the earth, and wandered till his death in contempt and miſery: but Pegaſus mounting into heaven, Jupiter placed him among the conſtellations.

BELLES lettres. Whether we conſult the voluminous dictionaries of the French language, or thoſe treatiſes that profeſs to point out the method of ſtudying and teaching the belles lettres, we find not, in the one or the other, either a clear definition, or a ſuccinct explication of the words *belles lettres*, nor any ſummary of thoſe ſciences which are comprehended under that general and collective denomination. It appears to be a vague term, under which every one may include whatever he thinks proper. Sometimes we are told that by the belles lettres is meant, the knowledge of the arts of poetry and oratory; ſometimes that the true belles lettres are natural philoſophy, geometry, and other eſſential parts of learning; and ſometimes, that they comprehend the art of war, by land and ſea: in ſhort, they are made to include all that we know, and whatever we pleaſe; ſo that, in treating on the belles lettres, they talk of the uſe of the ſacraments, &c.* Some comprehend under the term, all thoſe inſtructive and pleaſing ſciences which occupy the memory and the judgment, and do not make part either of the ſuperior ſciences, of the *polite arts*†, or of mechanic profeſſions: hence they make hiſtory, chronology, geography, genealogy, blazonry, philology, &c. the belles lettres. In a word, it were an endleſs taſk to attempt to enumerate all the parts of literature which different learned men have comprehended under this title. Nor would it be of any uſe to the reader for us to pretend to fix the true import of the term. Whatever arts or ſciences it may be ſuppoſed to include, they are ſeverally explained in the courſe of this work.

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* *Rollin on the Belles Lettres.*

† See *Arts*. (polite.)

BELLE-VILLE, a town of the Beaujolois in France, ſeated near the river Saone, in E. Long. 4. 46. N. Lat. 45. 5.

BELLEVOIS, painter of ſea-pieces, is known through all parts of Europe as a good painter, though no particulars have been handed down concerning his life. He died in 1684. His ſubjects are views of havens, ſea-ports, ſhores, calms, and ſtorms at ſea; but in his calms he ſhows his peculiar excellence. Pictures of this maſter are often in public ſales; and ſome of them, which ſeem of his beſt ſtyle, are ſold for a tolerable price.

BELLEY, or **BELLAY**, a town of France, with a biſhop's ſee, and capital of Bujey. It is ſeated near the river Rhone, in E. Long. 5. 50. N. Lat. 45. 43.

BELLINGHAM, a town of Northumberland in England. W. Long. 2. 10. N. Lat. 55. 10.

BELLINI (Gentil), a Venetian painter, born in the year 1121. He was employed by the republic of Venice, and to him and his brother the Venetians are indebted for the noble works which are to be ſeen in the council-hall. We are told that Mahomet II. emperor of the Turks, having ſeen ſome of his performances, was ſo ſtruck with them, that he wrote to the republic, intreating them to ſend him. The painter accordingly went to Conſtantinople, where he did many excellent pieces. Amongſt the reſt, he painted the decollation of St John the Baptiſt, whom the Turks revere as a great prophet. Mahomet admired the proportion and ſhadowing of the work; but he remarked one defect in regard to the ſkin of the neck, from which the head was ſeparated; and in order to prove the truth of his obſervation, he ſent for a ſlave and ordered his head to be ſtruck off. This ſight ſo ſhocked the painter, that he could not be eaſy till he had obtained his diſmiſſion; which the Grand Signior granted, and made him a preſent of a gold chain. The republic ſettled a penſion upon him at his return, and made him a knight of St Mark. He died in 1501, in the 80th year of his age.

John Bellini, his brother, painted with more art and ſweetneſs than he; and died in 1512, aged 90.

BELLINI (Laurence), an eminent phyſician, born at Florence in the year 1643. After having finiſhed his ſtudies in polite literature, he went to Piſa, where he was aſſiſted by the generoſity of the grand duke Ferdinand II. and ſtudied under two of the moſt learned men of that age, Oliva and Borelli. Oliva inſtructed him in natural philoſophy, and Borelli taught him mathematics. At 20 years of age, he was choſen profeſſor of philoſophy at Piſa, but did not continue long in this office; for he had acquired ſuch a reputation for his ſkill in anatomy, that the grand duke procured him a profeſſorſhip in that ſcience. This prince was often preſent at his lectures, and was highly ſatisfied with his abilities and performances. Bellini, after having held his profeſſorſhip almoſt 30 years, accepted of an invitation to Florence, when he was about 50 years of age. Here he practiſed phyſic with great ſucceſs, and was advanced to be firſt phyſician to the grand duke Coſmus III. He wrote the following books in Latin: 1. An anatomical diſcourſe on the ſtructure and uſe of the kidneys. 2. A ſpeech by way of thanks to the ſerene duke of Tuſcany. 3. Some anatomical obſervations, and a propoſition in mechanics. 4. Of the urine and pulſe, of blood-letting, fevers, and diſeaſes of the head and breaſts. 5. Several tracts concerning urine, the motion of the heart, and bile, &c. He died January 8th, 1703, being 60 years of age. His works were read and explained publicly during his life, by the famous Scotch phyſician Dr Pitcairn, profeſſor of phyſic in Leyden.

BELLINZONA, a town of Italy, in the Milaneſe, and one of the bailiwicks which the Swiſs poſſeſs in that country. It is ſeated on the river Jeſino, five miles above the place where it falls into the Lago Maggiore, and it is fortified with two ſtrong caſtles formerly joined together by a wall flanked with towers; but the Swiſs have demoliſhed a part of the fortifications. E. Long. 9. 0. N. Lat. 46. 8.

BELLIS, the DAISY: A genus of the ſyngeneſia order, belonging to the polygamia ſuperflua claſs of plants; and in the natural method ranking under the 49th order, *Compoſitæ-diſcoides*. The receptacle is naked and conic; there is no pappus; the calyx is hemiſpherical, with equal ſcales; and the ſeeds are ovated.

Species, &c. 1. The perennis, with a naked ſtalk, having one flower. This is the common daiſy, which grows naturally in paſture-lands in moſt parts of Europe. It is often a troubleſome weed in the graſs of gardens, ſo is never cultivated. Its leaves have a ſubtile ſubacid taſte; and are recommended as vulneraries, and in aſthmas and hectic fevers, as well as in ſuch diſorders as are occaſioned by drinking cold liquors when the body has been much heated. Ludovici prefers this plant to thoſe commonly uſed as antiſcorbutics and reſolvents of coagulated blood in hypochondraical diſorders. 2. The annua, with leaves on the lower part of the ſtalk, is a low annual plant growing naturally on the Alps and the hilly parts of Italy. It ſeldom riſes more than three inches high; and hath an upright ſtalk garniſhed with leaves on the lower part: but the upper part is naked, ſupporting a ſingle flower like that of the common daiſy, but ſmaller. 3. The hortenſis, or garden daiſy, with a large double flower. This is generally thought to be only a variety of the common daiſy; but Mr Miller aſſures us, that he was never able to improve the common daiſy by culture, or to make the garden daiſy degenerate into the common ſort for want of it. The varieties of this ſpecies cultivated in gardens are, the red and white garden daiſy; the double variegated garden daiſy; the childing, or hen and chicken garden daiſy: and the cock's-comb daiſy with red and white flowers. The garden daiſies flower in April and May, when they make a pretty variety, being intermixed with plants of the ſame growth: they ſhould be planted in a ſhady border, and a loamy ſoil without dung, in which they may be preſerved without varying, provided the roots are parted and tranſplanted every autumn. This is all the culture they require, except keeping them free from weeds. Formerly they were planted as edgings to borders; but for this purpoſe they are improper, becauſe where fully expoſed to the ſun, they frequently die in large patches, whereby the edgings become bald in many places.

Bellis Major. See Chrysanthemum.

BELLON, a diſtemper common in countries where they ſmelt lead ore. It is attended with languor, intolerable pains and ſenſations of gripings in the belly, and generally coſtiveneſs.—Beaſts, poultry, &c. as well as men, are ſubject to this diſorder: hence a certain ſpace round the ſmelting-houſes is called *bellon-ground*, becauſe it is dangerous for an animal to feed upon it.

BELLONA, in Pagan mythology, the goddeſs of war, is generally reckoned the ſiſter of Mars, and ſome repreſent her as both his ſiſter and wife. She is ſaid to have been the inventreſs of the needle; and from that inſtrument is ſuppoſed to have taken her name Βελονη, ſignifying a *needle*. This goddeſs was of a cruel and ſavage diſpoſition, delighting in bloodſhed and ſlaughter; and was not only the attendant of Mars, but took a pleaſure in ſharing his dangers. She is commonly repreſented in an attitude expreſſive of fury and diſtraction, her hair compoſed of ſnakes clotted with gore, and her garments ſtained with blood: ſhe is generally depictured driving the chariot of Mars, with a bloody whip in her hand; but ſometimes ſhe is drawn holding a lighted torch or brand, and at others a trumpet. Bellona had a temple at Rome, near the Circus Flaminius, before which ſtood the column of war, from whence the conſul threw his lance when he declared war. She was alſo worſhipped at Comana, in Cappadocia; and Camden obſerves, that in the time of the emperor Severus, there was a temple of Bellona in the city of York.

BELLONARII, in antiquity, prieſts of Bellona, the goddeſs of wars and battles. The bellonari cut and mangled their bodies with knives and daggers in a cruel manner, to pacify the deity. In this they are ſingular, that they offered their own blood, not that of other creatures, in ſacrifice. In the fury and enthuſiaſm wherewith they were ſeized on theſe occaſions, they ran about raging, uttering prophecies, and foretelling blood and ſlaughter, devaſtation of cities, revolutions of ſtates, and the like: whence Martial calls them *turba entheata Bellonæ*. In after-times, they ſeem to have abated much of their zeal and tranſport, and to have turned the whole into a kind of farce, contenting themſelves with making ſigns and appearances of cutting and wounds. Lampridius tells us, the emperor Commodus, out of a ſpirit of cruelty, turned the farce again into a tragedy, obliging them to cut and mangle their bodies really.

BELLONIA (ſo named from the famous Petrus Bellonius, who left many valuable tracts on natural hiſtory, &c.), a genus of the monogynia order, belonging to the pentandria claſs of plants. Of this genus there is only one ſpecies known, *viz.* the aſpera, with a rough balm leaf. This is very common in the warm iſlands of America.

BELLORI (John Peter), of Rome; a celebrated antiquary and connoiſſeur in the polite arts: Author of the lives of the modern painters, architects, and ſculptors, and of other works on antiquities and metals. He died in 1696.

BELLOVACI (anc. geog.), a people or Gallia Belgica, reckoned the braveſt of the Belgæ; now the *Beauvaſis*, in the iſle of France.

BELLOWS, a machine ſo contrived as to exſpire and inſpire the air by turns, by enlarging and contracting its capacity. This machine is uſed in chambers and kitchens, in forges, furnaces, and founderies, to blow up the fire: it ſerves alſo for organs and other pneumatic inſtruments, to give them a proper degree of air. All theſe are of various conſtructions, according to their different purpoſes; but in general they are compoſed of two flat boards, ſometimes of an oval, ſometimes of a triangular figure: Two or more hoops, bent according to the figure of the boards, are placed between them; a piece of leather, broad in the middle and narrow at both ends, is nailed on the edges of the boards, which it thus unites together; as alſo on the hoops which ſeparate the boards, that the leather may the eaſier open and fold again: a tube of iron, braſs, or copper, is faſtened to the undermoſt board, and there is a valve within, that covers the holes in the underboard to keep in the air.

Anacharſis the Scythian is recorded as the inventor of bellows. The action of bellows bears a near affinity to that of the lungs; and what we call blowing in the latter, affords a good illuſtration of what is called *reſpiring* in the former. Animal life itſelf may on ſome occaſions be ſubſiſted by blowing into the lungs with a pair of bellows. Dr Hook's experiment to this effect is famous: having laid the thorax of a dog bare, by cutting away the ribs and diaphragm, pericardium, &c. and having cut off the aſpera arteria below the epiglottis, and bound it on the noſe of a bellows, he found, that as he blowed, the dog recovered, and as he ceaſed, fell convulſive; and thus was the animal kept alternately alive and dead above the ſpace of an hour. There are bellows made wholly of wood, without any leather about them; one of which is preſerved in the repoſitory of the Royal Society; and Dr Plot deſcribes another in the copper works at Ellaſton in Staffordſhire. Ant. della Fruta contrived a ſubſtitute for bellows, to ſpare the expence thereof in the fuſion of metals. This is called by Kircher *camera æolia*, and in England commonly the *water-bellows;* where water falling thro' a funnel into a cloſe veſſel, ſends from it ſo much air continually as blows the fire. See the article Furnace, where different blowing machines of this kind are deſcribed.

Smiths and founders bellows, whether ſingle or double, are wrought by means of a rocker, with a ſtring or chain faſtened thereto, which the workman pulls. The bellow's pipe is fitted into that of the tewel. One of the boards is fixed, ſo as not to play at all. By drawing down the handle of the rocker, the moveable board riſes, and by means of a weight on the top of the upper board, ſinks again. The bellows of forges and furnaces of mines uſually receive their motion from the wheels of a water-mill. Others, as the bellows of enamellers, are wrought by means of one or more ſteps or treddles under the workman's feet. Laſtly, the bellows of organs are wrought by a man called the *blower*; and in ſmall organs by the ſoot of the player. Butchers have alſo a kind of blaſt or bellows of a peculiar make, by which they bloat or blow up their meat when killed, in order to piecing or parting it the better.

*Bone-*BELLOWS, φυσητηρες οστεινοι, occur in Herodotus for thoſe applied by the Scythians to the genitals of mares in order to diſtend the uterus, and by this compreſſion make them yield a greater quantity of milk.

Heſſian BELLOWS are a contrivance for driving air into a mine for the reſpiration of the miners. This M. Papin improved, changing its cylindrical form into a ſpiral one; and with this, working it only with his foot, he could make a wind to raiſe two pound weight.

Hydroſtatic BELLOWS. See HYDROSTATICS.

BELLUNESE, a territory of Italy, belonging to the Venetians. It lies between Friuli, Codorino, Feltrino, the biſhopric of Trent and Tirol. It has good iron mines, but the only conſiderable place is Belluno.

BELLUNO, a town of Italy, in the Venetian territories, and capital of the Belluneſe. It is a biſhop's ſee; and is ſituated among the Alps, on the river Piave, between the towns Cadora and Trevigni, in E. Long. 12. 15. N. Lat. 46. 9.

BELLY, in anatomy, the ſame with what is more uſually called *abdomen*. See ANATOMY, Part III.

BELMONTE, a town of Italy, in the higher Calabria, and kingdom of Naples. It is ſituated on the coaſt of the Tuſcan ſea, in E. Long. 16. 50. N. Lat. 39. 20.

BELOMANCY; BELOMANTIA, a kind of divination by means of arrows, practiſed in the eaſt, but chiefly among the Arabians. The word is of Greek origin; compounded of βελος *arrow*, and μαντεια *divination*.

Belomancy has been performed in different manners. One was to mark a parcel of arrows, and put 11 or more of them into a bag: theſe were afterwards drawn out; and according as they were marked or not, they judged of future events.

Another way was to have three arrows, upon one of which was wrote, "God orders it me;" upon another, "God forbids it me;" and upon the third nothing at all. Theſe were put into a quiver, out of which they drew one of the three at random; if it happened to be that with the firſt inſcription, the thing they conſulted about was to be done: if it chanced to be that with the ſecond inſcription, it was let alone; but if it proved that without inſcription, they drew over again.

Belomancy is an ancient practice, and probably that which Ezekiel mentions, chap. xxi. 21. At leaſt St Jerome underſtands it ſo, and obſerves that the practice was frequent among the Aſſyrians and Babylonians. Something like it is alſo mentioned in Hoſea, chap. iv. only that ſtaves are there mentioned inſtead of arrows, which is rather rhabdomancy than belomancy. Grotius, as well as Jerome, confounds the two together, and ſhows that it prevailed much among the Magi, Chaldeans, and Scythians; whence it paſſed to the Sclavonians, and thence to the Germans, whom Tacitus obſerves to make uſe of it.

BELON (Peter), of Le Mans, the capital of Le Maine a province of France, flouriſhed about the middle of the 16th century. He publiſhed ſeveral books in Latin. He wrote, in French, of birds, beaſts, fiſhes, ſerpents, and the neglected culture of plants: and a book of Travels, or obſervations of many ſingularities and memorable things found in Greece, Aſia, Judæa, Egypt, Arabia, and other foreign countries. He was murdered near Paris by one of his enemies, in 1564.

BELONE, in ichthyology, the trivial name of a ſpecies of eſox. See ESOX.

BELSHAZZAR, the laſt king of Babylon, generally ſuppoſed to be the ſon of Evil-merodach, and grandſon to the great Nebuchadnezzar.—During the time that Babylon was beſieged By Cyrus, Belſhazzar made an entertainment for a thouſand of his moſt eminent courtiers (Dan. v. 1, &c.); and being heated with wine, ordered that the veſſels of gold and ſilver which his grandfather Nebuchadnezzar had taken out of the temple at Jeruſalem might be brought to the banqueting-houſe, that he and his princes, together with his wives and concubines, might drink out of them, which accordingly was done; and to add to their profaneneſs, in the midſt of their cups, they ſang ſongs in praiſe of their ſeveral idols. But it was not long before a damp was put to the king's mirth, by an hand appearing upon the wall, which in three words wrote the ſentence of his condemnation. The king ſaw the hand that wrote; and, being exceedingly affrighted, commanded all his wiſe men, magicians, and aſtrologers, to be immediately called, that they might read the writing, and explain its meaning. When they came, the king promiſed, that whoever ſhould expound this writing ſhould be made the third perſon of his kingdom in place and power. But the Magi could comprehend nothing of this writing; which increaſed the diſorder and uneaſineſs that the king was in, together with his whole court; whereupon, at the inſtance of the queen-mother, Daniel was ſent for. The king made him the ſame offer of honours and preſents that he had done to his own magicians if he would explain the writing. Daniel modeſtly refuſed thoſe offers: but having undertaken to perform what he required of him, he firſt reproved the king with great freedom for his ingratitude to God, who had advanced him to the rank of a ſovereign, and for the profanation of the veſſels which were conſecrated to his ſervice; and then proceeded to the interpretation of the words, which were theſe, *Mene, Tekel, Upharſin. Mene*, ſays he, which ſignifies, *number*, intimates, that the days both of your life and reign are numbered, or that you have but a ſhort time to live; *Tekel*, which ſignifies *weight*, intimates, that you have been weighed in the balance of God's juſtice, and found too light; and *Upharſin* (or *Peres*, as Daniel has it, and means the ſame thing), which ſignifies a *fragment*, intimates, that your kingdom ſhall be divided and given to the Medes and Perſians. Which accordingly came to paſs: for that very night, in the midſt of their feaſting and revelling, the city was taken by ſurpriſe, Belſhazzar ſlain, and the kingdom tranſlated to Cyaxares, whom the Scripture calls *Darius the Mede*. See BABYLON.

BELT, the *Great*, a famous ſtrait of Denmark between the iſland of Zeeland and that of Funen, at the entrance of the Baltic Sea It is not however ſo commodious,

modious, nor ſo much frequented, as the Sound. In 1658 the whole ſtrait was frozen ſo hard, that Charles Guſtavus king of Sweden marched over it with a deſign to take Copenhagen.

Belt, the *Leſſer*, lies to the weſt of the Great Belt, between the iſland of Funen and the coaſt of Jutland. It is one of the paſſages from the German Ocean to the Baltic, though not three miles in breadth, and very crooked.

Belt, *Baltheus*, properly denotes a kind of military girdle, uſually of leather, wherewith the ſword or other weapons are ſuſtained.—Belts are known among the ancients and middle-age writers by divers names, as *ζωνη*, *ζωμα*, *zona*, *cingulum*, *reminiculum*, *rinca*, or *ringa*, and *baldrellus*. The belt was an eſſential piece of the ancient armour; inſomuch that we ſometimes find it uſed to denote the whole armour. In later ages, the belt was given to a perſon when he was raiſed to knighthood; whence it has alſo been uſed as a badge or mark of the knightly order.

The denomination *belt* is alſo applied to a ſort of bandages in uſe among ſurgeons, &c. Thus we meet with quickſilver belts, uſed for the itch; belts for keeping the belly light, and diſcharging the water in the operation of tapping, &c.

Belt is alſo a frequent diſeaſe in ſheep, cured by cutting their tails off, and laying the ſore bare; then caſting mould on it, and applying tar and gooſe greaſe.

Belts, in aſtronomy, two zones or girdles ſurrounding the body of the planet of Jupiter. See Astronomy.

Belts, in geography, certain ſtraits between the German Ocean and the Baltic. The belts belong to the king of Denmark, who exacts a toll from all ſhips which paſs through them, excepting thoſe of Sweden, which are exempted.

Pennant's Tour.

BEL-TEIN, a ſuperſtitious cuſtom obſerved in the Highlands of Scotland. It is a kind of rural ſacrifice, performed by the herdſmen of every village on the firſt of May. They cut a ſquare trench on the ground, leaving a turf in the middle: on that they make a fire of wood, on which they dreſs a large caudle of eggs, butter, oatmeal, and milk; and bring, beſides the ingredients of the caudle, plenty of beer and whiſky; for each of the company muſt contribute ſomething. The rites begin with ſpilling ſome of the caudle on the ground, by way of libation: on that, every one takes a cake of oatmeal, upon which are raiſed nine ſquare knobs, each dedicated to ſome particular being, the ſuppoſed preſerver of their flocks and herds, or to ſome particular animal, the real deſtroyer of them: each perſon then turns his face to the fire, breaks off a knob, and flinging it over his ſhoulders, ſays, *This I give to thee, preſerve thou my horſes; this to thee, preſerve thou my ſheep*; and ſo on. After that, they uſe the ſame ceremony to the noxious animal: *This I give to thee, O fox! ſpare thou my lambs; this to thee, O hooded crow! this to thee, O eagle!* When the ceremony is over, they dine on the caudle; and after the feaſt is finiſhed, what is left is hid by two perſons deputed for that purpoſe; but on the next Sunday they re-aſſemble and finiſh the reliques of the firſt entertainment.

BELTURBET, a town of Ireland in the county of Cavan, and province of Ulſter, ſituated on the river Earn, in W. Long. 7. 35. N. Lat. 54. 7.

BELTZ, or **Belzo**, a province of Red Ruſſia in Poland, bounded by Leopold on the ſouth, by Chelm on the north, Little Poland on the eaſt, and Volhynia on the weſt. Its capital town is Beltz.

Beltz, or *Belzo*, a town of Poland, and capital of the province of the ſame name, ſeated on the confines of Upper Volhynia, among marſhes, in E. Long. 25. 15. N. Lat. 50. 5.

BELVEDERE, in the Italian architecture, &c. denotes either a pavilion on the top of a building, or an artificial eminence in a garden; the word literally ſignifying a *fine proſpect*.

Belvedere, a conſiderable town of Greece, and capital of a province of the ſame name in the Morea. The province lies on the weſtern coaſt: it is the moſt fertile and rich in all the Morea; and from it the raiſins called *Belvederes* take their name. The town is ſituated in E. Long. 22. 0. N. Lat. 38. 5.

BELVIDERE, in botany. See Chenopodium.

BELUNUM, (anc. geog.), a town of Rhætia, above Feltria, in the territory of the Veneti; now *Belluno*, capital of the Belluneſe in the territory of Venice. See Belluno.

BELUS, (anc. geog.), a ſmall river of Galilee, at the diſtance of two ſtadia from Ptolemais, running from the foot of Mount Carmel out of the lake Cendevia. Near this place, according to Joſephus, was a round hollow or valley, where was a kind of ſand fit for making glaſs; which, though exported in great quantities, was found to be inexhauſtible. Strabo ſays, the whole of the coaſt from Tyre to Ptolemais has a ſand fit for making glaſs; but that the ſand of the rivulet Belus and its neighbourhood is a better ſort; and here, according to Pliny, the making of glaſs was firſt diſcovered.

BEMA, in antiquity, denotes a ſtep or pace. The bema made a kind of itinerary meaſure among the Greeks, the length of which was equivalent to one cubit and two thirds, or ten palms. Whence alſo the term *bematizein*, βηματιζειν, to *meaſure* a road.

Bema, in eccleſiaſtical writers, denotes the altar or ſanctuary in the ancient churches. In which ſenſe *bema* made the third or innermoſt part of the church anſwering to the chancel among us.

Bema was alſo uſed for the biſhop's chair, ſeat, or throne, placed in the ſanctuary. It was called *bema* from the ſteps by which it was to be aſcended.

Bema was alſo uſed for the reader's deſk. This in the Greek church was denominated βημα γνοϛων, in the Latin church *ambo*.

Bema is more peculiarly uſed for the Manichees altar, which was in a different place from that of the Catholics.

Bema was alſo a denomination given by this ſect to the anniverſary of the day when Manes was killed, which with them was a ſolemn feaſt and day of rejoicing. One of the chief ceremonies of the feaſt conſiſted in ſetting out and adorning their bema or altar with great magnificence.

BEMBEA, a province of the kingdom of Angola in Africa. It is divided into Higher and Lower; and extends on one ſide along the ſea, and on the other divides Angola from the foreign ſtates on the ſouth. The country is large populous, and abounding with cattle; with the fat of which the inhabitants anoint their heads and bodies, and clothe themſelves with their hides coarſely dreſſed. They are addicted to the ſame idolatrous ſuperſtitions with the reſt of the natives, but ſpeak a quite different language. The province is watered by a river called *Lutano*, or *San Franciſco*, which abounds with crocodiles, ſea-horſes, and monſtrous ſerpents, that do a great deal of miſchief.

BEMBO (Peter), a noble Venetian, ſecretary to Leo X. and afterwards cardinal, was one of the beſt writers of the 16th century. He was a good poet both in Italian and Latin: but he is juſtly cenſured for the looſeneſs and immodeſty of ſome of his poems. He publiſhed, beſides theſe, A Hiſtory of Venice; Letters; and a book in praiſe of the Duke and Ducheſs of Urbino. He died in 1547, in the 72d year of his age.

BEMSTER, or Bemister, a town of Dorſetſhire in England, ſeated on the river Bert, in W. Long. 3. 15. N. Lat. 50. 45.

BEN. See Behn.

Ben, in pharmacy, the name of a purgative fruit, of the ſize and figure of a nut; whence it is alſo called the *ben-nut*, ſometimes *balanus myrepſica* or *glans unguentaria*.

Naturaliſts diſtinguiſh two kinds of bens; viz. the great, *ben magnum*, which reſembles the filbert, and is by ſome called *avellana purgatrix*, a native of America; and the ſmall, *ben parvum*, a native of Ethiopia.

Ben-nuts yield, by expreſſion, much oil, which, from its property of not becoming rancid, at leaſt for years, is uſed as a menſtruum for the extraction of the odoriferous part of flowers of jeſamin, violets, roſes, hyacinths, lilies of the valley, tuberoſes, jonquils, clove julyflowers, and others, which like theſe yield little or no eſſential oil by diſtillation, but impart their fragrance to expreſſed oils. The method of impregnating oil of ben with the odour of flowers is this: Some fine carded cotton is dipped in the oil, and put in the bottom of a proper veſſel. On this is ſpread a thick layer of freſh flowers, above which more cotton dipt in oil is placed; and thus alternately flowers and cotton are diſpoſed, till the veſſel (which may be made of tin, with a cover to be ſcrewed on to it, or of porcelain) is full. By digeſtion during 24 hours in a water-bath, the oil will receive the odour of the flowers.

BENARES. See Observatory.

BENAVARRI, a town of the kingdom of Arragon in Spain, ſeated on the frontiers of Catalonia. E. Long. 0. 40. N. Lat. 41. 55.

BENAVENTO, a town of Spain, in the kingdom of Leon, and Terra di Campos, with the title of a duchy. It is ſeated on the river Ela, in W. Long. 5. 0. N. Lat. 42. 4.

BENAVIDUS, or Bonavitus (Marcus Mantua), a celebrated civilian, taught civil law with reputation, during 60 years, at Padua the place of his birth; and died in 1582, aged 93. His principal works are, 1. *Collectanea ſuper Jus Cæſareum.* 2. *Conſiliorum*, tom. ii. 3. *Problematum legalium.* 4. *De illuſtribus Juriſconſultis*, &c.

BENCH, or Banc, in law. See Banc.

Free-Bench ſignifies that eſtate in copyhold-lands which the wife, being eſpouſed a virgin, has, after the deceaſe of her huſband, for her dower, according to the cuſtom of the manor. As to this free-bench, ſeveral manors have ſeveral cuſtoms; and in the manors of Eaſt and Weſt Enbourne, in the county of Berks, and other parts of England, there is a cuſtom, that when a copyhold tenant dies, the widow ſhall have her free-bench in all the deceaſed huſband's lands, whilſt ſhe lives ſingle and chaſte; but if ſhe commits incontinency, ſhe ſhall forfeit her eſtate: nevertheleſs, upon her coming into the court of the manor, riding on a black ram, and having his tail in her hand, and at the ſame time repeating a form of words preſcribed, the ſteward is obliged, by the cuſtom of the manor, to re-admit her to her free-bench.

King's Bench, a court in which the king was formerly accuſtomed to ſit in perſon, and on that account was moved with the king's houſehold. This was originally the only court in Weſtminſter-hall, and from this it is thought that the courts of common pleas and exchequer were derived. As the king in perſon is ſtill preſumed in law to ſit in this court, though only repreſented by his judges, it is ſaid to have ſupreme authority; and the proceedings in it are ſuppoſed to be *coram nobis*, that is, before the king. This court conſiſts of a lord chief juſtice and three other juſtices or judges, who are inveſted with a ſovereign juriſdiction over all matters whether of a criminal or public nature. The chief juſtice has a ſalary of 5,500l. and the other judges 2,400l. each.

All crimes againſt the public good, though they do not injure any particular perſon, are under the cognizance of this court; and no private ſubject can ſuffer any unlawful violence or injury againſt his perſon, liberty, or poſſeſſions, but a proper remedy is afforded him here; not only for ſatisfaction of damages ſuſtained, but for the puniſhment of the offender; and wherever this court meets with an offence contrary to the firſt principles of juſtice, it may puniſh it. It frequently proceeds on indictments found before other courts, and removed by *certiorari* into this. Perſons illegally committed to priſon, though by the king and council, or either of the houſes of parliament, may be bailed in it; and in ſome caſes even upon legal commitments. Writs of mandamus are iſſued by this court, for the reſtoring of officers in corporations, &c. unjuſtly turned out, and freemen wrongfully disfranchiſed.

The court of King's Bench is now divided into a crown ſide and plea ſide; the one determining criminal, and the other civil cauſes.

On the crown ſide, or crown office, it takes cognizance of all criminal cauſes, from high treaſon down to the moſt trivial miſdemeanour or breach of the peace. Into this court alſo indictments from all inferior courts may be removed by writ of *certiorari*; and tried either at bar, or at *niſi prius*, by a jury of the county out of which the indictment is brought. The judges of this court are the ſupreme coroners of the kingdom. And the court itſelf is the principal court of criminal juriſdiction known to the laws of England. For which reaſon, by the coming of the Court of King's Bench into any county (as it was removed to Oxford on account of the ſickneſs in 1665), all former commiſſions of *oyer* and *terminer*, and general gaol-delivery, are at once abſorbed and determined *ipſo facto*: in the ſame manner as, by the old Gothic and Saxon conſtitutions, *Jure vetuſto obtinuit, quieviſſe omnia inferiora judicia, dicente jus rege.* Into this Court of King's Bench hath reverted all that was good and ſalutary of the *ſtar-chamber*.

On the plea ſide, this court determines all perſonal actions commenced by bill or writ; as actions of debt, upon the caſe, detinue, trover, ejectment, treſpaſs, waſte, &c. againſt any perſon in the cuſtody of the marſhal of the court, as every perſon ſued here is ſuppoſed to be by law.

The officers on the crown ſide are the clerk and ſecondary of the crown: and on the ſide of the pleas there are two chief clerks or prothonotaries, and their ſecondary and deputy, the cuſtos brevium, two clerks of the papers, the clerk of the declarations, the ſigner and ſealer of bills, the clerk of the rules, clerk of the errors, and clerk of the bails; to which may be added the filazers, the marſhal of the court, and the crier.

Amicable BENCH. See AMICABLE.

BENCHERS, in the inns of court, the ſenior members of the ſociety, who are inveſted with the government thereof.

BENCOOLEN, a fort and town of Aſia, on the ſouth-weſt coaſt of the iſland of Sumatra, belonging to the Britiſh. The place is known at ſea by a ſlender mountain called the *Sugar Loaf*, which riſes about 20 miles inland. About a quarter of a mile from the ſea ſtands an Indian village, whoſe houſes are ſmall and low, and built on poſts. The country about Bencoolen is mountainous and woody, and the air unwholeſome, the mountains being continually covered with thick heavy clouds that produce lightning, thunder, and rain. There is no beef to be had, except that of buffaloes, which is not very palatable; and indeed proviſions of all kinds, except fruit, are pretty ſcarce. The chief trade is in pepper, of which great quantities grow on the iſland. There are frequent bickerings betwixt the natives and the factory, to the no ſmall injury of the Eaſt-India Company. The factory was once entirely deſerted; and had not the natives found that trade decreaſed by reaſon of their abſence, it is ſcarce probable that ever the Engliſh would have been invited there again. E. Long. 101. 5. S. Lat. 4. 5.

BEND, in heraldry, one of the nine honorable ordinaries, containing a third part of the field when charged, and a fifth when plain. It is ſometimes, like other ordinaries, indented, ingrailed, &c. and is either dexter or ſiniſter. See HERALDRY, n° 19, 20.

In BEND, is when any thing, borne in arms, are placed obliquely from the upper corner to the oppoſite lower, as the bend lies.

BENDER, a town of Beſſarabia in European Turkey, ſeated on the river Nieſter, E. Long. 29. 5. N. Lat. 46. 40. It is remarkable for being the place of retreat of Charles XII. after he was defeated by the Ruſſians at the battle of Pultowa in 1709.

BENDERMASSEN, a town of the iſland of Borneo in Aſia, and capital of a kingdom of the ſame name. It has a good harbour; and ſtands in E. Long. 113. 50. S. Lat. 2. 40.

BENDIDA, in antiquity, a feſtival, not unlike the Bacchanalia, celebrated by the Athenians in honour of Diana.

BENDING, in a general ſenſe, the reducing a ſtraight body into a curve, or giving it a crooked form.

The bending of timber-boards, &c. is effected by means of heat, whereby their fibres are ſo relaxed that you may bend them into any figure.

BENDING, in the ſea-language, the tying two ropes or cables together: thus they ſay, *bend the cable*, that is, make it faſt to the ring of the anchor; *bend the ſail*, make it faſt to the yard.

BENDS, in a ſhip, the ſame with what is called *wails*, or *wales*; the outmoſt timbers of a ſhip's ſide, on which men ſet their feet in climbing up. They are reckoned from the water, and are called the *firſt*, *ſecond*, or *third bend*. They are the chief ſtrength of a ſhip's ſides; and have the beams, knees, and foot-hooks, bolted to them.

BENDY, in heraldry, is the field divided into four, ſix, or more parts, diagonally, and varying in metal and colour.—The general cuſtom of England is to make an even number; but in other countries they regard it not, whether even or odd.

BENCAPED, among ſailors. A ſhip is ſaid to be *bencaped* when the water does not flow high enough to bring her off the ground, out of the dock, or over the bar.

BENEDETTO (St), a conſiderable town of the Mantuan, in Italy, in E. Long. 11. 25. N. Lat. 45. 0.

BENEDICITE, among eccleſiaſtical writers, an appellation given to the ſong of the three children in the fiery furnace, on account of its beginning with the word *benedicite*.—The uſe of this ſong in Chriſtian worſhip is very ancient, it appearing to have been ſung in all the churches as early as St Chryſoſtom's time.

BENEDICT XIV. Pope, (Proſper Lambertini of Bologna), celebrated for his learning and moderation, which gained him the eſteem of all ſenſible Proteſtants. He was the patron of learned men and celebrated artiſts; and an elaborate writer, on theological ſubjects. His works make 12 vols. in folio. He died in 1758.

BENEDICT (St), the founder of the order of the Benedictin monks, was born in Italy, about the year 480. He was ſent to Rome when he was very young, and there received the firſt part of his education. At 14 years of age he was removed from thence to Sublaco, about 40 miles diſtant. Here he lived a moſt aſcetic life, and ſhut himſelf up in a cavern, where nobody knew any thing of him except St Romanus, who, we are told, uſed to deſcend to him by a rope, and to ſupply him with proviſions. But being afterwards diſcovered by the monks of a neighbouring monaſtery, they choſe him for their abbot. Their manners, however, not agreeing with thoſe of Benedict, he returned to his ſolitude: whither many perſons followed him, and put themſelves under his direction, ſo that in a ſhort time he built 12 monaſteries. In the year 528, or the following, he retired to mount Caſſino, where idolatry was ſtill prevalent, there being a temple of Apollo erected here. He inſtructed the people in the adjacent country, and having converted them, he broke the image of Apollo, and built two chapels on the mountain. Here he founded alſo a monaſtery, and inſtituted the order of his name, which in time became ſo famous and extended over all Europe. It was here too that he compoſed his *Regula Monachorum*, which Gregory the Great ſpeaks of as the moſt ſenſible and beſt written piece of that kind ever publiſhed. The time of his death is uncertain, but is placed between 540 and 550. He was looked upon as the Eliſha of his time; and is reported to have wrought a great number of miracles, which are recorded in the ſecond book of the dialogues of St Gregory the Great.

BENEDICT, abbot of Peterborough, was educated at Oxford, became a monk in the monaſtery of Chriſt's church in Canterbury, and ſome time after was choſen prior by the members of that ſociety. Though he had been a great admirer of Archbiſhop Becket, and wrote a life of that prelate, he was ſo much eſteemed by Henry II. that by the influence of that prince he was elected abbot of Peterborough, A. D. 1177. He aſſiſted at the coronation of Richard I. A. D. 1189; and was advanced to be keeper of the great ſeal, A.D. 1191. But he did not long enjoy this high dignity, as he died on Michaelmas day, A. D. 1193. Beſides his Life of Archbiſhop Becket, he compoſed a Hiſtory of Henry II. and Richard I. from A.D. 1170 to A. D. 1192; which hath been much and juſtly eſteemed by many of our greateſt antiquaries, as containing one of the beſt accounts of the tranſactions of thoſe times. A beautiful edition of this work was publiſhed at Oxford, in two volumes, by Mr Hearne, A. D. 1735.

BENEDICTINS, in church-hiſtory, an order of monks, who profeſs to follow the rules of St Benedict.

The Benedictins, being thoſe only that are properly called *monks*, wear a looſe black gown, with large wide ſleeves, and a capuche, or cowl, on their heads, ending in a point behind. In the cannon law, they are ſtyled *black friars*, from the colour of their habit.

The rules of St Benedict, as obſerved by the Engliſh monks before the diſſolution of the monaſteries, were as follows: They were obliged to perform their devotions ſeven times in 24 hours, the whole circle of which devotions had a reſpect to the paſſion and death of Chriſt: they were obliged always to go two and two together: every day in lent they were obliged to faſt till ſix in the evening, and abated of their uſual time of ſleeping and eating; but they were not allowed to practiſe any voluntary auſterity without leave of their ſuperior: they never converſed in their refectory at meals, but were obliged to attend to the reading of the ſcriptures: they all ſlept in the ſame dormitory, but not two in a bed; they lay in their clothes: for ſmall faults they were ſhut out from meals; for greater they were debarred religious commerce, and excluded from the chapel; and as to incorrigible offenders, they were excluded from the monaſteries. Every monk had two coats, two cowls, a table-book, a knife, a needle, and a handkerchief; and the furniture of their bed was a mat, a blanket, a rug, and a pillow.

The time when this order came into England, is well known; for to it the Engliſh owe their converſion from idolatry. In the year 596, Pope Gregory ſent hither Auguſtin, prior of the monaſtery of St Andrew at Rome, with ſeveral other Benedictin monks. St Auguſtin became Archbiſhop of Canterbury; and the Benedictins founded ſeveral monaſteries in England, as alſo the metropolitan church of Canterbury, and all the cathedrals that were afterwards erected.

Pope John XXII. who died in 1334, after an exact inquiry, found, that, ſince the firſt riſe of the order, there had been of it 24 popes, near 200 cardinals, 7000 archbiſhops, 15,000 biſhops, 15,000 abbots of renown, above 4000 ſaints, and upwards of 370,000 monaſteries. There have been likewiſe of this order 20 emperors and 10 empreſſes, 47 kings, and above 50 queens, 20 ſons of emperors and 48 ſons of kings; above 100 princeſſes, daughters of kings and emperors; beſides dukes, marqueſſes, earls, counteſſes, &c. innumerable. The order has produced a vaſt number of eminent writers and other learned men. Their Rabanus ſet up the ſchool of Germany. Their Alcuinus founded the univerſity of Paris. Their Dionyſius Exiguus perfected the eccleſiaſtical computation. Their Guido invented the ſcale of muſic; and their Sylveſter, the organ. They boaſt to have produced Anſelmus, Ildephonſus, venerable Bede, &c.

There are nuns likewiſe who follow the rule of St Benedict; among whom thoſe who call themſelves *mitigated*, eat fleſh three times a week, on Sundays, Tueſdays, and Thurſdays: the others obſerve the rule of St Benedict in its rigour, and eat no fleſh unleſs they are ſick.

BENEDICTION, in a general ſenſe, the act of bleſſing, or giving praiſe to God, or returning thanks for his favours. Hence alſo benediction is ſtill applied to the act of ſaying grace before or after meals. Neither the ancient Jews nor Chriſtians ever eat without a ſhort prayer. The Jews are obliged to rehearſe 100 benedictions *per* day; of which 80 are to be ſpoken in the morning. The firſt treatiſe of the firſt order in the Talmud, intitled *Seraim*, contains the form and order of the daily benedictions. It was uſual to give benediction to travellers on their taking leave; a practice which is ſtill preſerved among the monks. Benedictions were likewiſe given among the ancient Jews, as well as Chriſtians, by impoſition of hands. And when at length the primitive ſimplicity of the Chriſtian worſhip began to give way to ceremony, they added the ſign of the croſs, which was made with the ſame hand, as before, only elevated or extended. Hence benediction in the modern Romiſh church, is uſed, in a more particular manner, to denote the ſign of the croſs made by a biſhop, or prelate, as conferring ſome grace on the people. The cuſtom of receiving benediction, by bowing the head before the biſhops, is very ancient; and was ſo univerſal, that emperors themſelves did not decline this mark of ſubmiſſion.—Under the name *benediction*, the Hebrews alſo frequently underſtand the preſents which friends make to one another, in all probability becauſe they are generally attended with bleſſings and compliments, both from thoſe who give and thoſe who receive them.

Nuptial BENEDICTION, the external ceremony performed by the prieſt in the office of matrimony. This is alſo called *ſacerdotal* and *matrimonial benediction*, by the Greeks ιερολογια and ιεροτελεστια. The nuptial benediction is not eſſential to, but the confirmation of, a marriage in the civil law.

Beatic BENEDICTION, *benedictio beatica*, is the viaticum given to dying perſons. The Pope begins all his bulls with this form: *Salutem et apoſtolicam benedictionem.*

BENEDICTION is alſo uſed for an eccleſiaſtical ceremony, whereby a thing is rendered ſacred or venerable. In this ſenſe benediction differs from conſecration, as in the latter unction is applied, which is not in the former: Thus the chalice is conſecrated, and the pix bleſſed; as the former, not the latter, is anointed: though, in the common uſage, theſe two words are applied promiſcuouſly.—The ſpirit of piety, or rather of ſuperſtition, has introduced into the Romiſh church benedictions for almoſt every thing. We read of forms of benedictions for wax-candles, for boughs, for aſhes, for church veſſels, and ornaments; for flags or enſigns, arms, firſt fruits, houſes, ſhips, paſcal eggs, cilicium or the hair-cloth of penitents, church-yards, &c. In general, theſe benedictions are performed by aſperſions of holy water, ſigns of the croſs, and prayers ſuitable to the nature of the ceremony. The forms of theſe benedictions are found in the Roman pontifical, in the Roman miſſal, in the book of eccleſiaſtical ceremonies printed in Pope Leo X.'s time, and in the rituals and ceremonies of the different churches which are found collected in father Martene's work on the rites and diſcipline of the church.

BENEFICE (*beneficium*), in middle-age writers, is uſed for a fee, ſometimes denominated more peculiarly *beneficium militare*. In this ſenſe, benefice was an eſtate in land, at firſt granted for life only; ſo called, becauſe it was held *ex mero beneficio* of the donor; and the tenants were bound to ſwear fealty to the lord, and to ſerve him in the wars. In after-times, as theſe tenures became perpetual and hereditary, they left their name of *beneficia* to the livings of the clergy; and retained to themſelves the name of *feuds*.

BENEFICE, in an eccleſiaſtical ſenſe, a church endowed with a revenue for the peformance of divine ſervice; or the revenue itſelf aſſigned to an eccleſiaſtical perſon, by way of ſtipend, for the ſervice he is to do that church.

All church-preferments, except biſhoprics, are called *benefices*; and all benefices are, by the canoniſts, ſometimes ſtyled *dignities*: but we now ordinarily diſtinguiſh between benefice and dignity; applying dignity to biſhoprics, deaneries, archdeaconries, and prebendaries; and benefice to parſonages, vicarages and donatives.

Benefices are divided by the canoniſts into ſimple and ſacerdotal. In the firſt there is no obligation but to read prayers, ſing, &c. ſuch as canonries, chaplainſhips, chantries, &c.: the ſecond are charged with the cure of ſouls, or the direction and guidance of conſciences; ſuch as vicarages, rectories, &c.

The Romaniſts again diſtinguiſh benefices into regular and ſecular. *Regular* or titular benefices are thoſe held by a religious, or a regular, who has made profeſſion of ſome religious order; ſuch as abbeys, priories, conventuals, &c.; or rather, a regular benefice is that which cannot be conferred on any but a religious, either by its foundation, by the inſtitution of ſome ſuperior, or by preſcription: for preſcription, forty years poſſeſſion by a religious makes the benefice regular. *Secular* benefices are only ſuch as are to be given to ſecular prieſts, *i. e.* to ſuch as live in the world, and are not engaged in any monaſtic order. All benefices are reputed ſecular, till the contrary is made to appear. They are called *ſecular benefices*, becauſe held by ſeculars; of which kind are almoſt all cures.

The canoniſts diſtinguiſh three manners of vacating a benefice, viz. 1. *De jure*, when the perſon enjoying it is guilty of certain crimes expreſſed in thoſe laws, as hereſy, ſimony, &c. 2. *De facto*, as well as *de jure*, by the natural death or the reſignation of the incumbent; which reſignation may be either expreſs, or tacit, as when he engages in a ſtate, &c. inconſiſtent with it, as, among the Romaniſts, by marrying, entering into a religious order, or the like. 3. By the *ſentence of a judge*, by way of puniſhment for certain crimes, as concubinage, perjury, &c.

Benefices began about 500. The following account of thoſe in England is given as the fact by Dr Burn, viz. that there are 1071 livings not exceeding 10l. *per annum*; 1467 livings above 10l. and not exceeding 20l. *per annum*; 1126 livings above 20l. and not exceeding 30l. *per annum*; 1049 livings above 30l. and not exceeding 40l. *per annum*: 884 livings above 40l. and not exceeding 50l. *per annum*; 5597 livings under 50l. *per annum*. It muſt be 500 years before every living can be raiſed to 60l. a-year by Queen Anne's bounty, and 339 years before any of them can exceed 50l. a-year. On the whole, there are above 11,000 church preferments in England, excluſive of biſhoprics, deaneries, canonries, prebendaries, prieſt-vicars, lay-vicars, ſecondaries, &c. belonging to cathedrals or choriſters, or even curates to well beneficed clergymen.

BENEFICE *in commendam* is that, the direction and management of which, upon a vacancy, is given or recommended to an eccleſiaſtic, for a certain time, till he may be conveniently provided for.

BENEFICIARII, in Roman antiquity, denote ſoldiers who attended the chief officers of the army, being exempted from other duty. Beneficiarii were alſo ſoldiers diſcharged from the military ſervice or duty, and provided with *beneficia* to ſubſiſt on. Theſe were probably the ſame with the former, and both might be compriſed in the ſame definition. They were old experienced ſoldiers, who, having ſerved out their legal time, or received a diſcharge as a particular mark of honour, were invited again to the ſervice, where they were held in great eſteem, exempted from all military drudgery, and appointed to guard the ſtandard, &c. Theſe, when thus recalled to ſervice, were alſo denominated *evocati*; before their recal, *emeriti*.

BENEFICIARII was alſo uſed for thoſe raiſed to a higher rank by the favour of the tribunes, or other magiſtrates. The word *beneficiarius* frequently occurs in the Roman inſcriptions found in Britain, where *conſulis* is always joined with it; but beſides *beneficiarius conſulis*, we find in Grutar *beneficiarius tribuni, prætorii legati, præfecti, proconſulis*, &c.

BENEFICIARY, in general ſomething that relates to benefices.

BENEFICIARY, *beneficiarius*, is more particularly uſed for a beneficed perſon, or him who receives and enjoys one or more benefices. A beneficiary is not the proprietor of the revenues of his church, he has only the adminiſtration of them, though unaccountable for the ſame to any but God.

BENEFICIARY is alſo uſed in middle-age writers, for a feudatory or vaſſal. The denomination was alſo given to clerks or officers who kept the accounts of the *beneficia*, and made the writings neceſſary thereto.

BENEFICIUM, in military matters among the Romans, denoted a promotion to a higher rank by the favour of ſome perſon in authority.

BENEFIELD (Sebaſtian), an eminent divine of the 16th century, was born in 1559, at Preſtonbury in Glouceſterſhire, and educated at Corpus Chriſti college in Oxford. In 1608, he took the degree of doctor in divinity; and five years after, was choſen Margaret profeſſor in that univerſity. He had been preſented many years before to the rectory of Meyſey-Hampton, in Glouceſterſhire. He publiſhed Commentaries upon the firſt, ſecond, and third chapters of Amos; a conſiderable number of ſermons; and ſome Latin treatiſes. He died in 1630.

BENEFIT of Clergy. See Clergy.

BENESOEUF, a town of Egypt, ſeated on the weſtern ſhore of the Nile, and remarkable for its hemp and flax. E. Long. 31. 0. N. Lat. 29. 10.

BENEVENTE, a town of the province of Leon in Spain, ſeated on the river Eſla, in W. Long. 5. 5. N. Lat. 42. 4.

BENEVENTO, a city of Italy, in the kingdom of Naples, with an archbiſhop's ſee. It is ſituated near the confluence of the rivers Sabato and Calore, in a fertile valley called the *ſtrait of Benevento*, full of gentlemens ſeats and houſes of pleaſure. This town hath frequently ſuffered terribly by earthquakes; particularly in 1703, when a great part of it was overturned, and the reſt much damaged. E. Long. 14. 57. N. Lat. 41. 6.

The arch of Trajan, now called the Porta Aurea, forms one of the entrances to the city. This arch, though it appears to great diſadvantage from the walls and houſes that hem it in on both ſides, is in tolerable preſervation, and one of the moſt magnificent remains of Roman grandeur to be met with out of Rome. The architecture and ſculpture are both ſingularly beautiful. This elegant monument was erected in the year of Chriſt 114, about the commencement of the Parthian war, and after the ſubmiſſion of Decebalus had intitled Trajan to the ſurname of Dacicus. The order is compoſite; the materials, white marble; the height, 60 palms; length, 37 and a half; and depth 24. It conſiſts of a ſingle arch, the ſpan of which is 20 palms, the height 35. On each ſide of it, two fluted columns, upon a joint pedeſtal, ſupport an entablement and an attic. The intercolumniations and frize are covered with baſſo-relievos, repreſenting the battles and triumph of the Dacian war. In the attic is the inſcription. As the ſixth year of Trajan's conſulate, marked on this arch, is alſo to be ſeen on all the military columns he erected along his new road to Brunduſium, it is probable that the arch was built to commemorate ſo beneficial an undertaking. Except the old metropolis of the world, no city in Italy can boaſt of ſo many remains of ancient ſculpture as are to be found in Benevento. Scarce a wall is built of any thing but altars, tombs, columns, and remains of entablatures.

The cathedral is a clumſy edifice, in a ſtyle of Gothic, or rather Lombard, architecture. This church, dedicated to the Virgin Mary, was built in the ſixth century, enlarged in the 11th, and altered conſiderably in the 13th, when archbiſhop Roger adorned it with a new front. To obtain a ſufficient quantity of marble for this purpoſe, he ſpared neither ſarcophagus, altar, nor inſcription; but fixed them promiſcuouſly and irregularly in the walls of his barbarous ſtructure. Three doors (a type of the Trinity, according to the rules eſtabliſhed by the myſtical Vitruvii of thoſe ages] open into this facade. That in the centre is of bronze, emboſſed with the life of Chriſt, and the effigies of the Beneventine Metropolitan, with all his ſuffragan biſhops. The inſide offers nothing to the curious obſerver but columns, altars, and other decorations, executed in the moſt inelegant ſtyle that any of the church-building barbarians ever adopted. In the court ſtands a ſmall Egyptian obeliſk, of red granite, crowded with hierogliphics. In the adjoining ſquare, are a fountain and a very indifferent ſtatue of Benedict the 13th, long archbiſhop of Benevento.

Of the Beneventine hiſtory the following abſtract is given by Mr Swinburn, in his *Travels in Sicily*. According to ſome authors (he informs us), Diomed was the founder of Beneventum; whence its origin muſt be referred to the "years that immediately ſucceeded the Trojan war. Other writers aſſign it to the Samnites, who made it one of their principal towns, where they frequently took refuge when worſted by the Romans. In their time, its name was *Maleventum*, a word of uncertain etymology: however, it ſounded ſo ill in the Latin tongue, that the ſuperſtitious Romans, after atchieving the conqueſt of Samnium, changed it into Beneventum, in order to introduce their colony under fortunate auſpices. Near this place, in the 479th year of Rome, Pyrrhus was defeated by Curius Dentatus. In the war againſt Hannibal, Beneventum ſignalized its attachment to Rome, by liberal tenders of ſuccour and real ſervices. Its reception of Gracchus, after his defeat of Hanno, is extolled by Livy; and, from the gratitude of the ſenate, many ſolid advantages accrued to the Beneventines. As they long partook, in a diſtinguiſhed manner, of the glories and proſperity of the Roman empire, they alſo ſeverely felt the effects of its decline, and ſhared in a large proportion the horrors of devaſtation that attended the irruption of the northern nations.

"The modern hiſtory of this city will appear intereſting to thoſe readers who do not deſpiſe the events of ages which we uſually and juſtly call dark and barbarous. They certainly are of importance to all the preſent ſtates of Europe; for at that period originated the political exiſtence of moſt of them. Had no northern ſavages deſcended from their ſnowy mountains, to overturn the Roman coloſſus, and break aſunder the fetters of mankind, few of the powers, which now make ſo formidable a figure, would ever have been ſo much as heard of. The avengers of the general wrongs were, no doubt, the deſtroyers of arts and literature, and brought on the thick clouds of ignorance, which for many centuries no gleam of light could penetrate; but it is to be remembered, alſo, that the Romans themſelves had already made great progreſs in baniſhing true taſte and knowledge, and would very ſoon have been a barbarous nation, though neither Goths nor Vandals had ever approached the frontier."

"The Lombards came the laſt of the Scythian or Scandinavian hordes, to invade Italy. After fixing the ſeat of their empire at Pavia, they ſent a detachment to poſſeſs itſelf of the ſouthern provinces. In 571, Zotto was appointed duke of Benevento, as a feudatory of the king of Lombardy; and ſeems to have confined his rule to the city alone, from which he ſallied forth to ſeek for booty. The ſecond duke, whoſe name was Arechis, conquered almoſt the whole country that now conſtitutes the kingdom of Naples. His ſucceſſors appear long to have remained ſatisfied with the extent of dominion he had tranſmitted to them. Grimwald, one of them, unſurped the crown of Lombardy; but his ſon Romwald, though a very ſucceſsful warrior, contented himſelf with the ducal title. The fall of Deſiderius, laſt king of the Lombards, did not affect the ſtate of Benevento. By an effort of policy or reſolution, Arechis the ſecond kept poſſeſſion; and availing himſelf of the favourable conjuncture, aſſerted his independence,—threw off all feudal ſubmiſſion,—aſſumed the ſtyle of Prince,—and coined money with his own image upon it; a prerogative exerciſed by none of his predeceſſors as dukes of Benevento. During four reigns, this ſtate maintained itſelf on a reſpectable footing; and might long have continued ſo, had not civil war, added to very powerful aſſaults from abroad, haſtened its ruin. Radelchis and Siconulph aſpired to the principality; and each of them invited the Saracens to his aid. The deſolation cauſed by this conflict is ſcarcely to be deſcribed. No better method for terminating theſe fatal diſſentions could be deviſed, than dividing the dominions into two diſtinct ſovereignties. In 851, Radelchis reigned as Prince at Benevento; and his adverſary fixed his court, with the ſame title, at Salerno. From this treaty of partition, the ruin of the Lombards became inevitable: a want of union undermined their ſtrength,—foreigners gained an aſcendant over them,—irreſolution and weakneſs pervaded their whole ſyſtem of government. The erection of Capua into a third principality, was another deſtructive operation: and now the inroads of the Saracens,—the attacks of the eaſtern and weſtern emperors,—anarchy and animoſity at home—reduced the Lombard ſtates to ſuch wretchedneſs, that they were able to make a very feeble reſiſtance to the Norman arms. The city of Benevento alone eſcaped their ſway, by a grant which the emperor Henry II. had made of it to the biſhop of Rome, in exchange for the territory of Bamberg in Germany, where the Popes enjoyed a kind of ſovereignty. From the year 1054 to this day, the Roman See, with ſome ſhort interruptions of poſſeſſion, has exerciſed temporal dominion over this city. Benevento has given three popes to the chair of St Peter; *viz.* Felix III. Victor III. and Gregory VIII. and what it is much prouder of, reckons St Januarius in the liſt of its Biſhops."

BENEVENTUM, (anc. geog.), a town of the Samnites, formerly called *Maleventum* from the unwholeſomeneſs of the wind, and under that appellation it is mentioned by Livy; but after a Roman colony was led thither in the 485th year of the city, it came to have the name of *Beneventum*, as a more auſpicious title. It is mentioned by Horace as an ancient city, ſaid to have been built by Diomedes before the Trojan war. Now BENEVENTO.

BENEVOLENCE, in morals, ſignifies the love of mankind in general, accompanied with a deſire to promote their happineſs. See MORALS.

BENFIELD, a town of Alſace in France, whoſe fortifications were demoliſhed in conſequence of the treaty of Weſtphalia. E. Long. 7. 45. N. Lat. 48. 14

BENGAL, a country of Indoſtan in Aſia, bounded on the eaſt by the kingdoms of Aſſem, Tipra, and Arracan; on the weſt, by Malva and Berar; on the north, by Gehud, Rotas, Benares, and Jeſuat; and on the ſouth, by Orixa and the bay of Bengal. Its greateſt length from weſt to eaſt is about 720 miles, and its breadth from ſouth to north, where greateſt, is not leſs than 300; though in ſome places not above 150; extending from 21 to 25 degrees of north latitude, and from 80 to 91 of eaſt longitude.

1
Climate extremely unhealthy.

As this country lies almoſt entirely within the torrid zone, and in the middle of a very extenſive continent, it is ſometimes ſubject to ſuch extremes of heat as render it very fatal to European conſtitutions. Dr. Lind is of opinion, that the climate of Bengal is the moſt dangerous in this reſpect of any in the Engliſh territories excepting Bencoolen on the coaſt of Sumatra.

2
Extreme heat of the land-wind, and its ſurpriſing effects.

Part of this unhealthineſs ariſes from the mere circumſtance of heat; for in all the ſouthern parts of India, when the wind blows over land, it is ſo extremely hot and ſuffocating as ſcarcely to be borne. The reaſon of this is evident from the mere inſpection of a map of Aſia, where it is evident that whatever wind blows over land, eſpecially in the ſouthern parts, muſt paſs over an immenſe tract of country ſtrongly heated by the ſun; and as in every part of this extenſive continent there are ſandy deſarts of very conſiderable magnitude, the heat is thus prodigiouſly increaſed. This becomes very evident on the falling of a ſhower of rain at the time the land-wind prevails; for if the wind in its way paſs through the ſhower, the air is agreeably cooled though the ſky ſhould be ever ſo clear; while thoſe who reſide only at a few miles diſtance, but out of the direct line of the ſhower, will be fainting under the exceſſive heat. Here indeed when the air is clear, the ſun-beams are much more powerful than in our climate, inſomuch that the light at noon day is too powerful for the eyes to bear; and the large ſtars, as Venus and Jupiter, ſhine with a ſurpriſing luſtre. Thus the reflection of the ſun-beams from the earth muſt neceſſarily occaſion an extraordinary degree of heat in the atmoſphere; ſo that from the winds abovementioned very great inconveniences ſometimes ariſe, ſimilar to thoſe which are occaſioned by the *Harmattan* in Africa. Mr Ives tells us, that it is affirmed they will ſnap glaſs if it be too much expoſed to them; he has ſeen the veneering ſtripped off from a cheſt of drawers by their means; and they will certainly crack and chap almoſt every piece of wood that is not well ſeaſoned. In certain places they are ſo loaded with ſand, that the horizon appears quite hazy where they blow, and it is almoſt impoſſible to prevent the eyes from being thus greatly injured. They have likewiſe a very pernicious effect on ſuch people as are expoſed to them while ſleeping. This ſeldom fails to bring on a fit of the *barbiers*, a kind of paralytic diſtemper attended with a total deprivation of the uſe of the limbs, and which the patient never gets the better of but by removing to ſome other climate. Theſe hot winds are made uſe of with great ſucceſs for cooling liquors, by wrapping a wet cloth round the bottles and expoſing it to the air. The reaſon of this is explained under the article EVAPORATION. Mr Ives remarks, that it will thus cool much ſooner than by being expoſed to the cool ſea-breeze.

The great cauſe of the unhealthineſs of Bengal, however, is owing to the inundations of the Ganges and Burrampooter, by which ſuch quantities of putreſcible matters are brought down as infect the air with the moſt malignant vapours when the waters retire. Though the rainy ſeaſon begins in Bengal only in the month of June, the river begins to ſwell in the mountains of Thibet early in April, and by the latter end of that month in Bengal alſo. The reaſon of this is partly the melting of the ſnow on the mountains of Thibet, and partly the vaſt collection of vapours brought by the ſoutherly or ſouthweſt monſoon, which are ſuddenly ſtopped by the high mountains of Thibet. Hence it is obvious, that the accumulation and condenſation of theſe vapours muſt firſt take place in the neighbourhood of the mountains which oppoſe them; and thus the rainy ſeaſon commences ſooneſt in thoſe places which lie neareſt the mountains.

3
Inundation of the Ganges, &c. deſcribed.

The rivers in Bengal begin to riſe at firſt very ſlowly, the increaſe being only at the rate of one inch per day for the firſt fortnight. It then gradually augments to two and three inches before any quantity of rain falls in the low countries; and when the rain becomes general, the increaſe at a medium is five inches per day. By the latter end of July, all the lower parts of Bengal, contiguous to the Ganges and Burrampooter, are overflowed, and preſent a ſurface of water more than 100 miles wide. This vaſt collection of fluid, however, is owing in a great meaſure to the rains which fall on the low country itſelf; for the lands in the neighbourhood are overflowed ſome time before the bed of the river is filled. It muſt be obſerved, that the ground on the bank of the river, and even to ſome miles diſtance, is higher than that which is more remote; and thus a ſeparation is made for a conſiderable time betwixt the waters of the land-flood and thoſe of the river.

4
Some lands guarded from too copious an inundation.

As ſome of the lands in Bengal would receive damage from ſuch a copious inundation, they muſt for this reaſon be guarded by ſtrong dykes to reſiſt the waters, and admit only a certain quantity. Theſe, collectively taken, are ſaid to be more than 1000 miles in length, and are kept up at an enormous expence; yet they do not always anſwer the purpoſe, on account of the looſeneſs of the earth of which they are compoſed, even though ſome are of the thickneſs of an ordinary rampart at the baſe. One particular branch of the Ganges (navigable only in the rainy ſeaſon, and then equal in ſize to the Thames at Chelſea) is conducted for 70 miles between dykes: and when full, the paſſengers look down upon the adjacent country as from an eminence.

5
Diſaſters occaſioned by too great an inundation.

As the tide loſes its power of counteracting ſuch an impetuous torrent of freſh water, the height of the inundation gradually diminiſhes as it approaches the ſea, and totally vaniſhes at the point of confluence; which is owing to the facility with which the waters of the inundation ſpread over the level of the ocean. But when the force of winds conſpires with that of the tide, the waters are retarded in ſuch a manner as ſometimes to raiſe the inundation two feet above the ordinary level; which has been known to occaſion the loſs of whole crops of rice. In the year 1763, a melancholy accident happened at Luckipour, when a ſtrong gale of wind, conſpiring with a high ſpring-tide, at a ſeaſon when the periodical flood was within a foot and an half of its higheſt pitch, the waters are ſaid to have riſen ſix feet above their ordinary level. Thus the inhabitants of a particular diſtrict were ſwept away with their houſes and cattle; and to aggravate the diſtreſs, it happened in a part of the country where it was ſcarce poſſible to find a tree for a drowning man to eſcape to.

For ſome days before the middle of Auguſt the inundation is at a ſtand, and then begins to abate by a ceſſation of rains in the mountains, though great quantities ſtill continue to fall on the low country. The inundation does not, however, in its decreaſe, always keep pace with that of the river, by reaſon of the height of the banks; but after the beginning of October, when the rain has nearly ceaſed, the remainder goes off quickly by evaporation, leaving the ground exceedingly fertilized.

6
Dandgerous effects of the north-weſt winds.

From the time that the monſoon changes in October to the middle of March, the rivers are in a ſtate of tranquillity; when the north-weſt winds begin, and may be expected once in three or four days till the commencement of the rainy ſeaſon. Theſe are the moſt formidable enemies of the inland navigation carried on by the large rivers. They are ſudden and violent ſqualls, attended with rain; and though their duration is commonly but ſhort, ſometimes produce fatal effects, whole fleets of trading boats having been ſunk by them almoſt inſtantaneouſly. They are more frequent in the eaſtern than the weſtern part of Bengal, and happen oftener towards the cloſe of the day than at any other time; but as they are indicated ſome time before they approach by the riſing and ſingular appearance of the clouds, the traveller has commonly time enough to ſeek for a place of ſhelter. It is in the great rivers alone that they are ſo formidable, and that about the end of May or beginning of June, when the rivers are much increaſed in width. After the commencement of the rainy ſeaſon, which varies in different parts from the middle to the end of June, tempeſtuous weather occaſionally happens. At this ſeaſon places of ſhelter are more common than at any other time by the filling up of the creeks and inlets as the river increaſes; and on the other hand, the bad weather, when it happens, is of longer continuance than during the ſeaſon of the north-weſters. The rivers being now ſpread to the diſtance of ſeveral miles, large waves are raiſed on them, particularly when blowing in a direction contrary to the rapid parts of the ſtream, which for obvious reaſons ought to be avoided.

7
Of the inland navigation in Bengal.

This navigation is performed in ſafety during the interval between the end of the rainy ſeaſon and beginning of the north-weſters; an ordinary degree of attention being then only requiſite to pilot the boat clear of ſhallows and ſtumps of trees. The ſeaſon of the north-weſters requires the greateſt care and attention. Should one of theſe ſqualls approach, and no creek or inlet offer for ſhelter, the ſteep bank of the rivers ſhould be always ſought as a place of ſhelter, if it is not in a crumbling ſtate †, whether it be to the windward or leeward, rather than the other. If this cannot be done, the flat ſide muſt be taken up with; and if it be a lee ſhore the anchor ſhould be thrown out to prevent driving upon it. In theſe caſes the maſt

† See *Ganges*.

is always ſuppoſed to be ſtruck; and, provided this be done, and the cargo judiciouſly diſpoſed of, there is little danger of any of the boats commonly made uſe of being overſet.

8
Budgerows, a kind of boats, deſcribed.

The boats uſed in the inland navigation of Bengal are called *budgerows*, and are formed ſomewhat like a pleaſure barge. Some have cabins 14 feet broad and proportionally long, drawing from four to five feet water. Their motion is very ſlow, not exceeding the rate of eight miles a day when moved by their oars; ſo that their progreſs down the river muſt depend principally on the motion of the current. From the beginning of November to the middle or latter end of May, the uſual rate of going down the ſtream is about 40 miles in twelve hours, and during the reſt of the year from 50 to 70 miles. The current is ſtrongeſt while the waters of the inundation are draining off, which happens in part of Auguſt and September. In many of the ſhallow rivers, however, the current is exceedingly ſlow during the dry months; inſomuch that the track-rope is frequently uſed in going downwards. In towing againſt the ſtream the ſteep ſide of the river is generally preferred on account of the depth of water, though the current runs much ſtronger there than on the oppoſite ſide. On theſe occaſions it is neceſſary to provide a very long track-rope, as well for avoiding the falling pieces of the ſteep bank on the one ſide as the ſhallow water on the other, when it becomes neceſſary to change ſides through the badneſs of the tracking ground. The anchor ſhould always be kept ready for dropping in caſe the track-rope breaks. The uſual rate of towing againſt the ſtream is from 17 to 20 miles a day; and to make even this progreſs the windings of the river require the boats to be dragged againſt the current at the rate of four miles and an half *per* hour for 12 hours. When the waters are high, a greater progreſs will be made, notwithſtanding the ſuperior ſtrength of the current; becauſe the filling of the river-bed gives many opportunities of cutting off angles and turnings, and ſometimes even large windings, by going through creeks.

9
Account of a dreadful famine in 1770.

Bengal produces the vegetables and animals common to other countries in the torrid zone. Its great produce of grain is rice, which is commonly exported from thence into other countries. By various accidents, however, the crop of rice ſometimes fails, and a famine is produced; and of this there have been many inſtances in Bengal as well as in other parts of Indoſtan. One of the moſt deplorable of this kind happened in the year 1770. The nabob and ſeveral great men of the country diſtributed rice *gratis* to the poor until their ſtocks began to fail, when thoſe donations were of conſequence withdrawn. Vaſt multitudes then came down to Calcutta, the capital Engliſh ſettlement in the province, in hopes of meeting with relief at that place. The granaries of the Company, however, being quite empty, none could be afforded; ſo that when the famine had prevailed a fortnight, many thouſands fell down in the ſtreets and fields; whoſe bodies, mangled by the dogs and vultures, corrupting in the air, ſeemed to threaten a plague as the conſequence of the famine. An hundred people were daily employed on the Company's account, with doolys, ſledges, and bearers, to throw them into the river. At this time the fiſh could not be eaten, the river being ſo full of carcaſes; and many of thoſe who ventured to feed upon them died ſuddenly. Hogs, ducks, and geeſe, alſo fed moſtly on carnage; ſo that the only meat that could be procured was mutton; and this, from the dryneſs of the ſeaſon, was ſo ſmall, that a quarter of it would ſcarcely weigh a pound and an half.

10
Surpriſing cloud of inſects.

In the month of Auguſt a moſt alarming phenomenon appeared, of a large black cloud at a diſtance in the air, which ſometimes obſcured the ſun, and ſeemed to extend a great way over and about Calcutta. The hotter the day proved the lower this cloud ſeemed to deſcend, and for three days it occaſioned great ſpeculation. The bramins pretended, that this phenomenon, which was a cloud of inſects, ſhould make its appearance three times; and if ever they deſcended to the earth, the country would be deſtroyed by ſome untimely misfortune. They ſaid, that about 150 years before there had been ſuch another bad time, when the earth was parched for want of water; and this cloud of inſects made its appearance, though it came much lower the ſecond time than it had done before. On the third day, the weather being very hot and cloudy, they deſcended ſo low that they could be plainly ſeen. They ſeemed to be about the ſize of a horſe-ſtinger, with a long red body, large head and eyes, keeping cloſe together like a ſwarm of bees, and, to appearance, flying quite on a line. None, however, were caught, as the people were ſo much frightened by the prognoſtications of the bramins. Whilſt it rained they continued in one poſition for near a quarter of an hour: then they roſe five or ſix feet at once, and in a little time deſcended as much, until a ſtrong north-weſt wind blew for two days ſucceſſively. During its continuance they aſcended and deſcended, but more precipitately than before; and next morning the air was quite clear. For ſome days before the cloud made its appearance, the toads, frogs, and inſects, which, during the rains, make a continual noiſe through the night diſappeared, and were neither heard nor ſeen, except in the river.

11
Cauſe of the famine.

This dreadful famine was occaſioned by a preternatural drought. In this country they have two harveſts, one in April, called the *little harveſt*, which conſiſts of the ſmaller grain; the ſecond, called the *grand harveſt*, is only of rice. But by a drought which happened in 1769 the great harveſt of that year failed, as did alſo the little one of 1770, which produced the dreadful conſequences already mentioned.

12
Vegetable productions.

Among the vegetables produced in Bengal, Mr Ives mentions the areca tree, the woody part of which is as tough as whale-bone. Here is alſo a beautiful tree called *chulta*, the flower of which is at firſt a hard green ball on footſtalks about four inches in length. This opens, and the calyx is compoſed of five round thick and ſucculent leaves; the corolla conſiſts of the like number of fine beautiful white petals. After one day the corolla falls off and the ball cloſes again, and is ſold in the markets. There is a ſucceſſion of theſe for ſeveral months. The mango tree grows here alſo in plenty. Its fruit is preferred to all others in the country excepting very fine pine-apples; the gentlemen eat little elſe in the hot months when theſe fruits are in ſeaſon. If no wine is drunk with them they are apt to produce boils which are troubleſome but healthful. In the walks of Bengal they have a tall tree called the *tatoon*, ſaid to have been firſt brought into England by Captain Birch. The leaves are of a deep ſhining green, the lower part rather paler where it is ribbed, and undulated round the edges. The fruit is of the ſize, ſhape, and colour of an olive, with a moderately thin huſk, and a kernel like that of the date; five or ſix grow on the ſame pedicle. Near Calcutta is a large ſpreading tree called the *ruſſa*, which makes a fine appearance when in full bloom. The natives ſay that this and another near the Dutch ſettlement are the only two in Bengal. They pretend likewiſe that they can never find the ſeed; but Mr Ives informs us, that this is to be met with in plenty, though in a bad condition, the ants and other vermin being ſo fond of them, that not a ſingle pod is ever to be met with that is not touched by one or other of theſe ſpecies of inſects. This tree bears flowers of bright crimſon, and all the ſhades from thence down to a bright yellow. They are in ſuch plenty as almoſt to cover the tree, but have little or no ſmell. The fruit is a pod of the ſhape and ſize of a large garden-bean, containing four or five fleſhy ſeeds, which eaſily fall into two when dry. They are brown on the outſide, white within, and nearly ſquare, but convex on the ſides.

13 Birds of an extraordinary ſize.

Among the animals to be met with in Bengal Mr Ives makes mention of a kind of birds named *argill*, or *burgill* (ſee ARDEA, ſp. 6). They are very large, and in the evenings would majeſtically ſtalk along like as many naked Indians, for which our author at firſt miſtook them. On diſcovering that they were birds he reſolved to ſhoot one of them; which, however, was very difficult to be done. The Indians ſhowed evident marks of diſſatisfaction at the attempt: and informed him that it was impoſſible to ſucceed, becauſe theſe birds were poſſeſſed by the ſouls of the bramins. At laſt, however, he ſucceeded; and informs that the bird he ſhot extended 14 feet 10 inches between the tips of the wings; from the tip of the bill to the extremity of the claw was ſeven feet and a half: the legs were naked, as was alſo one-half of the thighs; the naked parts being three feet in length. The feathers of the wings and back were of an iron colour, and very ſtrong; thoſe of the belly were very long, and on the breaſt was a great deal of down all of a dirty white. The bill was 16 inches round at the baſe, nearly of a triangular ſhape, and of different colours. In the craw was a land-tortoiſe 10 inches long; and a large black male cat was found entire in its ſtomach.

14 Commerce, inland.

Bengal is reckoned the richeſt and moſt populous province in the empire of Indoſtan. Beſides its own conſumption, which is certainly very conſiderable, its exports are immenſe. One part of its merchandiſe is carried into the inland country. Thibet takes off a quantity of its cottons, beſides ſome iron and cloths of European manufacture. The inhabitants of thoſe mountains fetch them from Patna themſelves, and give muſk and rhubarb in exchange.

But the trade of Thibet is nothing in compariſon of that which Bengal carries on with Agra, Delhi, and the provinces adjacent to thoſe ſuperb capitals, in ſalt, ſugar, opium, ſilk, ſilk-ſtuffs, and an infinite quantity of cottons, and particularly muſlins. Theſe articles, taken together, amounted formerly to more than L. 1,750,000 a-year. So conſiderable a ſum was not conveyed to the banks of the Ganges; but it was the means of retaining one nearly equal, which muſt have iſſued from thence to pay the duties, or for other purpoſes. Since the viceroys of the Mogul have made themſelves nearly independent, and ſend him no revenues but ſuch as they chooſe to allow him, the luxury of the court is greatly abated, and the trade we have been ſpeaking of is no longer ſo conſiderable.

15 Maritime.

The maritime trade of Bengal, managed by the natives of the country, has not ſuffered the ſame diminution, nor was it ever ſo extenſive, as the other. It may be divided into two branches, of which Catek is in poſſeſſion of the greater part.

Catek is a diſtrict of ſome extent, a little below the moſt weſtern mouth of the Ganges. Balaſore, ſituated upon a navigable river, ſerves it for a port. The navigation to the Maldives, which the Engliſh and French have been obliged to abandon on account of the climate, is carried on entirely from this road. Here they load their veſſels with rice, coarſe cottons, and ſome ſilk ſtuffs, for theſe iſlands; and receive cowries in exchange, which are uſed for money in Bengal, and are ſold to the Europeans.

The inhabitants of Catek, and ſome other people of the Lower Ganges, maintain a conſiderable correſpondence with the country of Aſham. This kingdom, which is thought to have formerly made a part of Bengal, and is only divided from it by a river that falls into the Ganges, deſerves to be better known, if what is aſſerted here be true, that gun-powder has been diſcovered there, and that it was communicated from Aſham to Pegu, and from Pegu to China. Its gold, ſilver, iron, and lead mines, would have added to its fame, if they had been properly worked. In the midſt of theſe riches, which were of very little ſervice to this kingdom, ſalt was an article of which the inhabitants were ſo much in want, that they were reduced to the expedient of procuring it from a decoction of certain plants.

In the beginning of the preſent century, ſome Bramins of Bengal carried their ſuperſtitions to Aſham, where the people were guided ſolely by the dictates of natural religion. The prieſts perſuaded them, that it would be more agreeable to Brama if they ſubſtituted the pure and wholeſome ſalt of the ſea to that which they uſed. The ſovereign conſented to this on condition that the excluſive trade ſhould be in his hands; that it ſhould only be brought by the people of Bengal; and that the boats laden with it ſhould ſtop at the frontiers of his dominions. Thus have all theſe falſe religions been introduced by the influence and for the advantage of the prieſts who teach, and of the kings who admit them. Since this arrangement has taken place, 40 veſſels from 500 to 600 tons burden each are annually ſent from the Ganges to Aſham laden with ſalt, which yields 200 per cent. profit. They receive in payment a ſmall quantity of gold and ſilver, ivory, muſk, eagle-wood, gum-lac, and a large quantity of ſilk.

Excepting theſe two branches of maritime trade, which, for particular reaſons, have been confined to the natives of the country, all the reſt of the veſſels ſent from the Ganges to the different ſea-ports of India belong to the Europeans, and are built at Pegu. See PEGU.

A ſtill more conſiderable branch of commerce, which the Europeans at Bengal carry on with the reſt of India, is that of opium. Patna, ſituated on the Upper Ganges, is the moſt celebrated place in the world for the cultivation of opium. The fields are covered with it. Beſides what is carried into the inland parts, there are annually 3000 or 4000 cheſts exported, each weighing 300 pounds. It ſells upon the ſpot at the rate of between 24l. and 25l. a cheſt on an average. This opium is not purified like that of Syria and Perſia, which is made uſe of in Europe; it is only a paſte that has undergone no preparation, and has not a tenth part of the virtue of purified opium.

The Dutch ſend rice and ſugar from their ſettlements to the coaſt of Coromandel, for which they are paid in ſpecie, unleſs they have the good fortune to meet with ſome foreign merchandiſe at a cheap rate. They ſend out one or two veſſels laden with rice, cottons, and ſilk: the rice is ſold in Ceylon, the cottons at Malabar, and the ſilk at Surat; from whence they bring back cotton, which is uſefully employed in the coarſer manufactures in Bengal. Two or three ſhips laden with rice, gum-lac, and cotton ſtuffs, are ſent to Baſſora; and return with dried fruits, roſe-water, and a quantity of gold. The rich merchandiſe carried to Arabia is paid for entirely in gold and ſilver. The trade of the Ganges with the other ſea-ports of India brings 1,225,000l. annually to Bengal.

16 Gentoo brokers.

Though this trade paſſes through the hands of the Europeans, and is carried on under their protection, it is not entirely on their own account. The Moguls, indeed, who are uſually ſatisfied with the places they hold under the government, have ſeldom any concern in theſe expeditions; but the Armenians, who, ſince the revolutions in Perſia, are ſettled upon the banks of the Ganges, to which they formerly only made voyages, readily throw their capitals into this trade. The Indians employ ſtill larger ſums in it. The impoſſibility of enjoying their fortunes under an oppreſſive government does not deter the natives of this country from labouring inceſſantly to increaſe them. As they would run too great a riſk by engaging openly in trade, they are obliged to have recourſe to clandeſtine methods. As ſoon as an European arrives, the Gentoos, who know mankind better than is commonly ſuppoſed, ſtudy his character; and, if they find him frugal, active, and well informed, offer to act as his brokers and caſhiers, and lend or procure him money upon bottomry, or at intereſt. This intereſt, which is uſually nine *per cent.* at leaſt, is higher when he is under a neceſſity of borrowing of the Cheyks.

17 Cheyks, a powerful Indian family.

Theſe Cheyks are a powerful family of Indians, who have, time immemorial, inhabited the banks of the Ganges. Their riches have long ago procured them the management of the bank belonging to the court, the farming of the public revenue, and the direction of the money, which they coin afreſh every year in order to receive annually the benefit ariſing from the mint. By uniting ſo many advantages, they are enabled to lend the government 1,750,000l. 2,625,000l. or even 4,375,000l. at a time. When the government finds it impoſſible to refund the money, they are allowed to indemnify themſelves by oppreſſing the people.

The Europeans who frequent the Ganges have not been ſufficiently alarmed at this deſpotiſm, which ought to have prevented them from ſubmitting to a dependence upon the Cheyks. They have fallen into the ſnare, by borrowing conſiderable ſums of theſe avaricious financiers, apparently at nine, but in reality at thirteen *per cent.* if we take into the account the difference between the money that is lent them and that in which they are obliged to make their payments. The engagements entered into by the French and Dutch companies have been kept within ſome bounds; but thoſe of the Engliſh company have been unlimited. In 1755, they were indebted to the Cheyks about 1,225,000l.

The Portugueſe, who firſt frequented this rich country, had the wiſdom to eſtabliſh themſelves at Chatigan, a port ſituated upon the frontier of Arracan, not far from the moſt eaſtern part of the Ganges. The Dutch, who, without incurring the reſentment of an enemy at that time ſo formidable, were deſirous of ſharing in their good fortune, were engaged in ſearching for a port which, without obſtructing their plan, would expoſe them the leaſt to hoſtilities. In 1603, their attention was directed to Balaſore; and all the companies, rather through imitation than in conſequence of any well-concerted ſchemes, followed their example. Experience taught them the propriety of fixing as near as poſſible to the markets from whence they had their merchandiſe; and they ſailed up that branch of the Ganges which, ſeparating itſelf from the main river at Mourcha above Caſſimbuzzar, falls into the ſea near Balaſore under the name of the river *Hughly*. The government of the country permitted them to erect warehouſes wherever there was plenty of manufactures, and to fortify themſelves upon this river.

18 Principal towns.

The firſt town that is met with in paſſing up the river is Calcutta, the principal ſettlement of the Engliſh company. See CALCUTTA.

Six leagues higher is ſituated Frederic Nagore, founded by the Danes in 1756, in order to ſupply the place of an ancient ſettlement where they could not maintain their ground. This new eſtabliſhment has not yet acquired any importance, and there is all the reaſon imaginable to believe that it will never become conſiderable.

Two leagues and an half higher lies Chandernagore, a ſettlement belonging to the French. See CHANDERNAGORE.

At the diſtance of a mile from Chandernagore is Chinſura, better known by the name of *Dougli*, being ſituated near the ſuburbs of that anciently renowned city. The Dutch have no other poſſeſſions there, but merely their fort; the territory round it depending on the government of the country, which hath frequently made it feel its power by its extortions. Another inconvenience attending this ſettlement is a ſandbank that prevents ſhips from coming up to it: they proceed no farther than Tulta, which is 20 miles below Calcutta; and this of courſe occaſions an additional expence to the government.

The Portugueſe had formerly made Bandel, which is eighty leagues from the mouth of the Ganges, and a quarter of a league above the Hughly, the principal ſeat of their commerce. Their flag is ſtill diſplayed, and there are a few unhappy wretches remaining there, who have forgotten their country after having been forgotten by it. This factory has no other employment than that of ſupplying the Moors and the Dutch with miſtreſſes.

19 Exports. The exports from Bengal to Europe conſiſt of muſk, gum-lac, nicaragua wood, pepper, cowries, and ſome other articles of leſs importance brought thither from other places. Thoſe that are the immediate produce of the country are borax, ſalt-petre, ſilk ſtuffs, muſlins, and ſeveral different ſorts of cottons.

It would be a tedious and uſeleſs taſk to enumerate all the places where ticken and cottons, fit for table-linen or intended to be worn plain, painted, or printed, are manufactured. It will be ſufficient to refer to DACA, which may be looked upon as the general mart of Bengal, where the greateſt variety of fineſt cottons are to be met with, and in the greateſt abundance. See DACA.

The ſum total of the purchaſes made in Bengal by the European nations, amounted a few years ago to no more than 870,000 l. One third of this ſum was paid in iron, lead, copper, woollens, and Dutch ſpices: the remainder was diſcharged in money. Since the Engliſh have made themſelves maſters of this rich country, its exports have been increaſed, and its imports diminiſhed, becauſe the conquerors have carried away a greater quantity of merchandize, and pay for it out of the revenues they receive from the country. There is reaſon to believe, that this revolution in the trade of Bengal has not arrived at its criſis, and that ſooner or later it will be attended with more important conſequences and effects.

For the hiſtory of Bengal, and its conqueſt by the Britiſh, ſee the article INDOSTAN.

BENGO, a province of the kingdom of Angola in Africa, having the ſea on the weſt, and the province of Moſeche on the eaſt. It produces plenty of banana trees; but the Portugueſe have grubbed up vaſt quantities of theſe, and cultivated the land, which now abounds with maize, and the maniac root of which they make bread*. The province is divided into a great number of diſtricts, of which the chiefs are natives, but tributary to Portugal, and obliged to till the lands belonging to the Portugueſe. They are Chriſtians, and have eight churches.

BENGUELA, a province of the kingdom of Angola in Africa, bounded on the eaſt by the river Rimba, on the north by the Coanza, and it extends weſtward quite to Cape Negro. Benguela was formerly governed by its own kings; but was entirely ruined by the incurſions of the barbarous Giagas, ſo that its being conquered by the Portugueſe proved a great hapineſs. It ſtill retains the title of *kingdom*, and is allowed to enjoy ſome ſmall privileges; but is far from being reſtored to the ſtate of plenty it enjoyed before its deſtruction by the Giagas already mentioned. It produces abundance of ſalt, but inferior in quality to that which is made in the province of Chiſſama. The zimbis alſo, whoſe ſhells are current as money through many countries of Africa, are caught upon the coaſt. The country, which is moſtly mountainous, abounds with elephants, rhinoceroſes, lions, tigers, crocodiles, &c. which are very dangerous, and deſtroy great numbers of cattle.

BENHINNOM (anc. geog.), a valley in the ſuburbs, and to the eaſt of Jeruſalem, either a part of or conjoined with the valley of Kidron, (Joſhua); infamous for ſacrificing children, or paſſing them through the fire. The place in the valley where the idol ſtood to which the ſacrifice was made, was called *Tophet*, 2 Kings xxiii. 10. Jer. vii. 31, 32: and xix. 2.), from beating drums or tabours to drown the cries or ſhrieks of the children: called alſo *Geenon* or the *Valley of Ennon*: whence ſome derive *Gehenna*, the place of future puniſhment.

BENJAMIN. See BENZOIN and STYRAX.

BENIARAX, an ancient and conſiderable town in the kingdom of Algiers in Africa, ſeated in W. Long. 0. 30. N. Lat 35. 0.

BENIN, a country of Guinea, in Africa, has part of the gulph called the *Bite of Benin*, and the Slave Coaſt, on the weſt; part of Gago and Biafara, on the north; Myjac and Makoko on the eaſt; and Congo on the ſouth, where it extends about one degree beyond the equinoctial line; the length from eaſt to weſt is about 600 miles; but its north and ſouth bounds are not ſo well determined. The land in general is low and woody; in ſome parts it has rivers and lakes, but in others there is a ſcarcity of water. There are here a great number of wild beaſts, particularly elephants, lions, tygers, leopards, baboons, monkeys, wild boars, deer, &c. The birds are partridges, of which ſome are blue and ſome green, turtles, wild ducks, woodcocks, &c. Their grain is Indian corn: they have no potatoes; but plenty of yams, which are of the potatoe kind, but vaſtly larger and more coarſe: theſe are their ordinary food, and ſerve in the room of bread; they have two ſorts of beans, like horſe-beans, but not near ſo good. Their fruits are cocoa-nuts, cormantine apples, bananas, wild figs, &c.

The negroes have ſeveral colours which might ſerve for painting, and a good ſort of ſoap made with palm-oil and wood-aſhes; they have a great deal of cotton, which not only ſerves for their own uſe, but is exported to diſtant places. The river Rio or Benin has a great many arms; ſome of which are ſo large, that they deſerve the name of rivers; it abounds with fiſh, which the inhabitants eat ſmoke-dried as well as freſh. The place of trade in this river is at Arebo, about 120 miles diſtant from its mouth; and to this place the ſhips may ſail up. Thoſe who take this voyage ſee the mouths of a great many rivers fall into the principal channel to the right and the left; but how far it aſcends into the country is not known. A little higher up, the country is very low and marſhy, and ſeems to be divided into iſlands; and yet there are trees of all ſizes growing on the banks; this renders the country very unhealthy, as many of the Britiſh ſailors have found to their coſt; it is alſo incommoded with vaſt numbers of flies, called *muſquitoes*, which ſting terribly, and render the ſkin full of puſtules. There are three principal villages, to which the negroes come from the inland countries to traffic. One is called *Boodadou*, and conſiſts of about 50 houſes, or rather huts, for they are made with reeds and covered with leaves. The ſecond, called *Arebo*, was mentioned above: this is much larger than the former, and pretty well ſtocked with inhabitants; and the houſes have much more room, but they are built after the ſame manner. The third has the name of *Agaton*, and was built upon a hill. It was almoſt ruined by the wars; but the negroes lately rebuilt it, on account of its a-

* See *Jatropha*.

greeable ſituation. Great Benin is the place of reſidence of the king.

The inhabitants of Benin are very exact in their trading, and will not recede from any of their old cuſtoms: this renders them very ſlow in their dealings, and backward to pay their debts, which ſometimes obliges the traders to ſail before they receive ſatisfaction; but then they are paid as ſoon as they return. Some of the merchants are appointed by the government, which demands a ſort of cuſtom; but it is very trifling. There are three ſorts of officers under the king; the firſt are always near him, and none can addreſs him but by their means: there are ſeveral of the ſecond ſort: one takes care of the ſlaves, another of the cattle, another of the ſtreets, another of war, and ſo on.

Children go almoſt naked till they are 14, and then they wrap a cotton cloth round their middles: the richer ſort put on a ſort of callicoe gowns when they go abroad, with a kind of drawers; but within they are contented with their uſual cloth: the better ſort of women wear their cotton cloths like petticoats, and have a covering round their ſhoulders, but take care it ſhall be open before.

The richer ſort of the inhabitants of Benin live upon beef, mutton, and poultry; their drink is water, and brandy when they can get it. The poorer ſort live upon dried fiſh, bananas, and beans; their drink is water and palm-wine. Their chief handicraft men are ſmiths, carpenters, and curriers; but they perform all their work in a very bungling manner. The men have as many wives as they can keep, which they take without any ceremony except treating their relations. The wives of the lower ſort may go wherever they have a mind; but thoſe of the rich are ſhut up: they allow their wives to be very familiar with the Europeans, and yet pretend to be very jealous of their own countrymen. When a woman is caught in adultery, ſhe is turned away, and the goods of the man are forfeited to the huſband; but if the relations of the woman are rich, they prevail with him to overlook the fault by dint of preſents.

They uſe circumciſion, which is performed ſeven days after the children are born, at which time the father makes a feaſt for the relations; they have alſo cuſtoms, relating to uncleanneſs, reſembling thoſe of the Jews. Thieves are puniſhed by making the party amends if they can, otherwiſe they are baſtinadoed; but murder is always puniſhed with death. When a perſon is only ſuſpected of a crime, they have ſeveral ways of putting him to a trial, like the fire ordeal, or the bitter water of the Jews; but they are of ſuch a nature, that the innocent may be as often condemned as the guilty.

With regard to their religion, they believe in an almighty and inviſible God; yet worſhip images in a human form, and in thoſe of all ſorts of animals, making them offerings, every one being his own prieſt: they look upon theſe leſſer deities as mediators between him and man; ſome of theſe idols are in the houſe and ſome in cabins by themſelves. Every fifth day is holy; on which the rich kill cows, ſheep, and goats, and others dogs, cats, and fowls, which they diſtribute among their poor neighbours.

Benin, the capital of a kingdom of the ſame name, is the reſidence of their kings, and is ſeated pretty far in the country: it ſtands in a plain, and is about four miles in compaſs. The ſtreets are long and broad; and there are markets twice a day, where they ſell cows, cotton, elephants teeth, European merchandizes, and whatever the country produces. The houſes are large with clay walls, and at a diſtance from each other; they are covered with reeds, ſtraw, and leaves. The women in this place are the greateſt ſlaves; for they go every day to market, manage the houſehold affairs, take care of the children, cook the victuals, and till the ground. The king's palace makes great part of the town; and its great extent excepted, there is nothing worth taking notice of, it being only a confuſed heap of buildings, made with boards and clay, without regularity or neatneſs. In the middle, there is a wooden tower, about 70 feet high, made like a chimney; and on the top is a brazen ſerpent, hanging with his head downwards: this is pretty well made, and is the moſt curious thing in the town: there is a gallery of ſtatues, but ſo wretchedly carved, that there is no knowing what they repreſent without being told: behind a curtain there are 11 brazen heads, with an elephant's tooth on each; theſe are the king's idols: his throne is made of ivory, on which he ſits in a pavilion of India ſtuff. The king ſhows himſelf but once a-year, on the day of a certain feſtival; and then he is ſurrounded with his wives and a great number of his officers, who walk out in proceſſion to begin the feaſt by ſacrificing to their gods; this done, he beſtows victuals and wine among the multitude, which is imitated by his officers. All the inhabitants of this town and country go under the denomination of the *king's ſlaves*; and ſome relations ſay, that none of them wear any habit till given them by the king: but this ſeems to be only a ſalvo to account for the great number of men and women that are daily ſeen naked in the ſtreets; for if it be true, that the king of Benin can bring 100,000 fighting men into the field, his ſubjects muſt be very numerous; and probably his majeſty is not rich enough to beſtow garments upon them all. The Europeans reſort hither to purchaſe ſlaves. E. Long. 5. 4. N. Lat. 7. 40.

BENISH-days, among the Egyptians, a term for three days of the week, which are days of leſs ceremony in religion than the other four, and have their name from the *beniſh*, a garment of common uſe, not of ceremony. In Cairo, on Sundays, Tueſdays, and Thurſdays, they go to the paſhaw's divan; and theſe are the general days of buſineſs. Fridays they ſtay at home, and go to their moſques at noon; but though this is their day of devotion, they never abſtain from buſineſs. The three other days of the week are the beniſh-days, in which they throw off all buſineſs and ceremony, and go to their little ſummer-houſes in the country.

BENNAVENTA, or Bennavenna, (Antonine), a town of Britain, on the Auſona Major, or the Antona of Tacitus: ſuppoſed to be Northampton on the Nen; but Camden ſays it is Wedon, a village ſix miles to the weſt of Northampton.

BENNET (Henry), earl of Arlington, was born of an ancient family in Middleſex. In the beginning of the civil war, he was appointed under-ſecretary to George Lord Digby, ſecretary of ſtate; afterward entered

Bennet.

tered himſelf as a volunteer for the royal cauſe, and did his majeſty good ſervice, eſpecially at Andover in Hampſhire, where he received ſeveral wounds. When the wars were ended, he left not the king when ſucceſs did, but attended his intereſt in foreign parts. He was made ſecretary to the duke of York; received the honour of knighthood from Charles II. at Bruges, in 1658: and was ſent envoy to the court of Spain. His majeſty upon his return to England, called him home, made him keeper of his privy purſe, and principal ſecretary of ſtate. He had always a peculiar hatred to the lord chancellor Hyde; who on the other hand conſidered him as a concealed Papiſt. In 1670 he was one of the council diſtinguiſhed by the title of the *Cabal*, and one of thoſe who adviſed ſhutting up the exchequer. In 1673, he was made earl of Arlington and Viſcount Thetford, and ſoon after Knight of the Garter. In 1672, he was appointed one of the three plenipotentiaries from the court of Great Britain to Cologn, to mediate a peace between the emperor and the king of France. The Houſe of Commons, in 1673, drew up articles of impeachment againſt him. In 1674 he was made chamberlain of his majeſty's houſehold, with this public reaſon, that it was in recompenſe of his long and faithful ſervice, and particularly for his having performed the office of principal ſecretary of ſtate for the ſpace of 12 years, to his majeſty's great ſatisfaction. But afterwards his intereſt began to decline, while that of the earl of Danby increaſed; for upon his return from his unſucceſsful journey to Holland in 1675, his credit was ſo much ſunk, that ſeveral perſons at court diverted the king with mimicking his perſon and behaviour; yet he held his lord chamberlain's place to the day of his death, in 1685. His eſteemed letters to Sir William Temple were publiſhed after his death.

Bennet (Chriſtopher), an eminent phyſician in the 16th century, was the ſon of John Bennet, of Raynton, in Somerſetſhire, He was educated at Lincoln college, Oxford; and gave the public a treatiſe on conſumptions, intitled, *Theatri Tabidorum Veſtibulum*, &c. alſo *Exercitationes Diagnoſticæ, cum Hiſtoriis demonſtrativis, quibus alimentorum et Sanguinis vitia deteguntur in pleriſque morbis*, &c.

Bennet (Dr Thomas), an eminent divine, born at Saliſbury on the 7th of May 1673, and educated at St John's college, Cambridge. In 1700, he was made rector of St James's, in Colcheſter; afterwards he was lecturer of St Olave's, Southwark, and morning-preacher at St Lawrence, Jewry; and at laſt was preſented to the vicarage of St Giles's, Cripple-gate, worth 500l. a year, While he was in this ſtation, he was engaged in ſeveral expenſive law-ſuits in defence of the rights of the church, to which he recovered 150l. a-year. He wrote 1. An Anſwer to the Diſſenters Plea for Separation. 2. A confutation of Popery. 3. A Diſcourſe of Schiſm. An Anſwer to a book intitled Thomas againſt Bennet. 5. A Confutation of Quakeriſm. 6. A brief Hiſtory of the joint Uſe of pre-conceived Forms of Prayer. 7. An Anſwer to Dr Clarke's Scripture-doctrine of the Trinity. 8. A Paraphraſe, with Annotations, on the Book of Common-Prayer. 7. An Hebrew Grammar; and other pieces. He died October 9th, 1728, in the 56th year of his age.

Benoit, Benſerade.

BENOIT (Renatus), a famous doctor of the Sorbonne, and curate of Euſtathius at Paris in the 16th century. He was a ſecret favourer of the Proteſtant religion; and that his countrymen might be able to read the Bible in their own tongue, he publiſhed at Paris the French tranſlation, which had been made by the reformed miniſters at Geneva. This tranſlation was approved of by ſeveral doctors of the Sorbonne before it went to the preſs, and King Charles IX. had granted a privilege for the printing of it. Yet when it was publiſhed, it was immediately condemned. He had been before that time confeſſor to the unhappy Mary queen of Scotland, during her ſtay in France, and attended her when ſhe returned into Scotland. Some time before the death of Henry III. Dr Benoit, or ſome of his friends with his aſſiſtance, publiſhed a book intitled, *Apologie Catholique*, i. e. The Catholic Apology; in which it was ſhowed, that the Proteſtant religion, which King Henry of Navarre profeſſed, was not a ſufficient reaſon to deprive him of his right of ſucceeding to the crown of France. When Henry IV. was reſolved to embrace the Catholic religion, he aſſiſted at that aſſembly in which King Henry abjured the reformed religion. The king promoted him to the biſhopric of Troyes in Champagne 1597, but he could never obtain the Pope's bulls to be inſtalled. However, he enjoyed the temporalities of that biſhopric until he reſigned it. He died in 1608.

BENSERADE (Iſaac de), an ingenious French poet of the 17th century, was born at Lyons. He made himſelf known at court by his verſes and his wit, and had the good fortune to pleaſe the cardinals de Richelieu and Mazarin. After the death of Richelieu, he got into favour with the duke de Breze, whom he accompanied in moſt of his expeditions; and when this nobleman died, he returned to court, where his poetry became highly eſteemed. He wrote, 1. A Paraphraſe upon Job. 2. Verſes for Interludes. 3. Rondeaux upon Ovid. 4. Several Tragedies. A ſonnet which he ſent to a young lady with his Paraphraſe on Job, being put in competition with the Urania of Voiture, cauſed him to be much ſpoken of; for what an honour was it to be head of a party againſt this celebrated author? Thoſe who gave the preference to Benſerade's performance were ſtyled the *Jobiſts*, and their antagoniſts the *Uraniſts*; and the diſpute long divided the whole court and the wits. Some years before his death, he applied himſelf to works of piety, and tranſlated almoſt all the Pſalms.

M. L'Abbé Olivet ſays, that Benſerade, towards the latter end of his life, withdrew from court, and made Gentilly the place of his retirement. When he was a youth, he ſays it was the cuſtom to viſit the remains of the ornaments with which Benſerade had embelliſhed his houſe and gardens, where every thing ſavoured of his poetical genius. The bark of the trees were full of his inſcriptions: and amongſt others, he remembers the firſt which preſented itſelf was as follows:

Adieu fortune, honneurs, adieu, vous et les votres,
Je viens ici vous oublier;
Adieu toi-meme amour, bien plus que les autres
Difficile a congedier.

Fortune and honours, all adieu,
And whatſoe'er belongs to you.

I to this retirement run,
All your vanities to ſhun.
Thou too adieu, O powerful love;
From thee 'tis hardeſt to remove.

Mr Voltaire is of opinion that theſe inſcriptions were the beſt of his productions, and he regrets that they have not been collected.

Benſerade ſuffered at laſt ſo much from the ſtone, that, notwithſtanding his great age, he reſolved to ſubmit to the operation of cutting. But his conſtancy was not put to this laſt proof; for a ſurgeon letting him blood, by way of precaution, pricked an artery, and, inſtead of endeavouring to ſtop the effuſion of blood, ran away. There was but juſt time to call F. Commire, his friend and confeſſor, who came ſoon enough to ſee him die. This happened the 19th of October 1691, in the 82d year of his age.

BENSHEIM, a town of Germany in the Palatine of the Rhine, ſeated in E. Long. 8. 45. N. Lat. 52. 23.

BENSON (Dr George), a learned diſſenting miniſter, born at Great Salkeld, in Cumberland, in 1699. His love of learning was ſo ſucceſsful, that, at 11 years of age, he was able to read the Greek Teſtament. He afterwards ſtudied at Dr Dixon's academy at Whitehaven, from whence he removed to the univerſity of Glaſgow. In 1721, he was choſen paſtor of a congregation of Diſſenters at Abingdon in Berkſhire; in 1729, he received a call from a ſociety of Diſſenters in Southwark, with whom he continued 11 years; and in 1740, was choſen by the congregation of Crutched Friars, colleague to the learned and judicious Dr Lardner. From the time of his engaging in the miniſtry he propoſed to himſelf the critical ſtudy of the Scriptures, particularly of the New Teſtament, as a principal part of his buſineſs. The firſt fruits of theſe ſtudies which he preſented to the public was, A Defence of the reaſonableneſs of Prayer, with a Tranſlation of a Diſcourſe of Maximus Tyrius containing ſome popular Objections againſt Prayer, and an Anſwer to theſe. The light which Mr Locke had thrown on the obſcureſt parts of St Paul's epiſtles, by making him his own expoſitor, encouraged and determined Mr Benſon to attempt to illuſtrate the remaining epiſtles in the ſame manner. In 1731, he publiſhed A Paraphaſe and Notes on the Epiſtle to Philemon, as a ſpecimen. This was well received, and the author encouraged to proceed in his deſign. With the epiſtle to Philemon was publiſhed "A ſhort diſſertation, to prove from the ſpirit and ſentiments the apoſtle diſcovered in his epiſtles, that he was neither an enthuſiaſt nor impoſtor; and conſequently that the religion which he aſſerted he received immediately from heaven, and confirmed by a variety of miracles, is indeed divine." This argument hath ſince been improved and illuſtrated, with great delicacy and ſtrength, in a review of the apoſtle's entire conduct and character by Lord Littleton. Mr Benſon proceeded with great diligence and reputation to publiſh Paraphraſes and Notes on the two Epiſtles to the Theſſalonians, the firſt and ſecond to Timothy, and the Epiſtle to Titus; adding, Diſſertations on ſeveral important Subjects particularly on Inſpiration. In the year 1735, our author publiſhed his Hiſtory of the firſt Planting of Chriſtianity, taken from the Acts of the Apoſtles, and their Epiſtles, in 2 vols. 4to. In this work, beſides illuſtrating throughout the hiſtory of the Acts and moſt of the epiſtles, by a view of the hiſtory of the times, the occaſion of the ſeveral epiſtles, and the ſtate of the churches to whom they were addreſſed he eſtabliſhed the truth of the Chriſtian religion on a number of facts, the moſt public, important, and inconteſtable. He alſo wrote, The reaſonableneſs of the Chriſtian Religon; The Hiſtory of the Life of Jeſus Chriſt; A Paraphraſe and Notes on the ſeven Catholic Epiſtles; and ſeveral other works which procured him great reputation. One of the univerſities in Scotland ſent him a diploma with a doctor's degree; and many of high rank in the church of England, as Herring, Hoadley, Butler, Benſon, Coneybeare, &c. ſhowed him great marks of favour and regard. He purſued the ſame ſtudies with great application and ſucceſs till the time of his death, which happened in the year 1763, in the 64th year of his age.

BENTHAM (Thomas), biſhop of Litchfield and Coventry, was born at Shirburn in Yorkſhire in the year 1513, and educated in Magdalen college Oxford. He took the degree of bachelor of arts in 1543, and in 1546 was admitted perpetual fellow, and proceeded maſter of arts the year following, which was that of Edward VI.'s acceſſion to the crown. He now threw off the maſk of Popery, which during the equivocal reign of Henry VIII. he had worn with reluctance. When Mary came to the crown, being deprived of his fellowſhip by her viſitors, he prudently retired to Baſil in Switzerland, where for ſome time he expounded the Scriptures to the Engliſh exiles in that city; but, being ſolicited by ſome Proteſtants in London, he returned to London before the death of the Queen, and was appointed ſuperintendant of a private congregation in the city. Immediately on the acceſſion of Elizabeth, Bentham was preferred in the church, and in the ſecond year of her reign was conſecrated biſhop of Litchfield and Coventry. He died at Eccleſhal in Staffordſhire in 1578, aged 65. He was buried in the chancel of the church there: and a monument was erected, with the effigy of himſelf, his wife, and four children, with the following inſcription:

Hac jacet in tumba Benthamus, epiſcopus ille
Doctus, divinus, largus, paſcens, pius, almus.
Ob. 19. *Feb.* 1578.

Biſhop Bentham had the character of a pious and zealous reformer, and was particularly celebrated for his knowledge of the Hebrew language. His works are, 1. Expoſition of the Acts of the Apoſtles; manuſcript. 2. A Sermon on Chriſt's Temptation; Lond. 8vo. 3. Epiſtle to M. Parker: manuſcript. 4. The Pſalms, Ezekiel, and Daniel, tranſlated into Engliſh in Queen Elizabeth's Bible.

BENTIVOGLIO (Guy), cardinal, born at Ferrara, in the year 1579, He went to ſtudy at Padua, where he made a conſiderable proficiency in polite literature. Upon his leaving the univerſity, he went to reſide at Rome, where he became univerſally eſteemed. He was ſent nuncio to Flanders, and then to France; in both which employments his behaviour was ſuch as gave great ſatisfaction to Paul V. who made him a cardinal, which was the laſt promotion he made, a little before his death, which happened on the 28th of January 1621. Bentivoglio was at this time in France, where Louis XIII. and all the French court congratulated him on his new dignity; and when he returned to Rome, his Chriſtian majeſty entruſted him with the management of the French affairs at that court. Pope Urban VII. had a high regard for him on account of his fidelity, diſintereſtedneſs, and conſummate knowledge in buſineſs. He was beloved by the people, and eſteemed by the cardinals; and his qualities were ſuch, that in all probability he would have been raiſed to the pontificate on the death of Urban, which happened on the 29th of July 1644; but having gone to the conclave during the time of the moſt intolerable heats at Rome, it affected his body to ſuch a degree, that he could not ſleep for 11 nights afterwards; and this want of reſt threw him into a ſever, of which he died the 7th of September 1644, aged 65. He has left ſeveral works; the moſt remarkable of which are, A Hiſtory of the Civil Wars of Flanders, An Account of Flanders, with Letters and Memoirs.

BENTIVOGLIO, a ſmall town of Italy in the territory of Bologna, with a caſtle, ſituated in E. Long. 11. 34. N. Lat. 44. 47.

BENTLEY (Richard), an eminent critic and divine, was born at Oulton, in the pariſh of Rothwell, near Wakefield, England. His anceſtors, who were of ſome conſideration, poſſeſſed an eſtate, and had a ſeat at Hepenſtall, in the pariſh of Halifax. His grandfather James Bentley was a captain in King Charles the I.'s army at the time of the civil wars; and being involved in the fate of his party, had his houſe plundered, his eſtate confiſcated, and was himſelf carried priſoner to Pomfret Caſtle, where he died. Thomas Bentley, the ſon of James, and father of Dr Bentley, married the daughter of Richard Willis of Oulton, who had been a major in the royal army. This lady, who was a woman of exceeding good underſtanding, taught her ſon Richard his accidence. To his grandfather Willis, who was left his guardian, he was in part indebted for his education; and having gone through the grammar ſchool at Wakefield with ſingular reputation, both for his proficiency and his exact and regular behaviour, he was admitted of St John's college Cambridge, under the tuition of Mr Johnſon, on the 24th of May 1676; being then only four months above 14 years of age. On the 22d of March 1681-2, he ſtood candidate for a fellowſhip, and would have been unanimouſly elected, had he not been excluded by the ſtatutes on account of his being too young for prieſt's orders. He was then a junior bachelor, and but little more than 19 years old. It was ſoon after this that he became a ſchoolmaſter at Spalding. But that he did not continue long in this ſituation is certain from a letter of his grandfather Willis's, ſtill preſerved in the family, from which it appears, that he was with Dr Stillingfleet at the Deanery of St Paul's on the 25th of April 1683. He had been recommended by his college to the Dean as preceptor to his ſon; and Dr Stillingfleet gave Mr Bentley his choice whether he would carry his pupil to Cambridge or Oxford. He fixed upon the latter univerſity on account of the Bodleian library, to the conſulting of the manuſcripts of which he applied with the cloſeſt attention. Being now of age, he made over a ſmall eſtate which he derived from his family to his elder brother, and immediately laid out the money he obtained for it in the purchaſe of books. In July 1683, he took the degree of Maſter of Arts at St John's college Cambridge. In 1692, his patron being advanced to the ſee of Worceſter, collated him to a prebend in that church, and alſo made him his domeſtic chaplain. That learned prelate, as well as Dr Will. Lloyd, then biſhop of Litchfield, had ſeen many proofs of our author's extraordinary merit, when they concurred in recommending him as a fit perſon to open the lectures upon Mr Boyle's foundation in defence of natural and revealed religion. This gave him a fine opportunity of eſtabliſhing his fame. He ſaw it well; and reſolved to puſh it to the utmoſt. Sir Iſaac Newton's *Principia* had been publiſhed but a few years, and the book was little known and leſs underſtood. Mr Bentley therefore determined to ſpare no pains in diſplaying to the beſt advantage the profound demonſtrations which that excellent work furniſhed in proof of a Deity; and that nothing might be wanting to complete the deſign, he applied to the author, and received from him the ſolution of ſome difficulties which had not fallen within the plan of his treatiſe[*]. In ſhort, our author's ſermons at Boyle's lectures were univerſally admired, and highly raiſed his reputation as a preacher; notwithſtanding that eſcape which laid him open to the raillery of Dr Kiel, *viz.* of proving the moon not to turn round her axis becauſe ſhe always ſhows the ſame face to the earth. In 1693, he was made keeper of the royal library at St James's.

In the following year aroſe the famous diſpute between him and the honourable Mr Boyle, in relation to the epiſtles of Phalaris; of which Mr Boyle had publiſhed a very fine edition, with a Latin verſion of the text. Theſe epiſtles the Dr aſſerted to be ſpurious, the production of ſome ſophiſt, and altogether contemptible as a literary performance. The principal pieces which appeared in this noted controverſy were, 1. Dr Bentley's diſſertation upon the epiſtles of Themiſtocles, Socrates, Euripides, Phalaris, and the Fables of Æſop, at the end of the ſecond edition of Mr Wotton's Reflections on Ancient and Modern Learning: but afterwards printed by Dr Bentley entire, and added with great additions to his farther defence of it, in anſwer to Mr Boyle. 2. "Dr Bentley's Diſſertation on the Epiſtles of Phalaris and the Fables of Æſop examined by the Honourable Charles Boyle, Eſq." a book more commonly known by the title of *Boyle againſt Bentley*. 3. Dr Bentley's Anſwer to the above, commonly known by the name of *Bentley againſt Boyle*, a curious piece, interſperſed with a great deal of true wit and humour. From the caprice or partiality of the age the victory was adjudged to Mr Boyle, and the ridicule of the wits exerciſed upon Dr Bentley. Thus Dr Garth, in the Diſpenſary

So Diamonds take a luſtre from their foil,
And to a BENTLEY *'tis we owe a* BOYLE.

Dr Bentley had alſo ſome wags who were his enemies *even* at Cambridge, who drew his picture in the hands of Phalaris's guards, who were putting him into their maſter's bull, and out of the Doctor's mouth came a label with theſe words, *I had rather be* ROASTED *than* BOYLED. And Dean Swift, in his Tale of a Tub, has ſome ſtrokes at Dr Bentley upon this occaſion, but more eſpecially in his Battle of the Books, where, on account of Dr Bentley's diſſertation of Phalaris, &c. being annexed to Mr Wotton's reflections on learning, and their being great friends, he makes Mr Wotton and Dr Bentley, ſtanding ſide by ſide, in each others defence, to be both tranſfixed to the ground by one ſtroke of the javelin of Mr Boyle, and this he heightens by the ſimile of a cook's ſpitting a brace of woodcocks. Nay, ſo ſtrong is the influence of literary prejudice and faſhion, that many even of Dr Bentley's friends conſidered Boyle's Examination as unanſwerable. Nor could they be convinced of the contrary, till the Doctor, firſt aſking them where it was ſo impregnable, and confuting one article after another upon the ſpot, as faſt as they inſtanced, aſſured them it was all of the ſame kind. This he effectually ſhowed in his anſwer. It now, however, ſeems to be the ſettled opinion of the literary world, that the Doctor has not only the evident advantage in reſpect of learning and argument, but that he is little, if at all, inferior to his antagoniſt in point of wit and ſmartneſs. It may not, however, be amiſs to recite a few teſtimonies on the ſubject. Mr Walpole, ſpeaking of Mr Boyle's tranſlation of the Epiſtles of Phalaris, ſays, "This work occaſioned the famous controverſy with Dr Bentley;—who alone, and unworſted, ſuſtained the attacks of the brighteſt geniuſes in the learned world, and whoſe fame has not ſuffered by the wit to which it gave occaſion." Mr Towers, in his Britiſh Biography, expreſſes himſelf in the following terms: "In the controverſy between him and Mr Boyle, the popular clamour, indeed, was in favour of the latter; but Bentley's is unqueſtionably a much more valuable performance than that of Boyle. The latter, conſidered as a mere Engliſh compoſition, has the advantage in point of ſtyle; and pleaſed the generality, by the perſonal ſatire which it contained againſt Dr Bentley, who had many enemies. But Bentley had greatly the ſuperiority with reſpect to juſt reaſoning, critical ſagacity, and extent of learning; and his vindication of himſelf alſo contained many ſhrewd and ſarcaſtical ſtrokes againſt Mr Boyle and his performance. Much has been ſaid in favour of Mr Boyle, as a genteel and polite writer; and it muſt be confeſſed, that Dr Bentley's manner was often too aſſuming, and that he was deficient in point of civility. But notwithſtanding this, there was, perhaps, a much greater want of real candour and politeneſs, whatever affectation of them there might be, in the very contemptuous and unfair manner in which Dr Bentley was treated throughout Mr Boyle's book, than in any thing which Bentley had ſaid againſt Boyle. Bentley, with all his foibles, was too reſpectable a character to be a proper ſubject of ſuch treatment; though Swift, Garth, and Pope, have joined in countenancing the popular prejudices againſt him. Mr Dodwell, who reſided at Oxford during the controverſy, who made himſelf in ſome ſort a party in it, and who had a very particular court paid to him by the Chriſt-Church men, declared to them that he never learned ſo much from any book of the ſize in his life, as he had done from Dr Bentley's Anſwer to Boyle.

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[*] Vid. *Four Letters from Sir Iſaac Newton to Dr Bentley.* Lond. 1756.

In 1696, at the public commencement, Mr Bentley had been created Doctor of Divinity by the univerſity of Cambridge; and ſome time thereafter admitted, *ad eundem*, in the univerſity of Oxford.

In 1700 he was preſented to the maſterſhip of Trinity college, Cambridge, which is reckoned worth near 1000l. *per annum*. Upon this promotion he reſigned his prebend of Worceſter; and in 1701, was collated to the archdeaconry of Ely. Being thus placed in a ſtate of eaſe and affluence, he entered into matrimony, and indulged his inclination in critical purſuits; and the fruits of his labours, which he occaſionally publiſhed, all diſplayed ſuch erudition and ſagacity, that, by degrees, he obtained the character of being the greateſt critic of the age. In the mean while, however, he carried matters with ſo high a hand in the government of his college, that, in 1709, a complaint was brought before the biſhop of Ely, as viſitor, againſt him, by ſeveral of the fellows, who charged him with embezzling the college money, and other miſdemeanors. In anſwer to this, he preſented his defence to the biſhop, which he publiſhed in 1710, under the title of *The preſent State of Trinity College*, 8vo; and thus began a quarrel, which was carried on with the moſt virulent animoſity on each ſide, for above 20 years, when it at laſt ended in the Doctor's favour. In 1716, upon the death of Dr James, he was appointed regius profeſſor of divinity in the former univerſity; annexed to which was a good benefice in the biſhopric of Ely. His majeſty King George I. on a viſit to the univerſity in 1717, having, as uſual, nominated by mandate ſeveral perſons for a doctor's degree in divinity, our profeſſor, to whoſe office it belonged to perform the ceremony called *creation*, demanded four guineas from each perſon, beſides a broad piece of gold, and abſolutely refuſed to create any doctor without theſe fees: hence there aroſe a long and warm diſpute, during which, the doctor was firſt ſuſpended, and then degraded; but on a petition to his Majeſty for relief from that ſentence, the affair was referred to the Court of King's Bench, where the proceedings againſt him being reverſed, a mandamus was iſſued, charging the univerſity to reſtore him. With regard to Dr Bentley's long diſpute with his college, Mr Whiſton repreſents his having been induced, in a ſingle inſtance, after four years of unexceptionable conduct, to recede from the excellent rule of *detur digniori*, in the election to a fellowſhip, as the firſt falſe ſtep which led to others, and was very prejudicial to his own happineſs. A conciſe and accurate account of his controverſies with his college and the univerſity, and of the publications which appeared on theſe occaſions, may be ſeen in Mr Gough's anecdotes of topography. There are likewiſe, in the Harleian collection of manuſcripts in the Britiſh Muſeum, N° 7523, ſome authentic papers, relative to the proceedings of the univerſity againſt Dr Bentley.—Dr Bentley was endowed with a natural hardineſs of temper, which enabled him to ride out both theſe ſtorms without any extraordinary diſturbance, or interruption to his literary purſuits. In his private character, tho' he is generally allowed to have been too fond of money, he was hearty, ſincere, and warm in his friendſhip, an affectionate huſband, and a moſt indulgent father. He loved hoſpitality and reſpect; maintained the dignity and munificence of the ancient abbots in houſe-keeping at his lodge, which he beautified; and, in converſation, tempered the ſeverity of the critic with ſuch a peculiar ſtrain of vivacity and pleaſantry, as was very entertaining. He died at his lodge in Trinity college, on the 14th of July 1742, at 80 years of age. To his lateſt hour he could read the ſmalleſt Greek Teſtament without ſpectacles; and he died of a young man's diſorder, a pleuretic fever. He was of a large and robuſt frame of body, and of ſtrong features. Theſe gave a dignity, perhaps a ſeverity, to his aſpect, which probably heightened the opinion many had conceived of the haughtineſs and roughneſs of his temper. But, in fact, he was of ſo tender a diſpoſition, that he never read a touching ſtory without tears. It was not, indeed, till after he had been afflicted with a ſlight paralytic ſtroke, that this particular effect of the ſoftneſs of his nature was in every caſe apparent; ſo that it may poſſibly be imputed, in ſome degree, to his diſorder. It is however, certain, that previous to that event, he was endued with great tenderneſs and ſenſibility. In the conteſt about the viſitatorial power, when he met Biſhop Moore, he was ſo ſtruck with ſeeing his old friend appear in a hoſtile manner againſt him, that he fainted away in the court.

When we conſider the great abilities and uncommon erudition of which Dr Bentley was poſſeſſed, it reflects ſome diſgrace on our country, ſays Dr Kippis, that even his literary reputation ſhould be ſo long treated with contempt; that he ſhould be repreſented as a mere verbal critic, and as a pedant without genius. The unjuſt light in which he was placed, was not entirely owing to the able men who oppoſed him in the Boylean controverſy; it aroſe, perhaps, principally from the poets engaging on the ſame ſide of the queſtion, and making him the object of their ſatire and ridicule. The "flaſhing Bentley" of Pope will be remembered and repeated by thouſands who know nothing of the Doctor's real merit. Having mentioned this epithet, we ſhall add the candid note of the poet's right reverend editor. "This great man, with all his faults, deſerved to be put into better company. The following words of Cicero deſcribe him not amiſs: "*Habuit a natura genus quoddam acuminis, quod etiam arte limaverat, quod erat in reprehendis verbis verſutum et ſolers; ſed ſæpe ſtomachoſum nonnunquam frigidum, interdum etium facetum.*" In the fourth book of the Dunciad, Mr Pope introduces our critic at greater length, and with ſtill greater ſeverity. Perhaps it may be found, that the aſperity of Mr Pope was not entirely owing to the combination of certain wits and poets againſt Dr Bentley, but to perſonal reſentment. We are told that Biſhop Atterbury, having Bentley and Pope both at dinner with him, inſiſted on knowing what opinion the Doctor entertained of the Engliſh Homer. He for ſome time eluded the queſtion: but at laſt, being urged to ſpeak out, he ſaid, "The verſes are good verſes, but the work is not Homer, it is Spondanus." It muſt, indeed, be acknowledged, that one cauſe of Dr Bentley's having enemies, was his not always bearing his faculties with ſufficient meekneſs. He appears to have had a conſiderable degree of literary pride, and to have ſpoken of himſelf and others with uncommon freedom. Mr Whiſton informs us of the Doctor's having ſaid, "That when he himſelf ſhould be dead, Waſſe would be the moſt learned man in England." Dr Salter, who was extremely devoted to the memory of Dr Bentley, confeſſed that he was remarkable for his *faſtus*, eſpecially towards his equals, and for ſpeaking highly of himſelf. But at the ſame time, he is deſcribed by Dr Salter as having been a very amiable and pleaſant man in private life, and as poſſeſſing much good nature, though he hath been otherwiſe repreſented. This account agrees with the moſt authentic information from different quarters. It is related of Dr Bentley, that he uſed to pull off his hat to the younger ſtudents, but would not do it to the fellows of his college. Being aſked the reaſon for making this difference, he anſwered, "That the young ones might come to ſomething; but for the others, they never could be good for any thing."

The Doctor's principal works, beſides thoſe already mentioned, were, 1. His animadverſions and remarks on the poet Callimachus. 2. Annotations on the two firſt Comedies of Ariſtophanes. 3. Emendations, &c. on the Fragment of Menander and Philemon. 4. Remarks upon Collins's diſcourſe of Free-thinking. 5. Beautiful and correct editions of Horace, Terence, Phædrus, and Milton with notes.

In 1721 he publiſhed propoſals for printing a new edition of the Greek Teſtament, and St Hierom's Latin verſion; in which edition he intended to make no uſe of any manuſcript that was not at leaſt 1000 years old. Upon theſe propoſals Dr Middleton publiſhed ſome remarks; and the work never made its appearance. "If Dr Middleton's attack contributed to this event (Dr Kippis obſerves), he certainly did no little diſſervice to the cauſe of ſacred literature. The completion of Dr Bentley's noble undertaking was the principal employment of the latter part of his life. He had collected and collated all the manuſcripts of Europe to which acceſs could be obtained. For this purpoſe, his nephew, Thomas Bentley, L. L. D. well known in the republic of letters, travelled through Europe at his uncle's expence. The work was of ſuch magnitude, that he found it neceſſary, for the firſt time to publiſh propoſals for printing it by ſubſcription. The whole was completed for publication; and he had received 2000l. in part of the ſubſcription, all of which he returned to the ſubſcribers when he took the reſolution of not letting it appear in the world during his own life. The work is now in the poſſeſſion of his executor Dr Richard Bentley, one of the ſenior fellows of Trinity College, and rector of Nailſton near Aſhby in Leiceſterſhire; and it is hoped that at ſome future period it may ſee the light.—Other valuable remains of Dr Bentley are ſtill in exiſtence; ſome of which are in the hands of his executor, and ſome in thoſe of Mr Cumberland his grandſon. The latter gentleman is poſſeſſed of the Doctor's claſſic books, with his marginal notes. From theſe notes Mr Cumberland hath publiſhed an edition of Lucan; which, though not perfect throughout, is full and complete with regard to the four firſt books. The ſame gentleman has a Homer of our great critic's, with many marginal notes and corrections, preparatory to an edition of it which he intended to have given. Dr Bentley's critical correſpondence with his numerous literary acquaintance, which muſt be very inſtructive and entertaining, is not only preſerved, but deſigned to be laid before the public."

The Doctor's publication of Milton, it is ſaid, was owing to Queen Caroline. Her majeſty repreſented to him that he had printed no edition of an Engliſh claſſic, and urged him to undertake Milton. His notes upon this great poet have been the worſt received of any of his critical performances. The learned Biſhop

Newton ſpeaks of them with conſiderable ſeverity, intermixed, however, with ſome applauſe.

BENZOIN, in materia medica, a concrete reſinous juice, obtained from a ſpecies of ſtyrax. See Styrax.

BERAMS, a coarſe cloth, all made with cotton-thread, which comes from the Eaſt Indies, and particularly from Surat.

BERAR, a province of Aſia, in the dominions of the Great Mogul, near the kingdom of Bengal. It abounds in corn, rice, pulſe, and poppies, from which laſt they extract opium; and ſugar-canes grow almoſt without cultivation. The capital town is called *Shapour*.

BERAUM, a royal city of Bohemia, and capital of a circle of the ſame name. E. Long. 14. 25. N. Lat. 50. 2.

BERAY, a town of Normandy in France, ſituated in W. Long. 1. 20. N. Lat. 49. 6.

BERBERIS, the barberry, or *pipperidge buſh*: A genus of the monogynia order, belonging to the hexandria claſs of plants; the characters of which are: The calyx conſiſts of ſix leaves; the petals are ſix, with two glands at the ungues; it has no ſtylus; and the berry contains two ſeeds.

Species. 1. The vulgaris, or common barberry, grows naturally in hedges in many parts of England, as alſo in ſome parts of Scotland; but is alſo cultivated in gardens on account of its fruit, which is pickled and uſed for garniſhing diſhes. It riſes to the height of eight or ten feet, with many ſtalks, which have a white bark, yellow on the inſide. The ſtalks and branches are armed with ſharp thorns, which commonly grow by threes; the leaves are oval, obtuſe, and ſlightly ſawed on their edges. The flowers come out from the wings of the leaves in ſmall ramoſe bunches, like thoſe of the currant buſh, and are of a yellow colour; theſe are ſucceeded by oval fruit, which are at firſt green, but when ripe turn to a fine red colour. The flowers appear in May, and the fruit ripens in September. There are two or three varieties of this ſhrub, which by ſome have been taken for diſtinct ſpecies; one is the barberry without ſtone; another, the barberry with white fruit; and the third is called by Tournefort *taller eaſtern barberry*, with a black ſweet fruit. Of theſe Mr Miller obſerves, that the firſt certainly depends on the age of the plant; becauſe the ſuckers taken from thoſe buſhes commonly produce fruit with ſtones: the ſecond, he ſays, ſeldom bears any fruit; the leaves are of a lighter green colour, and the bark of the ſtalks are whiter than thoſe of the common kind: the third appears to be the ſame with the common ſort, excepting the colour and flavour of its fruit, which can never indicate a ſpecific difference. 2. The canadenſis, is a native of that country from whence it takes its name, and was formerly much more common in Britiſh gardens than at preſent. The leaves are much broader and ſhorter than thoſe of the common ſort, and the fruit is black when ripe. 3. The cretica, with a ſingle flower in each footſtalk, is at preſent very rare in Britain; the plants being tender whilſt young, and moſt of them killed by ſevere froſt. This never riſes more than three or four feet high in Britain; but ſends out many ſtalks from the root, which are ſtrongly armed with ſpines at every joint: the leaves are produced without order, and are ſhaped like thoſe of the narrow-leaved box-tree: the flowers come out from between the leaves, each having a ſlender footſtalk; but they are not ſucceeded by fruit in Britain.

Culture. The firſt ſort is generally propagated by ſuckers, which are ſent out in great plenty from the root; but ſuch plants are very apt to ſend out ſuckers in greater plenty than thoſe that are propagated by layers; ſo the latter method is preferable. The beſt time for laying down the branches is in the autumn, when the leaves begin to fall: the young ſhoots of the ſame year are the beſt for this purpoſe; theſe will be well rooted by the next autumn, when they may be taken off, and planted where they are deſigned to remain. Where this plant is cultivated for its fruit, it ſhould be planted ſingle, not in hedges as was formerly the practice; the ſuckers ſhould be every autumn taken away, and the groſs ſhoots pruned out: by this means the fruit will be much fairer and in greater plenty than on thoſe that are ſuffered to grow wild. The other ſorts may be propagated in the ſame manner; only the third ſhould be planted in pots, and ſheltered as ſoon as the young ſhoots are taken off, till the plants have acquired ſtrength, when they may be turned out, and planted in a warm ſituation.

Medicinal and other qualities. The berries, which are ſo acid that birds will not feed upon them, are moderately aſtringent; and have been given with ſucceſs in bilious fluxes, and diſeaſes proceeding from heat, acrimony, and thinneſs of the juices. Among the Egyptians barberries are uſed in fluxes and in malignant fevers, for abating heat, quenching thirſt, raiſing the ſtrength, and preventing putrefaction: the fruit is macerated for a day and a night, in about 12 times its quantity of water, with the addition of a little fennel ſeed, or the like, to prevent offence to the ſtomach; the liquor ſtrained off, and ſweetened with ſugar or ſyrup of citrons, is given the patient liberally to drink. Proſper Alpinus, from whoſe treatiſe *De Medicina Ægyptorum* Dr Lewis extracted this account, informs us, that he took this medicine himſelf with happy ſucceſs, in a peſtilential fever accompanied with an immoderate bilious diarrhœa. The leaves alſo are gratefully acid. The flowers are offenſive to the ſmell when near, but at a diſtance their odour is extremely fine. An infuſion of the bark in white-wine is purgative. The roots boiled in ley dye wool yellow. In Poland they dye leather of a moſt beautiful yellow with the bark of the root. The inner bark of the ſtems dyes linen of a fine yellow with the aſſiſtance of alum. This ſhrub ſhould never be permitted to grow in corn lands; for the ears of wheat that grow near it never fill, and its influence in this reſpect has been known to extend acroſs a field of 300 or 400 yards. Cows, ſheep, and goats, eat it; horſes and ſwine refuſe.

BERBICE, a river of Terra Firma in America, which falls into the North Sea, in S. Lat. 6. 30. This is the only river in the country, and waters a great number of plantations of cotton, &c. belonging to the Dutch.

BERCARIA, Berqueria, or *Berkeria*, in middle-age writers, denotes a ſheep-fold, ſheep cote, ſheep-pen, or other incloſure, for the ſafe keeping a flock of ſheep.—The word is abbreviated from *berbicaria*; of *berbex*, detorted from *vervex*. Hence alſo a ſhepherd was denominated *berbicarius* and *berquarius*.

BERCHEROIT, or Berkoits, a weight uſed at Archangel, and in all the Ruſſian dominions, to weigh ſuch merchandizes as are heavy and bulky. It weighs about 364 lib. Engliſh avoirdupois weight.

BERCHEM, or Berghem, (Nicholas), an excellent painter, was a native of Haerlem, and born in 1624. He received inſtructions from ſeveral very eminent maſters; and it was no ſmall addition to their fame that Berchem was their ſcholar. The charming pictures of cattle and figures by this admirable maſter are juſtly held in the higheſt eſtimation. He has been ſingularly happy in having many of them finely engraved by John Visscher, an artiſt of the firſt rank. Berchem had an eaſy expeditious manner of painting, and an inexpreſſible variety and beauty in the choice of ſites for his landſcapes; executing them with a ſurpriſing degree of neatneſs and truth. He poſſeſſed a clearneſs and ſtrength of judgment, and a wonderful power and eaſe in expreſſing his ideas; and although his ſubjects were of the lower kind, yet his choice of nature was judicious, and he gave to every ſubject as much of beauty and elegance as it would admit. The leafing of his trees is exquiſitely and freely touched; his ſkies are clear; and his clouds float lightly, as if ſupported by air. The diſtinguiſhing characters of the pictures of Berchem are, the breadth and juſt diſtribution of the light; the grandeur of his maſſes of light and ſhadow; the natural eaſe and ſimplicity in the attitudes of his figures, expreſſing their ſeveral characters; the juſt degradation of his diſtances; the brilliancy and harmony, as well as the tranſparence, of his colouring; the correctneſs and true perſpective of his deſign; and the elegance of his compoſition; and where any of thoſe marks are wanting, no authority ought to be ſufficient to aſcribe any picture to him. He painted every part of his ſubjects ſo extremely well, as to render it difficult to determine in which he excelled moſt; his trees, buildings, waters, rocks, hills, cattle, and figures, being all equally admirable.

BERCHETT (Peter), an eminent hiſtory-painter, was born in France in 1659, and at the age of 18 was employed in the royal palaces. He came to England in 1681, to work under Rambour, a French painter of architecture; but, after ſtaying a year, returned to Marli. He came again, and was ſent by King William to the palace he was building at Loo, where he was employed 15 months; and then came a third time to England, where he had ſufficient buſineſs. We are informed by Mr Walpole, that he then painted the ceiling of the chapel of Trinity college, Oxford, the ſtaircaſe at the Duke of Schomberg's in Pall-Mall, and the ſummer-houſe at Ranelagh. His drawings in the academy were much approved. Towards the cloſe of his life he retired to Marybone, where he painted only ſmall pieces of fabulous hiſtory, and died there in January 1720.

BERDASH, in antiquity, was a name formerly uſed in England for a certain kind of neck-dreſs; and hence a perſon who made or ſold ſuch neck-cloths was called a *berdaſher*, from which is derived our word *haberdaſher*.

BERECYNTHIA, the mother of the gods, in the Pagan theology.

BERENGARIANISM, a name given by eccleſiaſtical writers to the opinion of thoſe who deny the truth and reality of the body and blood of Chriſt in the euchariſt. The denomination took its riſe from Berengarius, archdeacon and ſcholiaſticus of the church of St Mary at Anjou about the year 1035, who maintained that the bread and wine, even after conſecration, do not become the true body and blood of our Lord, but only a figure and ſign thereof.

Berengarianiſm was ſtrenuouſly oppoſed by Lanfranc, Guitmond, Adelmannus, Albericus, &c. Divers ſynods were held, wherein the author was condemned at Rome, Verſailles, Florence, Tours, &c. He retracted, and returned again more than once; ſigned three ſeveral Catholic confeſſions of faith; the firſt in the ſecond council of Rome, the ſecond in the third, and the third in the fourth council of the ſame city. But he ſtill relapſed to his former opinion when the ſtorm was over; though Mabillon maintains he ſoon recovered from his fourth fall, and died an orthodox Catholic in 1088.

BERENICE, daughter of Ptolemy Auletes king of Egypt, ſucceeded her father before his death. This baniſhed prince implored the aſſiſtance of the Romans. Pompey reſtored him. Berenice, to ſupport herſelf on the throne, allured a prince, whoſe name was Seleucus, deſcended from the kings of Syria, and admitted him to her nuptial bed, and to her ſceptre. She was ſoon weary of him, and put him to death. She next caſt her eye on Archelaus, who married her, and put himſelf at the head of her troops to repulſe the Romans. He was killed in a battle. Ptolemy returned to Alexandria and put his rebellious daughter to death.

Berenice, wife of Ptolemy Evergetes king of Egypt, cut off her hair in purſuance of a vow, and conſecrated it in the temple of Venus. This depoſit being afterwards loſt, Connon the mathematician, in compliment to her, declared that the queen's locks had been conveyed to heaven, and compoſed thoſe ſeven ſtars near the tail of the bull, called to this day *coma Berenices*.

Berenice, daughter of Coſtobarus and of Salome ſiſter to Herod the Great, was married firſt to Ariſtobulus, ſon of the ſame Herod and Mariamne. He having a brother who married the daughter of Archelaus king of Cappadocia, often upbraided Berenice that he was married below himſelf in wedding her. Berenice related all theſe diſcourſes to her mother, and exaſperated her ſo furiouſly, that Salome, who had much power over Herod's mind, made him ſuſpect Ariſtobulus, and was the principal cauſe that urged this cruel father to get rid of him. She married again; and having loſt her ſecond huſband, went to Rome, and got into the favour of Auguſtus. But, above all, ſhe inſinuated herſelf into the good graces of Antonia, the wife of Druſus, which in the end proved of great ſervice to Agrippa.

Berenice, grand-daughter of the preceding, and daughter of Agrippa I. king of Judea, has been much talked of on account of her amours. She was betrothed to one Marcus, but he died before the marriage. Soon after, ſhe married his uncle Herod, who at the deſire of Agrippa, both his brother and father-in-law, was created king of Chalcis by the emperor Claudius. She loſt her huſband in the 8th year of the emperor Claudius; and in her widowhood, it was rumoured ſhe committed inceſt with her brother Agrippa. To put a ſtop to this report, ſhe offered herſelf in marriage to Polemon king of Cilicia, provided he would change his religion. He accepted her offers, was circumciſed, and married her. Berenice ſoon left him to follow her own ways, and he abandoned Judaiſm to return to his former religion. She was always very well with her brother Agrippa, and ſeconded him in the deſign of preventing the deſolation of the Jews. She got Titus into her ſnares; but the murmurs of the Roman people hindering her from becoming his wife, there remained nothing for her but the title of miſtreſs or concubine of the emperor. The French ſtage, in the 17th century, reſounded with the amours of Titus and Berenice.

Berenice (anc. geog.), the name of ſeveral cities, particularly of a celebrated port-town on the Sinus Arabicus: Now *Suez*; which ſee.

Berenice's Hair, Coma Berenices. See **Berenice**.

Bere-regis, a town in Dorſetſhire in England, in W. Long. 2. 15. N. Lat. 50. 40.

BERESOW, a diviſion of the province of Tobolſk in Siberia. It is bounded on the north by the ſtraits of Waigatz, on the eaſt by a large bay of the frozen ocean which runs into the land towards the ſouth, and at the 65th degree of latitude ſeparates into two arms; one of which is called the *Obſkaia-Guba*, or *Oby-bay*; and the other *Tazawſkaia-Guba*, or the bay of *Tazow*. The river Oby empties itſelf in the former, and the Taz into the latter. This diſtrict was under the Ruſſian dominion long before the other parts of Siberia were conquered, being reduced by the Czar Gabriel ſo early as the year 1530.

BEREWICHA, or **Berewica**, in old writers, denotes a village or hamlet belonging to ſome town or manor, ſituate at ſome diſtance therefrom.—The word frequently occurs in Doomſday-book: *Iſtæ ſunt berewichæ ejuſdem manerii.*

BERG, a duchy of Germany, in the circle of Weſtphalia. It is bounded on the north by the duchy of Cleves, on the weſt by the county of Mark and the duchy of Weſtphalia, on the ſouth by Weſteravia, and on the eaſt by the dioceſe of Cologne, from which it is ſeparated by the Rhine. It is about 150 miles in length, and 24 in breadth. It is very fruitful along the Rhine, but mountainous and woody towards the county of Mark. It is ſubject to the elector Palatine, but his right is diſputed by Pruſſia and Saxony. The principal town is Duſſeldorp; and the principal rivers, beſides the Rhine, are the Wipper, Agger, and Sieg.

Berg (St Winox), a town of the Low Countries, in the country of Flanders, fortified by Vauban, and ſubject to France. It is ſeated on the river Colme, ſix miles from Dunkirk, and 21 from Ypres. The air is often very unwholeſome, eſpecially to ſtrangers. It has an hoſpital for ſoldiers, taken care of by friars called *Bons Fieuz*, and two ſeminaries for young ſtudents. The river Colme ſerves inſtead of a canal to go to Hondſhot, St Omer's, and Gravelines. There is likewiſe another canal to go to Dunkirk. The villages in its territory are very famous for butter and cheeſe, of which they ſend a great quantity to Flanders. Fort Lapin and Fort Suiſſe are within a cannon's ſhot of this place, and Fort St Francis is ſeated on the canal, near three miles from the town. E. Long. 2. 35. N. Lat. 50. 57.

Berg-zabern, a town of France in Alſace. E. Long. 7. 55. N. Lat. 49. 4.

Berg-*Gruin*, in natural hiſtory, the name of an earth uſed in painting, and properly called *green okre*, tho' not known among the colour-men under that name. It is found in many parts of Germany, Italy, and England, commonly in the neighbourhood of copper-mines, from particles of which metal it receives its colour. In many parts of Germany, they have a purer kind of this, diſtinguiſhed by no peculiar name, but ſeparated by art from the waters draining from the coper-mines, and differing no otherwiſe from this native ſubſtance, than as the waſhed okres of Oxfordſhire, &c. do from theſe ſent us in their natural condition. The characters by which the native kind is known from other green earths, are theſe: it is a denſe compact ſubſtance, conſiderably heavy, and of a pale but not diſagreeable green; of a rough and uneven, but not duſty ſurface, and ſomewhat unctuous to the touch. It adheres firmly to the tongue; does not break eaſily between the fingers; nor at all ſtains the hands. It is of a brackiſh diſagreeable taſte, and does not ferment with acids.

BERGAMASCO, a province of Italy, in the territory of Venice. It is bounded on the eaſt by the Breſſan, on the north by the Valteline, on the weſt and ſouth by the Milaneſe. It extends about 36 leagues from north to ſouth, and 30 from eaſt to weſt. It is watered by ſeveral rivers which render it very fertile, and particularly it produces a great number of cheſnuts. It has mines of iron, and quarries of marble, and other ſtones of which they make milſtones. There are a great number of villages, but no city except Bergamo the capital. The people are very induſtrious, and make the beſt of their natural productions. They are well ſtocked with cattle, and make fine tapeſtry. Their language is the moſt corrupt of any in Italy.

BERGAMO (James Philip de), an Auguſtin monk, born at Bergamo in 1434, wrote in Latin a Chronicle from the creation of the world to the year 1503, and a treatiſe of Illuſtrious Women. He died in 1518.

Bergamo, anciently *Bergomum*, a large and ſtrong town of Italy, in the Venetian territory, and capital of the province of Bergamaſco. It has a ſtrong citadel, and is the ſee of a biſhop. Its ſituation near the Alps makes the inhabitants ſubject to ſwellings in their throats, owing to the badneſs of the Alpine waters. E. Long. 9. 38. N. Lat. 45. 42.

BERGAMOT, a ſpecies of citron, produced at firſt caſually by an Italian's grafting a citron on the ſtock of a bergamot pear-tree, whence the fruit produced by this union participated both of the citron-tree and the pear-tree. The fruit hath a fine taſte and ſmell, and its eſſential oil is in high eſteem as a perfume. The eſſence of Bergamot is alſo called *eſſentia de cedra*. It is extracted from the yellow rind of the fruit by firſt cutting it in ſmall pieces, then immediately ſqueezing the oil out of them into a glaſs veſſel. This liquor is an etherial oil. A water is diſtilled from the peel as follows: Take the outer rind of three bergamots, a gallon of pure proof-ſpirit, and four pints of pure water; draw off a gallon in a balneum mariæ, then add as much of the beſt white ſugar as will be agreeable. Or take of the eſſence of bergamot three drams and a half, of rectified ſpirit of wine three pints, of volatile ſal ammoniac a dram; diſtil off three pints in a balneum mariæ.

Bergamot is alſo the denomination of a coarſe tapeſtry, manufactured with flocks of ſilk, wool, cotton, hemp, ox, cow, or goat's hair, and ſuppoſed to be invented by the people of Bergamo in Italy.

BERGARAC, a very rich, populous, and trading town of France, ſeated on the river Dordogne, in E. Long. 0. 37. N. Lat. 50. 57.

BERGAS, a town of Romania, in European Turkey, and the ſee of a Greek archbiſhop. It is ſeated on the river Lariſſa, in E. Long. 27. 30. N. Lat. 41. 17.

BERGEN, anciently *Bergi*, a city of Norway, and capital of the province of Bergenhus. It is the ſee of a biſhop, and has a ſtrong caſtle and a good port. It is a large place, but is ſubject to fires, as being all built of wood. It is ſurrounded with mountains almoſt inacceſſible; and little or no corn grows in all the country; that which they uſe is all imported, and diſtributed from thence throughout the kingdom. The principal trade is in ſtock-fiſh, firs, and deal-boards. E. Long. 5. 45. N. Lat. 60. 11.

Bergen, a town of Pomerania in Germany, and capital of the Iſle of Rugen, ſubject to the Swedes. E. Long. 13. 0. N. Lat. 54. 30.

Bergen-op-zoom, a town of the Low Countries, in Dutch Brabant, and in the marquiſate of the ſame name. It is ſeated on an eminence, in the middle of a moraſs, about a mile and a half from the eaſtern branch of the Scheld, with which it has a communication by a navigable canal. The houſes are well built, and the market-places and ſquares handſome and ſpacious. The church before the laſt ſiege, was reckoned a good building, and ſo was the marquis's palace. It has a good tract of land under its juriſdiction, with ſeveral villages, and ſome iſlands in the Scheld. It has a very advantageous ſituation on the confines of Brabant, Holland, Zealand, and Flanders. It is ſtrong by nature as well as by art, being ſo ſecured by the moraſſes about it, which are formed by the river Zoom, that it was reckoned impregnable. It was, however, taken in 1747 by the French, but it its thought not without the help of treachery. The fortifications are allowed to be the maſter-piece of that great engineer Cohorn. It had been twice beſieged before without ſucceſs. The marquis of Spinola was the laſt but one who inveſted it, and he was forced to raiſe the ſiege with the loſs of 10,000 men. E. Long. 4. 15. N. Lat. 51. 30.

BERGHEM. See Berchem.

BERGHMONT, an aſſembly or court held upon a hill in Derbyſhire, for deciding controverſies among the miners.

BERGMAN (Sir Torbern), a celebrated and natural philoſopher, was born in the year 1735 at Catharineberg in Weſtgothland. His father was receiver-general of the finances, and had deſtined him to the ſame employment; but nature had deſigned him for the ſciences. To them he perceived an irreſiſtible inclination from his earlieſt years, and nature proved more powerful than the will of his friends. His firſt ſtudies were confined to mathematics and phyſics; and the efforts that were made to divert him from ſcience having proved ineffectual, he was ſent to Upſal with permiſſion to follow the bent of his inclination. Linnæus at that time filled the whole kingdom with his fame. Inſtigated by his example, the Swediſh youth flocked around him: and accompliſhed diſciples leaving his ſchool, carried the name and the ſyſtem of their maſter to the moſt diſtant parts of the globe. Bergman was ſtruck with the ſplendor of this renown; he attached himſelf to the man whoſe merit had procured it, and by whom he was very ſoon diſtinguiſhed. He applied himſelf at firſt to the ſtudy of inſects, and made ſeveral ingenious reſearches into their hiſtory; among others into that of the genus of *tenthredo*, ſo often and ſo cruelly preyed on by the larvæ of the ichneumons, that neſtle in their bowels and devour them. He diſcovered that the leech is oviparous; and that the coccus aquaticus is the egg of this animal, from whence iſſue ten or twelve young. Linnæus, who had at firſt denied this fact, was ſtruck with aſtoniſhment when he ſaw it proved. *Vidi et obſtupui!* were the words he pronounced, and which he wrote at the foot of the memoir when he gave it his ſanction. Mr Bergman ſoon diſtinguiſhed himſelf as an aſtronomer, naturaliſt, and geometrician; but theſe are not the titles by which he acquired his fame. The chair of chemiſtry and mineralogy, which had been filled by the celebrated Wallerius, becoming vacant by his reſignation, Mr Bergman was among the number of the competitors: and without having before this period diſcovered any particular attention to chemiſtry, he publiſhed a memoir on the preparation of alum that aſtoniſhed his friends as well as his adverſaries. Nobody was able to conceive how in ſo ſhort a time he could have made a courſe of experiments ſo complete, on a ſubject ſo new to him. His diſſertation was warmly attacked in the periodical publications, and Wallerius himſelf criticiſed without reſerve. But in the midſt of ſo many enemies, he poſſeſſed a firm friend. The prince Guſtavus, now king of Sweden, and then chancellor of the univerſity, took cognizance of the affair. After having conſulted two perſons, the moſt able to give him advice, and whoſe teſtimony went in favour of Bergman, he addreſſed a memorial, written with his own hand, in anſwer to all the grievances alleged againſt the candidate, to the conſiſtory of the univerſity and to the ſenate, who confirmed the wiſhes of his Royal Highneſs.

Mr Bergman had now a hard duty to fulfil: he had to ſatisfy the hopes that were conceived of him; to juſtify the opinion of Swab, to fill the place of Wallerius; and to put envy to ſilence. He did not follow the common tract in the ſtudy of chemiſtry. As he had received the leſſons of no maſter, he was tainted with the prejudices of no ſchool. Accuſtomed to preciſion, and having no time to loſe, he applied himſelf to experiments without paying any attention to theories: he repeated thoſe often which he conſidered as the moſt important and inſtructive, and reduced them to method; an improvement till then unknown. He firſt introduced into chemiſtry the proceſs by analyſis, which ought to be applied to every ſcience; for there ſhould be but one method of teaching and learning, as there is but one of judging well. Theſe views have been laid down by Mr Bergman in an excellent diſcourſe, which contains, if we may ſay ſo, his profeſſion of faith in what relates to the ſciences. It is here that he diſplays himſelf without diſguiſe to his reader; and here it is of importance to ſtudy him with attention. The productions of volcanoes had never been analyſed when Meſſrs Ferber and Troil brought a rich collection of theſe into Sweden. At the ſight of them Mr Bergman conceived the deſign of inveſtigating their nature. He examined firſt of all the matters leaſt altered by the fire, and the forms of which were ſtill to be diſcerned: he followed them in their changes progreſſively; he determined, he imitated their more complicated appearances; he knew the effects which would reſult from the mixture and decompoſition of the ſaline ſubſtances which are found abundantly in theſe productions. He diſcovered ſuch as were formed in the humid way; and then in his laboratory he obſerved the proceſs of nature; that combat of flames and exploſions; that chaos in which the elements ſeem to claſh and to confound one another, unveiled themſelves to his eyes. He ſaw the fire of volcanoes kindled in the midſt of pyritical combinations, and ſea-ſalt decompoſed by clays; he ſaw fixed air diſengaged from calcined calcareous ſtones, ſpreading upon the ſurface of the earth, and filling caverns in which flame and animal life are equally extinguiſhed; he ſaw the ſulphureous acid thrown out in waves, convert itſelf into the vitriolic by mere contact with the air; and diſtilling thro' the rocks, form the alum veins of the ſolfatara. He ſaw the bitumens as they melted; the inflammable and ſulphureous air exhaling; and the waters become mineral and impregnated with the fire and vapours of theſe ſtupendous furnaces, preparing for the beings that move and diſpute on the cruſt of the abyſs, a remedy for pain and a balſam for diſeaſe.

The continual application which Mr Bergman beſtowed on his ſtudies having affected his health, he was adviſed to interrupt them if he wiſhed to prolong his life: but he found happineſs only in ſtudy, and wiſhed not to forfeit his title to reputation by a few years more of inactivity and languor. He exhauſted his ſtrength, and died in the month of June in the year 1784. The univerſity of Upſal paid the moſt diſtinguiſhed honours to his memory; and the academy of Stockholm conſecrated to him a medal to perpetuate the regret of all the learned in Europe for his loſs. His Phyſical and Chemical Eſſays have been collected and tranſlated by Dr Edmund Cullen, and publiſhed in 2 vols 8vo.

BERGOMUM (anc. geog.), a town of the Tranſpadana, built by the Gauls on their incurſions into Italy. Now called *Bergamo*, in the territory of Venice. E. Long. 10. N. Lat. 45. 40.

BERIA, BERIE, *Berry*, ſignifies a large open field; and thoſe cities and towns in England which end with that word are built on plain and open places, and do not derive their names from boroughs as Sir Henry Spelman imagines. Moſt of our gloſſographers in the names of places have confounded the word *berie* with that of *bury* and *borough*, as if the appellative of ancient towns: whereas the true ſenſe of the word *berie* is a flat wide campaign, as is proved from ſufficient authorities by the learned Du Freſne, who obſerves that *Beria Sancti Edmundi*, mentioned by Mat. Pariſ. ſub. ann. 1174, is not to be taken for the town, but for the adjoining plain. To this may be added, that many flat and wide meads, and other open grounds, are called by the name of *beries* and *beryfields*: the ſpacious meadow between Oxford and Iſlay was in the reign of king Athelſtan called *Bery*; as is now the largeſt paſture ground in Quarendon in the county of Buckingham, known by the name of *Beryfield*. And though theſe meads have been interpreted demeſne or manor meadows, yet they were truly any flat or open meadows that lay adjoining to any villa or farm.

BERING (Sinus), of Copenhagen, a Latin lyric poet, flouriſhed about 1560.

BERINGS STRAITS, the name of that narrow diviſion of the Old and New World, where the breadth between Aſia and America is only 13 leagues. They are ſo named from Captain Vitus Bering, a Dane by birth, and employed on the ſame plan of diſcovery in theſe parts as the great navigator Cook was in the late voyage. He was in the ſervice of Peter the Great; who by the ſtrength of an extenſive genius, conceiving an opinion of the vicinity of America to his Aſiatic dominions, laid down a plan of diſcovery worthy of ſo extraordinary a monarch, but died before the attempt was begun; but his ſpirit ſurvived in his ſucceſſor. Bering, after a tedious and fatiguing journey through the wilds of Siberia, arrived at Kamtſchatka, attended with the ſcanty materials for his voyage, the greateſt part of which he was obliged to bring with him through a thouſand difficulties. He ſailed from the river of Kamtſchatka on July 15th 1728; and on the 15th of Auguſt ſaw Serdze Kamen, or the heart-ſhaped rock, a name beſtowed on it by the firſt diſcoverer.—From Serdze Kamen, to a promontory named by Captain Cook *Eaſt Cape*, the land trends ſouth-eaſt. The laſt is a circular peninſula of high cliffs, projecting far into the ſea due eaſt, and joined to the land by a long and very narrow iſthmus, in N. Lat. 66. 6. This is the Tſchutſki Noſs of our navigators, and forms the beginning of the narrow ſtraits or diviſion of the old and new world. The diſtance between Aſia and America in this place, as already mentioned, is only 13 leagues. The country about the cape, and to the north-weſt of it, was inhabited. About mid-channel are two ſmall iſlands, named by the Ruſſians the *Iſles of St. Diomedes*; neither of them above three or for leagues in circuit. It is extremely extraordinary that Bering ſhould have ſailed through this confined paſſage, and yet that the object of his miſſion ſhould have eſcaped him. His misfortune could only be attributed to the foggy weather, which he muſt have met with in a region notorious for miſts; for he ſays that he ſaw land neither to the north nor to the eaſt. The generous Captain Cook determined to give him every honour his merit could claim, has dignified theſe with the name of *Bering's Straits*. The depth of the greateſt ſtraits is from 12 to 29 or 30 fathoms. The greateſt depth is in the middle, which has a ſlimy bottom; the ſhalloweſt parts are near each ſhore, which conſiſts of ſand mixed with bones and ſhells. The current or tide very inconſiderable, and what there was came from the weſt. From Eaſt Cape the land trends ſouth by weſt. In Lat 65. 36. is the bay in which Captain Cook had the interview with the Tſchutſki. Immediately beyond is the bay of St. Laurence, about five leagues broad in the entrance and four deep, bounded at the bottom by high land. A little beyond is a large bay, either bounded by low land at the bottom, or ſo extenſive as to have the end inviſible. To the ſouth of this are two other bays; and in N. Lat. 64. 13. E. Long. 186. 36. is the extreme ſouthern point of the land of the Tſchutſki. This formerly was called the *Anadirſkoi Noſs*. Near it Bering had converſation with eight men, who came off to him in a *baidar* or boat covered with the ſkins of ſeals; from which Bering and others have named it the *Tſchutſki Noſs*.

BERITH, a ſimple mentioned in Scripture, uſed for cleanſing or taking out ſpots (Jer. ii. 22). Some will have it to be the *kali* or ſalt-wort, from the aſhes of which ſoap is made; and in our verſion it is rendered *ſoap*: others, after Rudbeck, made it to be the dye of the purple-fiſh.

BERKELEY (George), the celebrated biſhop of Cloyne, was the ſon of a clergyman in Ireland, diſtinguiſhed only by his piety and learning. He was educated at Trinity college in Dublin, of which he attained a fellowſhip. His firſt eſſays as a writer were publiſhed in the Spectator and Guardian, which entertaining works he adorned with many pieces in favour of virtue and religion. His learning and virtues, his wit and agreeable converſation, introduced him to the acquaintance, and procured him the eſteem and friendſhip, of many great and learned men; and among others the Earl of Peterborough, Dr Swift, and Mr Pope. The Earl made him his chaplain, and took him as his companion on a tour through Europe. During his abſence, he was elected ſenior fellow of his college; and created D. D. *per ſaltum*, in 1717.

Upon his return, his acquaintance among the great was extended. Lord Burlington, in particular, conceived a great eſteem for him on account of his great taſte and ſkill in architecture; an art of which his Lordſhip was an excellent judge and patron, and which Mr Berkeley had made his particular ſtudy while in Italy. By this nobleman he was recommended to the Duke of Grafton lord lieutenant of Ireland, who took him over to Ireland in 1721, after he had been abſent from his native country more than ſix years. In 1722, his fortune received a conſiderable increaſe from a very unexpected event. On his firſt going to London in the year 1713, Dean Swift introduced him to the family of Mrs Eſther Vanhomrigh (the celebrated Vaneſſa), and took him often to dine at her houſe. Some years before her death, this lady removed to Ireland, and fixed her reſidence at Cell-bridge, a pleaſant village in the neighbourhood of Dublin, moſt probably with a view of often enjoying the company of a man for whom ſhe ſeems to have entertained a very ſingular attachment. But finding herſelf totally diſappointed in this expectation, and diſcovering the Dean's connection with Stella, ſhe was ſo enraged at this infidelity, that ſhe altered her intention of making him her heir, and left the whole of her fortune, amounting to near 8000l. to be divided equally between two gentlemen whom ſhe named her executors; Mr Marſhal a lawyer, afterwards one of the judges of the court of common pleas in Ireland, and Dr Berkeley. The Doctor received the news of this bequeſt from Mr Marſhal with great ſurpriſe, as he had never once ſeen the lady who had honoured him with ſuch a proof of her eſteem from the time of his return to Ireland to her death. In 1724, the Doctor reſigned his fellowſhip; being promoted by his patron the Duke of Grafton to the deanery of Derry, worth 1100 l. *per annum*. In the interval between this removal and his return from abroad, his mind had been employed in conceiving a moſt benevolent and charitable plan for the better ſupplying of the churches in our foreign plantations, and converting the ſavage Americans to Chriſtianity, by erecting a college in the Summer Iſlands. The propoſal was well received; and he obtained a charter for the foundation, with a parliamentary grant of 20,000l. toward carrying it into execution: but he could never get the money; ſo that, after two years ſtay in America on this buſineſs, the deſign dropped. He was warmly engaged too, in concert with Swift, Bolingbroke, and others, in a ſcheme for eſtabliſhing a ſociety for the improvement of the Engliſh language, in imitation of the academy France. But Harley, the great patron of it, falling from power, this deſign too proved abortive. In 1728, the Dean entered into a marriage with Anne, the eldeſt daughter of the Right Honourable John Forſter, Eſq. ſpeaker of the Iriſh houſe of commons.

In the year 1734, he was advanced from the deanery of Derry to the biſhoprick of Cloyne, where he diſtinguiſhed himſelf by paſtoral vigilance and conſtant reſidence; and at once endeared himſelf to his people, by promoting their temporal and ſpiritual happineſs. He endeavoured by all means to raiſe a ſpirit of induſtry, and propagate the arts of cultivation and agriculture in that neglected country.

The earl of Cheſterfield, when he was lord lieutenant of Ireland, offered him a richer ſee; but he declined it, ſaying, his neighbours and he loved one another, and he could not think of forming new connections in his old days, and tearing himſelf from thoſe friends whoſe kindneſs to him was his greateſt happineſs. In 1752, however, finding the infirmities of age come upon him, and that he was unable to diſcharge the functions of his office, he retired to Oxford, there to ſpend the remainder of his days in converſation with learned men, and to ſuperintend the education of one of his ſons: And that the revenues of the church might not be miſapplied, nor the intereſts of religion ſuffer by his abſence from his dioceſe, he made great intereſt for leave to reſign his biſhopric, and to obtain in lieu of it a canonry of Chriſt-church. Failing of ſucceſs in this, he actually wrote over to the ſecretary of ſtate, to requeſt that he might have permiſſion to reſign his biſhopric, worth at that time at leaſt L. 1400 *per annum*. So uncommon a petition excited his Majeſty's curioſity to enquire who was the extraordinary man that preferred it: being told that it was his old acquaintance Dr Berkeley, he declared that he ſhould die a biſhop in ſpite of himſelf, but gave him full liberty to reſide where he pleaſed. The biſhop's laſt act before he left Cloyne was to ſign a leaſe of the demeſne lands in that neigbourhood, to be renewed yearly at the rent of L. 200, which ſum he directed to be diſtributed every year, until his return, among poor houſe-keepers of Cloyne, Youghal, and Aghadda. At Oxford he lived highly reſpected by the learned members of that great univerſity, till the hand of Providence unexpectedly deprived them of the pleaſure and advantage derived from his reſidence among them. On Sunday evening, January 14th 1753, as he was ſitting in the

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midſt of his family, liſtening to a ſermon of Dr Sherlock's which his lady was reading to him, he was ſeized with what the phyſicians termed a palſey in the heart, and inſtantly expired. The accident was ſo ſudden, that his body was quite cold, and his joints ſtiff, before it was diſcovered; as the biſhop lay on a couch, and ſeemed to be aſleep, till his daughter, on preſenting him with a diſh of tea, firſt perceived his inſenſibility. His remains were interred at Chriſtchurch, Oxford, where there is an elegant marble monument erected to his memory by his lady, who had during her marriage brought him three ſons and one daughter. As to his perſon, he was a handſome man, with a countenance full of meaning and benignity, remarkable for great ſtrength of limbs, and till his ſedentary life impaired it, of a very robuſt conſtitution. He was however often troubled with the hypochondria, and latterly with a nervous cholic. Mr Pope ſums up his character in one line: After he has mentioned ſome particular virtues that characterize other prelates, he aſcribes

To Berkeley ev'ry virtue under heav'n.

An admirable deſcription is given of him in the following anecdote. Biſhop Atterbury, having heard much of Mr Berkeley, wiſhed to ſee him. Accordingly he was one day introduced to that prelate by the Earl of Berkeley. After ſome time, Mr Berkeley quitted the room: on which Lord Berkeley ſaid to the biſhop, "Does my couſin anſwer your Lordſhip's expectations?" The biſhop, lifting up his hands in aſtoniſhment, replied, "So much underſtanding, ſo much knowledge, ſo much innocence, and ſuch humility, I did not think had been the portion of any but angels, till I ſaw this gentleman." His knowledge is ſaid to have even extended to the minuteſt objects, and included the arts and buſineſs of common life. Thus Dr Blackwell, in his Memoirs of the Court of Auguſtus, having made an obſervation, "that the ingenious mechanic, the workers in ſtone and metal, and improvers in trade, agriculture, and navigation, ought to be ſearched out and converſed with, no leſs than the profeſſors of ſpeculative ſcience," adds the following eulogium on our prelate: "In this reſpect I would with pleaſure do juſtice to the memory of a very great though ſingular ſort of a man, Dr Berkeley, better known as a philoſopher, and intended founder of an univerſity in the Bermudas, or Summer Iſlands, than as biſhop of Cloyne in Ireland. An inclination to carry me out on that expedition, as one of the young profeſſors, on his new foundation, having brought us often together, I ſcarce remember to have converſed with him on that art, liberal or mechanic, of which he knew not more than the ordinary practitioners. With the wideſt views, he deſcended into a minute detail, and begrudged neither pains nor expence for the means of information. He travelled through a great part of Sicily on foot; clambered over the mountains and crept into the caverns to inveſtigate its natural hiſtory, and diſcover the cauſes of its volcanoes: and I have known him ſit for hours in forgeries and founderies to inſpect their ſucceſſive operations. I enter not into his peculiarities either religious or perſonal: but admire the extenſive genius of the man, and think it a loſs to the weſtern world that his noble and exalted plan of an American univerſity was not carried into execution. Many ſuch ſpirits in our country would quickly make learning wear another face."

Berkeley.

He publiſhed many ingenious works, particularly, The Principles of Human Knowledge, the ſingular notions in which gave riſe to much controverſy: A new theory of viſion: Alciphron, or the minute philoſopher; one of the moſt elegant and genteel defences of that religion which he was born to vindicate both by his virtues and his ingenuity: and Siris, or a Treatiſe on tar-water, which, under his ſanction, became for a while a very popular medicine. In the Gentleman's Magazine for January 1777, it is ſaid that the Adventures of Signor Gaudentio di Lucca, have generally been attributed to biſhop Berkeley; and we have obſerved that this work is aſcribed to him by the bookſellers in their printed catalogues. It is a beautiful Utopian Romance, which was publiſhed between 30 and 40 years ago, and hath gone through ſeveral editions. What external evidence there is for its having been written by our ingenious prelate we cannot ſay; but we think that the book itſelf affords no internal evidence to the contrary. There are no ſentiments in it but what might be ſuppoſed to come from Dr Berkeley, allowing for the *coſtume* neceſſary to be preſerved in the work, according to the plan upon which it is formed. The beauty and ſingularity of imagination diſplayed in it, and the philanthropy and humanity with which it abounds, are perfectly ſuitable to the biſhop's character. The mode of government delineated in the Romance is agreeable to his ideas. It is the patriarchal, and repreſented as being admirably contrived for promoting the general happineſs. The deſcription, in particular, of the European diſcovered in the ſouthern wilds of Africa, and of his atrocious conduct, as ariſing from his being a modern free-thinker, is quite in Berkeley's ſtyle of thinking.

Biog. Brit.

BERKSHIRE, in an inland county of England, which contained the whole of that Britiſh principality inhabited by the Atrebatii, who are ſuppoſed to have been originally from Gaul. When Conſtantine divided the iſland into Roman provinces in 310, this principality was included in Britannia Prima, the firſt diviſion, whoſe boundaries were the Engliſh channel on the ſouth, and the Thames and Severn on the north. On the Romans quitting the iſland, and civil diſſentions enabling the Saxons to eſtabliſh the Heptarchy, this part of the country was included in the kingdom of the Weſt-Saxons, which commenced in 519, and continued till 828, when it became the only remaining ſovereignty, having conquered all the others, and they were incorporated by the name of England, under Egbert; whoſe grandſon, Alfred, a native of Wantage in this county, in 889 divided his kingdom into counties, hundreds, and pariſhes, and at that time this diviſion firſt received its appellation of Berkſhire or Berocſhire. At preſent it is in the Oxford circuit, the province of Canterbury, and dioceſe of Saliſbury. The general ſhape of it ſomewhat reſembles the form a ſlipper or ſandal. It contains an area of 654 ſquare miles, or 527,000 ſquare acres, is 39 miles long, 29 broad and is about 137 in circumference. It ſupplies 560 men to the national militia, is ſituated north-weſt from London, has 140 pariſhes, 62 vicarages, 12 market towns, but no city: 671

Berkſhire, Berlin. villages, 135,000 inhabitants, 11,560 houſes that pay the tax, is divided into 20 hundreds, ſends nine members to parliament, two for the county, two for Windſor, two for Reading, two for Wallingford, and one for Abingdon; and pays 10 parts of the proportion of the land-tax. Its principal river is the Thames. It alſo has the Kennet, great part of which is navigable: the Loddon, the Ocke, and the Lambourne, a ſmall ſtream, which, contrary to all other rivers, is always higheſt in ſummer, and ſhrinks gradually as winter approaches. The air of this county is healthy even in the vales; and though the ſoil is not the moſt fertile, yet it is remarkably pleaſant. It is well ſtored with timber, particularly oak and beech, and produces great plenty of wheat and barley. Its principal manufactures are wollen cloth, ſail cloth, and malt.

Its market towns are Abingdon, Faringdon, Hungerford, Eaſt-Ilſley, Lower-Lambourne, Maidenhead, Newbury, Ockingham, Reading, Wallingford, Wantage, and Windſor, remarkable for its royal caſtle, as the county is for White-horſe-hill, near Lambourne, where is the rude figure of a horſe, which takes up near an acre of ground on the ſide of a green hill, ſaid to have been made by Afred in the reign of his brother Ethelred, as a monument to perpetuate a victory over the Danes in 871, at Aſhdown now Aſhbury-Park.

The Roman Watling-ſtreet, from Dunſtable, enters Berkſhire at the village of Streatley, between Wallingford and Reading, and croſſing this county proceeds to Marlborough. Another Roman road from Hampſhire enters this county, leads to Reading and Newbury, the Spinæ of Cambden, where it divides: one branch extends to Marlborough in Wilts, and the other to Cirenceſter in Glouceſterſhire. A branch from the Icknield-ſtreet proceeds from Wallingford to Wantage.

There is a Roman camp near Wantage on the brow of a hill, of a quadrangular form; there are other remains of encampments at Eaſt-Hamſtead, near Ockingham, near White-horſe-hill, near Puſey, and upon Sinodun-hill, near Wallingford. At Lawrence Waltham is a Roman fort, and near Denchworth is Cherbury caſtle a fortreſs of Canute. Uffington caſtle, near White-horſe-hill, is ſuppoſed to be Daniſh; and near it is Dragon-hill, ſuppoſed to be the burying place of Uter Pendragon, a Britiſh prince. Near White-horſe-hill are the remains of a funeral monument of a Daniſh chief ſlain at Aſhdown by Alfred. In this county the following antiquities are worthy the notice of travellers: Abingdon church and abbey: Aldworth caſtle, near Eaſt Ilſley; Byſham monaſtery; Dunnington caſtle; Lambourne church; Reading abbey: Sunning chapel; Wallingford church and caſtle; Windſor caſtle beggars all deſcription for ſituation, &c. Berkſhire is an earldom belonging to a branch of the Howard family, the repreſentative being earl of Suffolk and Berkſhire.

BERLIN, a city of Germany, capital of the electorate of Brandenburg, and of the whole Pruſſian dominions, ſeated in E. Long. 13. 37. N. Lat. 52. 53. This city is one of the largeſt, beſt built, and beſt governed, of any in Germany. The ſtreets are large, ſtraight, clean, and well paved, and ſome of them very long and elegant. There are alſo ſeveral large and beautiful ſquares, with pleaſant walks. It is ſurrounded with handſome gardens, which produce excellent fruit. The river Spree, that croſſes the city, has a communication with the Havel Oder, and Elbe, which greatly facilitate commerce. The French refugees have greatly contributed to the embelliſhment of the grandeur of Berlin; inaſmuch as they have introduced all kinds of manufactures, and various arts.

Berlin. Berlin is divided into five parts, without reckoning the ſuburbs, which are very large. The houſes in theſe laſt are almoſt all of wood: but ſo well plaſtered, that they ſeem to be of ſtone. In the ſuburb called *Spandau* is a houſe belonging to the royal family, with well contrived apartments, and furniſhed in a very fine taſte. In the ſuburb of Stralau is a houſe and garden belonging to the king. The royal gate of the city is defended by a half moon, and two baſtions, covered with brick; it fronts the royal ſtreet, which is one of the longeſt and moſt frequented in the city. It contains very handſome houſes, particularly thoſe belonging to ſome of the miniſters of ſtate.

The royal ſtreet is croſſed by five others, which are large and fine. On the new bridge, which is of ſtone, over the Spree, is an equeſtrian ſtatue of William the Great, which is eſteemed an exquiſite piece of workmanſhip. The elector is repreſented in a Roman habit, and his horſe ſtands on a pedeſtal of white marble adorned with baſſo relievos, and four ſlaves bound to the baſe.

After this bridge is paſt, the king's palace appears, which is a grand and ſuperb edifice; it is four ſtories high, and the apartments are extremely magnificent. No palace in Europe has ſuch a great quantity of ſilver tables, ſtands, luſtres, branched candleſticks, &c. In the knights hall there is a buffet, which takes up all one ſide, where there are baſons and ciſterns of gilt ſilver, of extraordinary magnitude. The furniture of the great apartment is extremely rich; and there is a very handſome gallery, adorned with paintings, repreſenting the principal actions of Frederic I. Formerly there were fine gardens to the palace, but they are now turned into a place of arms. The king's ſtables are large, ſtand near the palace, and front the great ſtreet. Externally they make a Gothic appearance, but within they are very magnificent. The mangers are of ſtone, and the pillars that divide the ſtalls are of iron, adorned with the king's cypher, gilt. Over the racks are pictures repreſenting the fineſt horſes which the king's ſtud has produced. Over the ſtables there are large rooms, containing all ſorts of horſe-furniture, particularly the horſe-equipage of Frederic I. all the metallic part of which is gold, ſet with diamonds. Beſides theſe, there are handſome lodgings for the officers of the ſtables. Over the riding-houſe is a theatre, where plays have been acted, and balls have been made for the entertainment of the court.

The arſenal conſiſts of four grand buildings, that form a court in the middle, like a college; each front has three large porticos. On the principal gate is a medallion of Frederic II. in bronze; and the four cardinal virtues, of a coloſſal ſtature, placed on pedeſtals on each ſide of the portico, ſeem to look at the portrait of the king, which is ſupported by Fame and Victory. The Corinthian order is prevalent in the firſt ſtage, and is managed with a great deal of art. The whole edifice is ſurrounded in the upper part with a balluſtrade, adorned with trophies and ſtatues, among which is Mars ſeated on a heap of ſeveral ſorts of arms. This altogether forms a noble and majeſtic decoration. It is bounded with iron in the ſhape of cannon, which are placed at proper diſtances, and ſupport iron chains that hang like feſtoons, to prevent paſſengers from approaching the windows below. The lower rooms are filled with a great number of braſs cannon; the walls and pillars which ſuſtain the floor are ſet off with cuiraſſes and helmets. The upper ſtory contains ſeveral rooms filled with arms, which are diſpoſed in a curious order. Behind the arſenal is the houſe of the general of the artillery, which includes the foundery, where they are continually at work. Beſides this there are other places where they keep the train of artillery.

The opera-houſe is an elegant modern edifice. The front has a noble portico ſupported by Corinthian columns, and a pediment adorned with baſſo relievos and ſtatues. The columns that ſupport the roof throw the whole into a grand ſaloon. It has three galleries, and is ſaid to be capable of containing 2000 perſons.

A rampart and foſſe ſeparate Worder from Dorothea Stadt, or the New Town, inhabited chiefly by French. There are ſeven great alleys or walks, which divide this quarter into two parts. The middle walk is broader than the reſt, and is ſurrounded with balluſtrades, having a graſs-plot in the middle: this is for perſons that take the air on foot. The alleys on each ſide are paved, and ſerve for thoſe who come abroad in coaches. Theſe alleys, which are about three miles in length, are terminated with a bar, that leads towards the park. The alleys with trees are bounded by rows of houſes. In one of theſe is a building, formerly called the *leſſer ſtables*, and now made into lodgings for the guards. The apartments above theſe are occupied by the academy of painting and the academy of arts and ſciences. Behind theſe is the obſervatory, where there is a great number of aſtronomical and mathematical inſtruments.

There are other things worthy of obſervation, ſuch as the cabinet of medals, and of the antiquities belonging to the king; that of natural curioſities; the chemical laboratory, and its furnaces and medals, of a new invention: the theatre for anatomical demonſtrations; the royal library, which is one of the completeſt in Germany, and has many ſcarce books and manuſcripts.

The city was taken in 1760 by an army of Ruſſians, Auſtrians, Saxons, &c. who entered on the 9th of October. They totally deſtroyed the magazines, arſenals, and founderies, ſeized an immenſe quantity of military ſtores, and a number of cannon and arms; called firſt for the immediate payment of 800,000 guilders, and then laid on a contributionn of 1,900,000 German crowns: not ſatisfied with this, many irregularities were committed by the ſoldiery; but on the whole, though ſome ſhocking actions were committed, a far more exact diſcipline was obſerved than from ſuch troops could have been expected upon ſuch an occaſion, where there was every incentive which could work upon the licence of a conquering army. Their officers no doubt with great difficulty preſerved even that degree of order.

But though their behaviour was tolerable with regard to the private inhabitants, there was ſomething ſhocking and ungenerous in their treatment of the king's palaces. The apartments of the royal caſtle of Charlottenburgh were entirely plundered, the precious furniture ſpoiled, the pictures defaced, without even ſparing the antique ſtatues collected by cardinal Polignac, which had been purchaſed by the houſe of Brandenburgh. The caſtle of Schonhauſen, belonging to the queen, and that of Fredericsfeld, belonging to the Margrave Charles, were alſo plundered.

The palace of Potſdam, the famous Sans-ſouci, had a better fate; Prince Eſterhaſi commanded there, and it was preſerved from the ſmalleſt violation. The prince, on viewing the palace, only aſked which picture of the king reſembled him moſt; and being informed, deſired that he might have leave to take it, together with two German flutes which the king uſed, to keep them, he ſaid, in memory of his majeſty. This was a ſort of taking very different from pillage.

They ſtaid in the city four days: but hearing that the king, apprehenſive of this ſtroke, was moving to the relief of his capital, they quitted it on the 13th of October; and having waſted the whole country round for a vaſt extent, and driven away all the cattle and horſes they could find, retreated by different routes out of Brandenburgh.

Berlin, a ſort of vehicle, of the chariot kind; taking its name from the city of Berlin in Germany: though ſome attribute the invention of it to the Italians, and derive the word from *berlina*, a name given by them to a ſort of ſtage, whereon perſons are expoſed to public ſhame. The berlin is a very convenient machine to travel in, being lighter, and leſs apt to be overturned, than a chariot. The body of it is hung high, on ſhafts, by leathern braces; there being a kind of ſtirrup, or footſtool, for the conveniency of getting into it: inſtead of ſide-windows, ſome have ſcreens to let down in bad, and draw up in good, weather.

BERME, in fortification, a ſpace of ground left at the foot of the rampart, on the ſide next the country, deſigned to receive the ruins of the rampart, and prevent their filling up the foſſe. It is ſometimes paliſadoed, for the more ſecurity: and in Holland it is generally planted with a quick-ſet hedge. It is alſo called *liziere, relais, foreland, retrait, pais de ſouris*, &c.

BERMUDAS, or SUMMER-ISLANDS, a cluſter of ſmall iſlands in the Atlantic ocean, lying almoſt in the form of a ſhepherd's crook, in W. Long. 65. N. Lat. 32. 30. between 200 and 300 leagues diſtant from the neareſt place of the continent of America, or any of the other Weſt-India iſlands. The whole number of the Bermudas iſlands is ſaid to be about 400, but very few of them are habitable. The principal is St George's, which is not above 16 miles long, and three at moſt in breadth. It is univerſally agreed, that the nature of this and the other Bermudas iſlands has undergone a ſurpriſing alteration for the worſe ſince they were firſt diſcovered; the air being much more inclement, and the ſoil much more barren, than formerly. This is aſcribed to the cutting down thoſe fine ſpreading cedar-trees for which the iſlands were famous, and which ſheltered them from the blaſts of the north-wind, at the ſame time that it protected the undergrowth of the delicate plants and herbs. In ſhort, the Summer iſlands are now far from being deſirable ſpots; and their natural productions are but juſt ſufficient for the ſupport of the inhabitants, who, chiefly for that reaſon perhaps, are temperate and lively even to a proverb: at firſt tobacco was raiſed upon theſe iſlands; but being of a worſe quality than that growing on the continent, the trade is now almoſt at an end. Large quantities of ambergris were alſo originally found upon the coaſts, and afforded a valuable commerce; but that trade is alſo reduced, as likewiſe their whale trade, though the perquiſites upon the latter form part of the governor's revenue, he having L. 10 for every whale that is caught. The Bermudas iſlands, however, might ſtill produce ſome valuable commodities, were they properly cultivated. There is here found, about three or four feet below the ſurface, a white chalk ſtone which is eaſily chiſſeled, and is exported for building gentlemens houſes in the Weſt-Indies. Their palmetto-leaves, if properly manufactured, might turn to excellent account in making womens hats; and their oranges are ſtill valuable. Their ſoil is alſo ſaid to be excellent for the cultivation of vines, and it has been thought that ſilk and cochineal might be produced; but none of theſe things have yet been attempted. The chief reſource of the inhabitants for ſubſiſtence is the remains of their cedar-wood, of which they fabricate ſmall ſloops, with the aſſiſtance of the New-England pine, and ſell many of them to the States of America, where they are much admired. Their turtle-catching trade is alſo of ſervice; and they are ſtill able to rear great variety of tame-fowl, and have wild ones abounding in vaſt plenty. All the attempts to eſtabliſh a regular whale fiſhery on theſe iſlands have hitherto proved unſucceſsful: they have no cattle, and even the black hog breed, which was probably left by the Spaniards, is greatly decreaſed. The water on the iſlands, except that which falls from the clouds, is brackiſh; and at preſent the ſame diſeaſes reign there as in the Caribbee iſlands. They have ſeldom any ſnow, or even much rain; but when it does fall, it is generally with great violence, and the north or north-eaſt wind renders the air very cold. The ſtorms generally come with the new moon; and if there is a halo or circle about it, it is a ſure ſign of a tempeſt, which is generally attended with dreadful thunder and lightning. The inhabited part of the Bermuda iſlands are divided into nine diſtricts called *tribes*. 1. St George. 2. Hamilton. 3. Ireland. 4. Devonſhire. 5. Pembroke. 6. Pagets. 7. Warwick. 8. Southampton. 9. Sandys. There are but two places on the large iſland where a ſhip can ſafely come near the ſhore, and theſe are ſo well covered with high rocks that few will chooſe to enter in without a pilot; and they are ſo well defended by forts, that they have no occaſion to dread an enemy. St George's town is at the botom of the principal haven; and is defended by nine forts, on which are mounted 70 pieces of cannon that command the entrance. The town has a handſome church, a fine library, and a noble town-houſe, where the governor, council, &c. aſſemble. Beſides theſe there are about 1000 houſes well built. The tribes of Southampton and Devonſhire have each a pariſh-church and library, and the former has a harbour of the ſame name; there are alſo ſcattered houſes and hamlets over many of the iſlands, where particular plantations require them. The inhabitants are clothed chiefly with Britiſh manufactures, and all their implements for tilling the ground are made in Britain.

It is uncertain who were the firſt diſcoverers of the Bermudas iſlands. John Bermudas a Spaniard is commonly ſaid to have diſcovered them in 1527; but this is diſputed, and the diſcovery attributed to Henry May an Engliſhman. As the iſlands were without the reach of the Indian navigation, the Bermudas were abſolutely uninhabited when firſt diſcovered by the Europeans. May abovementioned was ſhipwrecked upon St George's; and with the cedar which they felled there, aſſiſted with the wreck of their own ſhip, he and his companions built another which carried them to Europe, where they publiſhed their accounts of the iſlands. When Lord Delawar was governor of Virginia, Sir Thomas Gates, Sir George Summers, and Captain Newport, were appointed to be his deputy-governors; but their ſhip being ſeparated by a ſtorm from the reſt of the ſquadron, was in the year 1609 wrecked on the Bermudas, and the governors diſagreeing among themſelves built each of them a new ſhip of the cedar they found there, in which they ſeverally ſailed to Virginia. On their arrival there, the colony was in ſuch diſtreſs, that the Lord Delawar, upon the report which his deputy-governors made him of the plenty they found at the Bermudas, diſpatched Sir George Summers to bring proviſions from thence to Virginia in the ſame ſhip which brought him from Bermudas, and which had not an ounce of iron about it except one bolt in the keel. Sir George, after a tedious voyage, at laſt reached the place of his deſtination, where ſoon after his arrival, he died, leaving his name to the iſlands, and his orders to the crew to return with black hogs to the colony of Virginia. This part of his will, however, the ſailors did not chooſe to execute; but ſetting ſail in their cedar ſhip for England, landed ſafely at Whitchurch in Dorſetſhire.

Notwithſtanding this dereliction of the iſland, however, it was not without Engliſh inhabitants. Two ſailors, Carter and Waters, being apprehenſive of puniſhment for their crimes, had ſecreted themſelves from their fellows when Sir George was wrecked on the iſland, and had ever ſince lived upon the natural productions of the ſoil. Upon the ſecond arrival of Sir George they enticed one Chard to remain with them; but differing about the ſovereignty of the iſland, Chard and Waters were on the point of cutting one anothers throats, when they were prevented by the prudence of Carter. Soon after, they had the good fortune to find a great piece of ambergris weighing about 80 pounds, beſides other pieces, which in thoſe days were ſufficient, if properly diſpoſed of, to have made each of them maſter of a large eſtate. Where they were, this ambergris was uſeleſs; and therefore they came to the deſperate reſolution of carrying themſelves and it in an open boat to Virginia or to Newfoundland, where they hoped to diſpoſe of their treaſure to advantage. In the mean time, however, the Virginia Company claimed the property of the Bermudas iſlands; and accordingly ſold it to 120 perſons of their own ſociety, who obtained a charter from King James for the poſſeſſing it. This new Bermudas Company, as it was called, fitted out a ſhip with 60 planters on board to ſettle on the Bermudas, under the command of one Mr Richard Moor, by profeſſion a carpenter. The new colony arrived upon the iſland juſt at the time the three ſailors were about to depart with their ambergris; which Moor having diſcovered, he immediately ſeized and diſpoſed of it for the benefit of the company. So valuable a booty gave vaſt ſpirit to the new company; and the adventurers ſettled themſelves upon St George's iſland, where they raiſed cabins. As to Mr Moor, he was indefatigable in his duty, and carried on the fortifying and planting the iſland with incredible diligence; for we are told, that he not only built eight or nine forts or rather blockhouſes, but inured the ſettlers to martial diſcipline. Before the firſt year of his government was expired, Mr Moor received a ſupply of proviſions and planters from England; and he planned out the town of St George as it now ſtands. The fame of this ſettlement ſoon awakened the jealouſy of the Spaniards, who appeared off St George's with ſome veſſels; but being fired upon from the forts, they ſheered off, though the Engliſh at that time were ſo ill provided for a defence, that they had ſcarce a ſingle barrel of gunpowder on the iſland. During Moor's government the Bermudas were plagued with rats which had been imported into them by the Engliſh ſhips. This vermin multiplied ſo faſt in St George's iſland, that they even covered the ground, and had neſts in the trees. They deſtroyed all the fruits and corn within doors; nay, they increaſed to ſuch a degree, that St George's iſland was at laſt unable to maintain them, and they ſwam over to the neighbouring iſlands, where they made as great havock. This calamity laſted five years, though probably not in the ſame degree, and at laſt it ceaſed all of a ſudden.

On the expiration of Moor's government, he was ſucceeded by Captain Daniel Tucker, who improved all his predeceſſor's ſchemes for the benefit of the iſland, and particularly encouraged the culture of tobacco. Being a ſevere diſciplinarian, he held all under him ſo rigidly to duty, that five of his ſubjects planned as bold an enterpriſe for liberty as was perhaps ever put in execution. Their names were Barker, who is ſaid to have been a gentleman; another Barker, a joiner; Goodwin, a ſhip-carpenter; Paet, a ſailor; and Saunders, who planned the enterprize. Their management was as artful as their deſign was bold. Underſtanding that the governor was deterred from taking the pleaſure of fiſhing in an open boat, on account of the dangers attending it, they propoſed to build him one of a particular conſtruction, which accordingly they did in a ſecret part of the iſland; but when the governor came to view his boat, he underſtood that the builders had put to ſea in it. The intelligence was true: for the adventurers, having provided themſelves with the few neceſſaries they wanted, ſailed for England; and notwithſtandings the ſtorms they encountered, their being plundered by a French privateer, and the incredible miſeries they underwent, they landed in 42 days time at Corke in Ireland, where they were generouſly relieved and entertained by the earl of Thomond.

In 1619, Captain Tucker reſigned his government to Captain Butler. By this time the high character which the Summer iſlands bore in England rendered it faſhionable for men of the higheſt rank to encourage their ſettlement; and ſeveral of the firſt nobility of England had purchaſed plantations among them. Captain Butler brought over with him 500 paſſengers, who became planters on the iſlands, and raiſed a monument to the memory of Sir George Summers. The iſland was now ſo populous (for it contained about a thouſand whites), that Captain Butler applied himſelf to give it a new conſtitution of government by introducing an aſſembly, the government till this time being adminiſtered only in the name of the governor and council. A body of laws was likewiſe drawn up, as agreeable to the laws of England as the ſituation of the iſland would admit of. One Mr Barnard ſucceeded Captain Butler as governor, but died ſix weeks after his arrival on the iſland, upon which the council made choice of Mr Harriſon to be governor till a new one ſhould be appointed. No fewer than 3000 Engliſh were now ſettled in the Bermudas, and ſeveral perſons of diſtinction had curioſity enough to viſit it from England. Among theſe was Mr Waller the poet, a man of fortune, who being embroiled with the parliament and commonwealth of England, ſpent ſome months in the Summer iſlands, which he has celebrated in one of his poems as the moſt delightful place in the world. The dangers attending the navigation, and the untowardly ſituation of theſe iſlands, through their diſtance from the American continent, ſeem to be the reaſons why the Bermudas did not now become the beſt peopled iſlands belonging to England; as we are told that ſome time ago they were inhabited by no fewer than 10,000 whites. The inhabitants, however, never ſhowed any great ſpirit for commerce, and thus they never could become rich. This, together with the gradual alteration of the ſoil and climate already taken notice of, ſoon cauſed them dwindle in their population; and it is computed that they do not now contain above half the number of inhabitants they once did, and even theſe ſeem much more inclined to remove to ſome other place than to ſtay where they are; ſo that unleſs ſome beneficial branch of commerce be found out, or ſome uſeful manufacture eſtabliſhed, the ſtate of the Bermudas muſt daily grow worſe and worſe.

BERN, one of the cantons of Switzerland, which holds the ſecond rank among the 13; but as it is by far the largeſt in extent, containing almoſt one-third of the whole country, it ſeems juſtly intitled to the firſt. It is bounded to the north by the cantons of Baſil and Solothurn, and the Auſtrian foreſt-towns; to the ſouth by the lake of Geneva, the Valais, and duchy of Savoy; to the eaſt by Uri, Underwald, Lucern, and the county of Baden; and to the weſt by Solothurn, Neufchatel, Franche-Compte, the diſtrict of Biel, and the land of Gex. It is the moſt fruitful, the richeſt, and by much the largeſt, of all the cantons, extending in length about ſixty leagues, and about thirty where broadeſt. It yields not only plenty of grain, fruit, and paſture; but alſo good wine, a variety of coloured earths and clays, ſand-ſtone, mundick, gypſum, pitcoal, ſulphur, and iron-ore. Here likewiſe are large herds of cattle, great and ſmall; and, in conſequence of that, great quantities of milk, butter, and cheeſe. The rivers that water this canton are the Aar, the Emmat, the Wigger, the Aaa, the Ruſz, the Limmat, the Sanen, the Senſen, and the Kandel. The principal lake is that of Geneva; the length of which is about 18 leagues, and the greateſt breadth between three and four. The depth in ſome places is near 400 fathom, in others not above 40. The Rhone enters it at the eaſt end near Bouveret, and iſſues out again at the weſt cloſe by Geneva. In ſummer its waters are much ſwelled by the melting of the ſnow on the mountains. This lake, however, is not entirely ſurrounded by the territory of Bern, but partly by Savoy and the country of Gex; the former of which belongs to the king of Sardinia, and the latter to France, and the territory of Sion. Its borders are extremely fertile and beautiful, being much embelliſhed with vineyards, which yield excellent wine, and interſperſed with towns and villages, betwixt which a conſiderable commerce is carried on. The other great lakes, that are wholly or partly within this canton, are thoſe of Neufchatel, Biel, Murte, Thun, Brien, and Halwyl, which all abound in fiſh, particularly that of Geneva, where trouts are ſometimes caught weighing 40 or 50 pounds. In that of Biel, called alſo the *Nydau-lake*, are two ſmall iſlands, one of which is very beautiful. This lake is about three leagues in length and one in breadth. Along the whole weſt and north-weſt ſides of the canton runs that chain of mountains called by the general name of *Jura*; but the ſeveral mountains of which it is compoſed have all their particular names. This canton is well cultivated and very populous, the number of its ſubjects being computed at 400,000. German is the prevailing language, but almoſt all the people of faſhion ſpeak either French or Italian; even the common people in the Pais de Vaud, and other places that lie towards France or Italy, ſpeak a corrupt French or Italian, or a jargon compoſed of both. The eſtabliſhed religion here and the other Proteſtant cantons is Calviniſm, the ſame both in doctrine and diſcipline as in Holland; nor is any other tolerated, except in the common bailiages, and the vale of Frick. The miniſters are divided into deaneries and claſſes, and hold yearly chapters or ſynods. They are kept in a greater dependence on the civil power here than in the other cantons, and not ſuffered to interfere with matters of ſtate. The city of Bern firſt joined the confederacy in the year 1353. Towards the defence thereof the canton now furniſhes 2000 men. Every male from 16 to 60 is inrolled in the militia, and about a third of them regimented. There are officers for every diſtrict, whoſe province it is to ſee that the men be regularly exerciſed; that their arms, ammunition, and clothing, be in a good condition; and that they be kept in a conſtant readineſs to march. Once a-year they are drawn out to a general review. The ſame attention is paid to thoſe that belong to the train of artillery. Some regiments conſiſt of married, and ſome of unmarried men; ſome of foot, others of dragoons. There is alſo one regiment and a troop of cuiraſſiers. The latter conſiſts entirely of burghers of Bern. Both the horſemen and footmen find their horſes, arms, and accoutrements. Beſides the arms and artillery in the arſenal at Bern, all the caſtles, where the country governors or bailiffs reſide, are well furniſhed with them. At Bern is a conſtant guard or garriſon of 200 men, and a ſmall garriſon at Fort Arburg. In the ſame city is alſo an office, which grants licences for levies to foreign powers, and where the recruits make their appearance and are regiſtered. The bailiffs have the chief direction of affairs in their ſeveral diſtricts, being generals of the militia, and preſiding in the courts of juſtice; but, in civil cauſes above a certain value, an appeal lies from them to Bern; and, in capital caſes, their ſentence muſt be confirmed by the great council before it can be executed. When any bailiwic is to be diſpoſed of, as many balls as there are competitors are put into a bag, whereof one is gilt, and he that draws that has the bailiwic.

Mr. Keyſler obſerves, that the wealthieſt peaſants in Switzerland are thoſe of Bern; it being difficult to find a village without one, at leaſt, who is worth between 20,000 or 30,000 guilders and ſometimes even 60,000. He ſays, the common people of both ſexes wear ſtraw hats, and that the womens petticoats are tied up ſo near their arm-pits, that hardly an hand's-breadth is left for their ſhape; that the inns, not only in this canton, but throughout Switzerland, are in general very good; that the manners of the people were, in many reſpects, greatly changed within 50 years before he viſited them, which was about 50 years ago, and conſequently muſt be much more ſo now; that, inſtead of the plainneſs and honeſt ſimplicity of their anceſtors, the love of ſuperfluities and high living greatly prevailed; that luxury, pomp, and that infatuation for foreign productions which had infected moſt parts of Europe, had alſo extended its contagious influence to Switzerland, though not to ſuch a degree as in many other countries. Dr Burnet ſays, that drinking is ſo common, and produces ſo many quarrels and diſorders, that the bailiffs not only ſubſiſt by the fines payable for them, but often get eſtates, carrying perhaps 20,000 crowns at the end of five years to Bern; that their law is ſhort and clear, inſomuch that the moſt intricate ſuit is ended after two or perhaps three hearings, either in the firſt inſtance before the bailiff, or in the ſecond at Bern; that the civility expreſſed in this country to women, at firſt meeting them, is not by ſaluting them, but by taking them by the hand, and that none but ſtrangers take off their hats to them. Mr Addiſon ſays, that the peaſants are generally clothed in a coarſe kind of canvas, the manufacture of the country, and that their holiday clothes go from father to ſon; ſo that it is not uncommon to ſee a countryman in his great-grandfather's doublet and breeches; that the belief of withcraft prevailed among them ſo much, that there were ſome executions on that account while he was in the country; that the queſtion, or torture, is uſed not only in this canton but all over Switzerland; that though the ſubjects of the ſtate are rich, the public is poor; and though they could oppoſe a ſudden invaſion, yet that their unkindly ſoil requires ſuch a number of hands to cultivate it, that they could not ſpare the reinforcements and recruits that would be neceſſary in a long war. Upon extraordinary occaſions, however, they boaſt that they could raiſe 80,000 men in 24 hours. This canton is divided into the German country, that is, that part of the canton in which the German tongue is ſpoken, and which is alſo called the *ancient canton*, extending from Morat to the county of Baden; and the Roman, called alſo the *Waal*, and *Pais de Vaud*. The former of theſe contains 35 bailiwics and about 300 pariſhes.

Bern, a city of Switzerland, and capital of the canton of that name, is ſituated in E. Long. 7. 40. N. Lat. 40. 0. It is ſaid that the taking of a bear on the day on which the foudation of this city was laid, gave occaſion to its name; hence it is often in Latin called *Arctopolis*, i. e. the city of the bear, and has a bear for its coat of arms. It is almoſt ſurrounded by the river Aar. The houſes are moſtly built of white free-ſtone, and, in the principal ſtreets, have piazzas or arches under them, for the conveniency of walking dry in wet weather. Moſt of the ſtreets are paved with flints, and traverſed by a canal lined with free-ſtone, which is brought from a conſiderable diſtance, and is very uſeful in carrying off the filth of the city, extinguiſhing fires, and other purpoſes. The city is large, ſtanding almoſt in the middle of the canton, and containing ſeveral churches, of which one is called the *Great Church*, and the firſt miniſter thereof *the dean*, who is the head of the city-clergy. From an inſcription near the great door of this church, it appears, that the firſt ſtone of it was laid in 1421. Over the ſame door is a repreſentation of the laſt judgment, in which the ſculptor hath placed the pope among the damned. In this city is alſo a college with eight profeſſors, a large public library, and a muſeum; a ſtately granary, in which a great quantity of corn is always kept; a guildhall; a well ſtored arſenal; and ſeveral hoſpitals. In the arſenal is a wooden ſtatue of the famous Tell, which repreſents him as taking aim at the apple placed on the head of his ſon. There is alſo the ſtatue of Berch told von Zahringen, the founder of the city; and two large horns of buffaloes or wild bulls, called in Latin *Uri*, ſuch as are uſed in war by the canton of Uri, inſtead of trumpets, and taken from it in the year 1712. Hard by alſo hang the groteſque dreſſes of thoſe who blew them. The inhabitants of Uri, who boaſt their deſcent from the old Tau, bear a buffalo's head on their riſci, coat of arms; and the perſon who blows the great horn in time of war, is called the *bull of Uri*. In the Dominican church, a hole in the wall is always ſhown to ſtrangers, by means of which, it having a communication with the cell of a monk in an adjoining monaſtery, the pious fraud of making an image of the Virgin appear to ſpeak was once carried on, which for a while anſwered the purpoſes of the monks very well; but they were at laſt detected and puniſhed. This city, though larger, is not ſo populous nor ſo well built as that of Zurich. On the eaſt ſide of it is a handſome ſtone bridge; and near the great church is a very fine platform ſome hundred feet in height, which makes a moſt delightful walk, being planted with limes, and commanding a charming proſpect, particularly of the mountains of the Griſons, covered with ſnow in the midſt of ſummer. In 1554 a ſtudent of divinity, being on horſeback, and in liquor, leaped over this terrace without receiving any other hurt than breaking a leg, and lived many years after, but the horſe was killed. In the upper part of the city are always kept a number of bears in two incloſures, with fir-trees for them to clamber and play upon. Of the burghers of Bern, only thoſe are qualified for the government and magiſtracy of the city who are the deſcendants of ſuch as were made burghers before the year 1635. Other qualifications are alſo neceſſary; in particular, they muſt not be under 30 years of age, and muſt be inrolled in one of the 12 companies. To obtain a country government, or to hold any conſiderable employment, the candidate alſo muſt be married. The great council, in which the ſovereignty of the canton is veſted, conſiſts when full, of 229; but is generally much ſhort of that number, 80 or more often dying before their places are filled up. The leſſer council ſenate, or, as it is called, the *daily council*, becauſe it meets every day. Sundays and Holidays excepted, conſiſts of 27 members, including the two prætors or advoyers, the four tribunes of the people, the the two treaſurers, and the two heimlichers or ſecrecy-men, ſo called, becauſe to them all ſecrets relating to the ſtate are diſcovered. The members of the great and little councils mutually fill up the vacancies that happen in theſe two colleges. How the bailiffs are choſen we have already taken notice. Our limits will not permit to enter into any farther detail with reſpect to the government: only it is to be obſerved in general, that all the officers of any note are choſen out of the great or little councils; and that all the bailiffs and caſtellans of the canton continue ſix years in office. The trade of the city is not very great, but was leſs before the French refugees ſettled therein: ſome, however, doubt whether it has been a gainer by them; as by their introduction of French modes and luxury, they have helped to baniſh the ancient Helvetic ſimplicity and frugality. The territory immediately under its juriſdiction is divided into four governments, with which the four venners, or ſtandard-bearers, are inveſted. It declared for the reformation in 1528, after a ſolemn diſputation. Here the Britiſh envoy to the cantons reſides.

BERN-Machine, the name of an engine for rooting up trees, invented by Peter Sommer, a native of Bern in Switzerland.

This machine is repreſented by a figure on Plate XCV. drawn from a model in the machine-room of the Society for the Encouragement of Arts, &c. It conſiſts of three principal parts; the beam, the ram, and the lever. The beam A B C, (n° 1.) of which only one ſide is ſeen in the figure, is compoſed of two ſtout planks of oak, three inches thick at leaſt, and ſeparated by two tranſverſe pieces of the ſame wood at A and C, about three inches thick. Theſe planks are bored through with correſponding holes, as repreſented in the figure, to receive iron pins, upon which the lever acts between the two ſides of the beam, and which is ſhifted higher and higher as the tree is raiſed or rather puſhed out of its place. The ſides are well ſecured at the top and bottom by ſtrong iron hoops. The iron pins on which the lever reſts ſhould be an inch and a quarter, and the holes through which they paſs an inch and an half in diameter. The poſition of theſe holes is ſufficiently indicated by the figure. The foot of the beam, when the machine is in action, is ſecured by ſtakes repreſented at G, driven into the earth. The ram D, which is made of oak, elm, or ſome other ſtrong wood, is capped with three ſtrong iron ſpikes, repreſented at *f*, which take faſt hold of the tree. The ram is ſix or eight inches ſquare; and a ſlit is cut lengthwiſe through the middle of it, from its lower end at K to the firſt ferule *a*, in order to allow room for the chain *g h* to play round the pulley K, which ſhould be four inches thick, and nine inches in diameter. This ram is raiſed by means of the chain *g h*, which ſhould be about ten feet long, with links four inches and three quarters in length, and an inch thick. One end of this chain is faſtened to the top of the beam at C, while the other, after paſſing through the lower part of the ram, and over the pully K, terminates in a ring or link repreſented n° 3. the two ears *m n* of which ſerve to keep it in a true poſition between the two planks of the beam. In this ring the hook P is inſerted. The hook is repreſented in profile n° 2. where F is the part that takes hold of the ring. But it muſt be obſerved, that the parts of this machine, repreſented in n° 2, 3. are drawn on a ſcale twice as large as the whole engine. The hook F, n° 2. ſhould be made of very tough iron, as well as the handle D, and the arch E *c*. This handle ſhould be two inches thick at *z*, where it joins to the hook, and the thickneſs gradually leſſen by degrees up to the arch, which need not be more than half an inch thick. On each ſide of the pin *z*, is a ſemicircular notch, *x*, *y*, which reſts alternately on the pins when the machine is worked. The hole D, and the arch E *c*, ſerve to fix a long lever of wood E F, n° 1. by means of two iron pins; and by this contrivance the lever is either raiſed or depreſſed at pleaſure, in order to render the working of the machine eaſy in whatever part of the beam the lever may be placed: for without this contrivance the extremity of the lever E F, would, when the handle is near the top of the beam, be much higher than men ſtanding upon the ground could reach. It muſt however be remembered, that the lever is often ſhortened by this contrivance, and conſequently its power leſſened.

The machine is worked in the following manner: It is placed againſt a tree, in the manner repreſented in the figure, ſo that the iron ſpikes at *f* may have hold of the tree, and the end of the beam A be ſupported by ſtakes repreſented at G. The iron handle, n° 2. is placed in the opening between the two planks of the beam, and the wooden lever fixed to it by means of the iron pins already mentioned. The hook F takes hold of the chain, and one of the iron pins is thruſt into the outer row of holes, by which means the outer notch *x* will reſt on the pin, which will be now the centre of motion; and the end of the lever E, n° 1. being preſſed downwards, the other notch *y*, n° 2. will be raiſed, and at the ſame time the chain, and conſequently the ram. The other iron pin is now to be thruſt into the hole in the inner row, next above that which was before the centre of motion, and the end of the lever E elevated or puſhed upwards, the latter pin on which the notch *y* reſts now becoming the centre of motion. By this alternate motion of the lever, and ſhifting the pins, the chain is drawn upwards over the pulley K, and conſequently the whole force of the engine exerted againſt the tree. There is a ſmall wheel at L, in order to leſſen the friction of that part of the machine.

From this account the reader will very eaſily perceive that the machine is nothing more than a ſingle pulley compounded with a lever of the firſt and ſecond order. It muſt however be remembered, that as the puſh of the engine is given in an oblique direction, it will exert a greater or leſſer force againſt the horizontal roots of the tree in proportion to the angle formed by the machine with the plane of the horizon; and that the angle of 45° is the maximum, or that when the machine will exert it greateſt force againſt the horizontal roots of the tree.

BERNACLE, in ornithology, a ſpecies of gooſe. See Anas.

BERNARD (St), the firſt abbot of Clairvaux, was born in the year 1091, in the village of Fountaine, in Burgundy. He acquired ſo great a reputation by his zeal and abilities, that all the affairs of the church appeared to reſt upon his ſhoulders, and kings and princes ſeemed to have choſen him for a general arbitrator of their differences. It was owing to him that Innocent II. was acknowledged ſovereign pontiff, and after the death of Peter Leonis anti-pope, that Victor, who had been named *ſucceſſor*, made a voluntary abdication of his dignity. He convicted Abelard at the council of Sens, in the year 1140. He oppoſed the monk Raoul; he perſecuted the followers of Arnaud de Breſſe; and in 1148, he got Gilbert de la Porvicé, biſhop of Poitiers, and Eonde l'Etoile, to be condemned in the council of Rheims. By ſuch zealous behaviour he verified (ſays Mr Bayle), the interpretation of his mother's dream. She dreamed, when ſhe was with child of him, that ſhe ſhould bring forth a white dog, whoſe barking ſhould be very loud. Being aſtoniſhed at this dream, ſhe conſulted a monk, who ſaid to her, "Be of good courage; you ſhall have a ſon who ſhall guard the houſe of God, and bark loudly againſt the enemies of faith." But St Bernard went even beyond the prediction, for he barked ſometimes againſt chimerical enemeis: he was more happy in exterminating the heterodox, than in ruining the infidels; and yet he attacked theſe laſt, not only with the ordinary arms of his eloquence, but alſo with the extraordinary arms of prophecy. He preached up the cruſade under Louis the Younger, and by this means he enlarged the troops of the cruſaders beyond expreſſion: but all the fine hopes with which he flattered the people were diſappointed by the event; and when complaint was made that he had brought an infinite number of Chriſtians to ſlaughter without going out of his own country, he cleared himſelf by ſaying, that the ſins of the Croiſes had hindered the effect of his prophecies. In ſhort, he is ſaid to have founded 160 monaſteries, and to have wrought a great number of miracles. He died on the 20th of Auguſt, 1153, at 63 years of age. The beſt edition of his works is that of 1690, by father Mabillon.

Bernard (Dr Edward), a learned aſtronomer, linguiſt, and critic, was born at Perry St Paul, on the 2d of May, 1638, and educated at Merchant-Taylor's ſchool, and St John's college, Oxford. During his ſtay at ſchool, he had laid in an uncommon fund of claſſical learning; ſo that, on his going to the univerſity, he was a great maſter of all the elegancies of the Greek and Latin tongues, and not unacquainted with the Hebrew. On his ſettling in the univerſity, he applied himſelf with great diligence to hiſtory, philology, and philoſophy; and made himſelf maſter of the Hebrew, Syriac, Arabic, and Coptic languages, and then applied himſelf to the ſtudy of the mathematics under the famous Dr Wallis. Having ſucceſſively taken the degree of bachelor and maſter of arts, and afterwards that of bachelor of divinity in 1668, he went to Leyden to conſult ſeveral oriental manuſcripts left to that univerſity by Joſeph Scaliger and Levinus Warnerus. At his return to Oxford, he collated and examined the moſt valuable manuſcripts in the Bodleian library;

which induced thoſe who publiſhed any ancient authors, to apply to him for his obſervations or emendations from the manuſcripts at Oxford; which he readily imparted, grudging neither time nor pains to ſerve the learned; and by this means he became engaged in a very extenſive correſpondence with the learned of moſt countries. In the year 1669, the famous Chriſtopher Wren, Savilian profeſſor of aſtronomy at Oxford, having been appointed ſurveyor-general of his majeſty's works, and being much detained at London by this employment, he obtained leave to name a deputy at Oxford, and pitched upon Mr Bernard, which engaged the latter in a more particular application to the ſtudy of aſtronomy. In 1676, he was ſent by the earl of Arlington to France, in order to be tutor to the dukes of Grafton and Northumberland, ſons to King Charles II. by the dutcheſs of Cleveland, who then lived with their mother at Paris: but the ſimplicity of his manners not ſuiting the gaity of the dutcheſs's family, he returned about a year after to Oxford, and purſued his ſtudies; in which he made great proficiency, as his many learned aſtronomical and critical works ſhow. He compoſed tables of the longitudes, latitudes, right aſcenſions, &c. of the fixed ſtars; Obſervations in Latin on the Obliquity of the Ecliptic; and other pieces inſerted in the Philoſophical Tranſactions. He alſo wrote, 1. A Treatiſe of the ancient Weights and Meaſures. 2. *Chronologiæ Samaritanæ Synopſis*, in two tables. 3. Teſtimonies of the Ancients concerning the Greek Verſion of the Old Teſtament by the Seventy; and ſeveral other learned works. He was a perſon of great piety, virtue, and humanity; and died on the 12th of January, 1696, in the 59th year of his age, leaving behind him a great number of learned and valuable manuſcripts.

BERNARD (James), profeſſor of philoſophy and mathematics and miniſter of the Walloon church at Leyden, was born September 1ſt, 1658, at Nions in Dauphine. Having ſtudied at Geneva, he returned to France in 1679, and was choſen miniſter of Venterol, a village in Dauphine. Some time after, he was removed to the church of Vinſobres in the ſame province. But the perſecutions raiſed againſt the Proteſtants in France having obliged him to leave his native country, he retired to Holland, where he was received with great civility, and was appointed one of the penſionary miniſters of Gauda. In July 1688, he began a political publication intitled *Hiſtoire abregée de l' Europe*, &c. which he contined monthly till December 1688, and makes five volumes in 12mo. In 1692, he began his *Lettres Hiſtoriques*, containing an account of the moſt important tranſactions in Europe, with neceſſary reflections. He carried on this work, which was alſo publiſhed monthly, till the end of the year 1698. It was afterwards continued by other hands, and conſiſts of a great many volumes. Mr Le Clerc having left off his *Bibliotheque Univerſelle*, in 1691, Mr Bernard wrote the greateſt part of the 20th volume, and by himſelf carried on the five following to the year 1693. In 1698, he collected and publiſhed *Actes et negociations de la paix de Ryſwic*, in four volumes 12mo. In 1699 he began the *Nouvelles de la republique des lettres*, which continued till December 1710. Mr Bernard having acquired great reputation by his works, as well as by his ſermons at Gauda, and the Hague, the congregation of the Walloon church at Leyden became extremely deſirous to have him for one of their miniſters; and a vacancy happening in 1705, he was unanimouſly choſen. About the ſame time, Mr de Volder profeſſor of philoſophy and mathematics at Leyden having reſigned, Mr Bernard was appointed his ſucceſſor; and the univerſity preſented him with the degrees of doctor of philoſophy and maſter of arts. His public and private lectures took up a great part of his time; yet he did not neglect his paſtoral function, but compoſed his ſermons with great care: he wrote alſo two excellent treatiſes, one on a late repentance, the other on the excellency of religion. In 1716, he publiſhed a ſuppliment to Moreri's dictionary in two volumes folio. The ſame year he reſumed his *Nouvelles de la republique des lettres*; which he continued till his death, which happened the 27th of April, 1718, in the 60th year of his age.

BERNARD the Great (St); a mountain in Savoy and Switzerland, between Valais and the valley of Aouſt, at the ſource of the rivers Drance and Doria. The top is always covered with ſnow; and there is a great monaſtery ſeated thereon, where the monks always entertain travellers without diſtinction of religion for three days.

BERNARDINE (St), was born at Maſſa in Tuſcany, in 1380. In 1404 he entered into a Franciſcan monaſtery near Sienna, where he became an eminent preacher; and was afterward ſent to Jeruſalem, as commiſſary of the Holy Land. On his return to Italy, he viſited ſeveral cities, where he preached with ſuch applauſe, that the cities of Ferrare, Sienna, and Urbino, deſired Pope Eugenius IV. to appoint him their biſhop: but Bernardine refuſed the honour, accepting only the office of vicar-general of the friars of the obſervance for all Italy. He repaired and founded above 300 monaſteries in that country; died in 1444; was canonized in 1450 by Pope Nicholas; and his works were publiſhed at Venice in 1591, in 4 vols. 4to.

BERNARDINES, an order of monks, founded by Robert abbot of Moleme, and reformed by St Bernard. They wear a white robe with a black ſcapulary; and when they officiate they are clothed with a large gown, which is all white, and hath great ſleeves, with a hood of the ſame colour.—The Bernardines differ very little from the Ciſtercians. They had their origin toward the beginning of the 12th century.

BERNAY, a town of Upper Normandy in France, ſeated on the river Carantone, E. Long. 0. 50. N. Lat. 49. 6.

BERNBURG, a town of Germany, in the circle of Upper Saxony, and principality of Anhalt, where a branch of the houſe of Anhalt reſides. It is ſeated on the river Sara, in E. Long. 12. 30. N. Lat. 51. 55.

BERNERA, one of the Weſtern Iſles of Scotland, lying about two leagues to the ſouthward of Harries. It is about five miles in circumference; the ſoil is ſandy, but when manured with the alga marina, extremely fertile, producing an increaſe of thirty-fold of barley; nay one grain has been known to produce 14 ears when the ſeaſon was remarkably favourable. The face of the iſland is extremely agreeable in ſummer, exhibiting a pleaſing variety of corn fields and clover paſtures. Here is a freſh water lake called *Lochbruis*, diverſified with ſmall iſlands, and abounding with eels, which the natives by the help of lights, catch in the night-time, as they fall down a rivulet towards the ſea in heaps twiſted together. There are two chapels in this iſland dedicated to St Aſaph and St Columbes; and near the the former is a ſtone ſtanding about eight feet above the ground. At the eaſt end of this iſland there is a ſtrange reciprocation of the flux and reflux of the ſea, and another no leſs remarkable upon the weſt ſide of the long iſland. The tides from the ſouth-weſt run along northward, ſo that during the ordinary courſe of the tides the flood runs eaſt in the frith, where Bernera lies, and the ebb runs weſt: thus the ſea ebbs and flows regularly for four days before, and as long after, the full and change of the moon; the ſpring tides generally riſing 14 feet perpendicular, and the others proportionably: but for four days before, and as many after, the quarter moons, there is a ſingular variation; at that time the ſoutherly moon making high water, the courſe of the tide being eaſtward, it begins to flow at half an hour after nine in the morning, and continues to flow till half an hour after three in the afternoon, when it is high water; but when it begins to ebb, the current ſtill runs eaſtward, until it is low water; ſo that the tide runs eaſtward 12 hours together, that is, from half paſt nine in the morning till half paſt nine at night; yet when the night-tide begins to flow, the current turns and runs weſtward all night for 12 hours, during both flood and ebb; thus the reciprocations continue, one flood and ebb running eaſtward and another weſtward, till within four days of the full and change of the moon; then they reſume their ordinary courſe, running eaſt during the ſix hours of flood, and weſt during the ſix hours of ebb. There is another phenomenon in theſe tides no leſs remarkable than that juſt now mentioned. Between the vernal and autumnal equinox, that is, during one half of the year, the tides about the quarter moons run all day eaſtward and all night weſtward; and during the other ſix months their courſe is reverſed, being weſtward in the day and eaſtward in the night.

BERNICLA, in ornithology, the trivial name of a ſpecies of gooſe. See Anas.

BERNICLE, in zoology, a ſpecies of lepas. See Lepas.

BERNIER (Nicholas), an eminent muſician and compoſer, was born at Mante on the Seine, in the year 1664. By his merit in his profeſſion he attained to be conductor of the muſic in the chapel of St Stephen, and afterwards in that of the king. The regent duke of Orleans admired his works, and patronized their author. This prince having given him a motet of his own compoſition to examine, and being impatient for his obſervations thereon, went to the houſe of Bernier, and entering his ſtudy, found the abbe de la Croix there criticiſing his piece, while the muſician himſelf was in another room carouſing and ſinging with a company of his friends. The duke broke in upon and interrupted their mirth, with a reprimand of Bernier for his inattention to the taſk aſſigned him. This muſician died at Paris in 1734. His five books of Cantatas and Songs for one and two voices, the words of which were written by Rouſſeau and Fuſelier, have procured him great ruputation. There are beſides of his compoſition Les Nuits de Sceaux, and many motets, which are ſtill in great eſteem.

Bernier (Francis), ſurnamed the *Mogul*, on account of his travels and reſidence in that country, was born at Angers in France; and after he had taken his degree of doctor of phyſic at Montpellier, left his country in 1654, went to Egypt, to the Holy Land, and to the kingdom of the Mogul, where he was phyſician to that monarch, attended him in his journeys, and ſtayed there 12 years. Upon his return to France, he publiſhed the Hiſtory of the countries he had viſited; and ſpent the remainder of his life in compoſing various other works, particularly an Abridgment of the philoſophy of Gaſſendus in 8 vols 12 mo. His firſt work is eſteemed to be the beſt account we have of the countries which are the ſubject of it.

BERNINI (John Laurence), commonly called *Cavaliero Bernin*, a Neapolitan, famous for his ſkill in painting, ſculpture, architecture, and mechanics. He firſt began to be known under the pontificate of Paul V. Rome is indebted to this artiſt for ſome of its greateſt ornaments; and there are in the church of St Peter no leſs than 15 different works of his hand. He died at Rome in 1680.

BERNO, abbot of Richenou, in the dioceſe of Conſtance, who flouriſhed about the year 1008, is celebrated as a poet, rhetor, muſician, philoſopher, and divine. He was the author of ſeveral treatiſes on muſic, particularly of one *De Inſtrumentis Muſicalibus*, beginning with the words *Muſicam non eſſe contem!* which he dedicated to Arrabon, Archbiſhop of Mentz. He alſo wrote *De Menſura Monochordi*. But the moſt celebrated of his works is a treatiſe *De Muſica ſeu Tonis*, which he wrote and dedicated to Pelegrines archbiſhop of Cologne, beginning *Vero mundi iſti advenæ et peregrino*. This latter tract is part of the Baliol manuſcript, and follows the Enchiridion of Odo: it contains a ſummary of the doctrines delivered by Boetius, an explanation of the eccleſiaſtical tones, intermixed with frequent exhortations to piety, and the application of muſic to religious purpoſes. He was highly favoured by the emperor Henry II. for his great learning and piety; and ſucceeded ſo well in his endeavours to promote learning, that his abbey of Richenou was as famous in his time as thoſe of St Gaul and Cluni, then the moſt celebrated in France. He died in 1048; and was interred in the church of his monaſtery, which but a ſhort time before he had dedicated to St Mark.

BERNOUILLI (James), a celebrated mathematician, born at Baſil the 27th of December 1654. Having taken his degrees in the univerſity of Baſil, he applied himſelf to divinity, not ſo much from inclination as complaiſance to his father. He gave very early proofs of his genius for mathematics, and ſoon became a geometrician, without any aſſiſtance from maſters, and at firſt almoſt without books: for he was not allowed to have any books of this kind; and if one fell by chance into his hands, he was obliged to conceal it, that he might not incur the reprimands of his father, who deſigned him for other ſtudies. This ſeverity made him chooſe for his device, Phaeton driving the chariot of the ſun, with theſe words, *Invito patre ſidera verſo*, "I traverſe the ſtars againſt my father's inclination:" This had a particular reference to aſtronomy, the part of mathematics to which he at firſt applied himſelf. But the precautions of his father did not avail, for he purſued his favourite ſtudy with great application. In 1676 he began his travels. When he was at Geneva he fell upon a method to teach a young girl to write, though ſhe had loſt her ſight when ſhe was but two months old. At Bourdeaux he compoſed univerſal gnomonic tables, but they were never publiſhed. He returned from France to his own country in 1680. About this time there appeared a comet, the return of which he foretold; and wrote a ſmall treatiſe upon it, which he afterwards tranſlated into Latin. He went ſoon after to Holland, where he applied himſelf to the ſtudy of the new philoſophy. After having viſited Flanders and Brabant, he went to Calais, and paſſed over from thence to England. At London he contracted an acquaintance with all the moſt eminent men in the ſeveral ſciences; and had the honour of being frequently preſent at the philoſophical ſocieties held at the houſe of the famous Mr Boyle. He returned to his native country in 1682; and he exhibited at Baſil a courſe of experiments in natural philoſophy and mechanics, which conſiſted of a variety of new diſcoveries. In 1682, he publiſhed his eſſay of a new ſyſtem of comets; and the year following, his diſſertation on the weight of air. Mr Leibnitz, about this time, having publiſhed in the *Acta Eruditorum* at Leipſic ſome eſſay of his new *Calculus differentialis*, or *infinimens petits*, but concealed the art and method of it; Mr Bernouilli, and one of his brothers, diſcovered, by the little which they ſaw, the beauty and extent of it: they endeavoured to unravel the ſecret; which they did with ſuch ſucceſs, that Mr Leibnitz declared, that the invention belonged to them as much as to himſelf. In 1687, the profeſſorſhip of mathematics at Baſil being vacant, Mr Bernouilli was appointed his ſucceſſor. He diſcharged this truſt with univerſal applauſe; and his reputation drew a great number of foreigners from all parts to hear his lectures. He had an admirable talent in teaching, and adapting himſelf to the different genius and capacity of his ſcholars. In 1699, he was admitted into the academy of ſciences at Paris as a foreign member, and in 1701 the ſame honour was conferred upon him by the academy of Berlin. He wrote ſeveral pieces in the *Acta Eruditorum* of Leipſic, the *Journal des Sçavans*, and the *Hiſtoire de l'Academie des Sciences*. His aſſiduous application to his ſtudies brought upon him the gout, and by degrees a ſlow fever, of which he died the 16th of Auguſt 1705, in the 58th year of his age.—Archimedes having found out the proportion of a ſphere to a cylinder circumſcribed about it, ordered it to be engraven upon his monument. In imitation of him, Mr Bernouilli appointed that a ſpiral logarithmical curve ſhould be inſcribed upon his tomb, with theſe words, *Eadem mutata reſurgo*; in alluſion to the hopes of the reſurrection, which are repreſented in ſome meaſure by the properties of the curve which he had the honour of diſcovering.

Bernouilli (Daniel), a celebrated phyſician and philoſopher, was born at Groningen, February 9th 1700. He was intended by his parents for trade, but his genius led him to different purſuits. He paſſed ſome time in Italy, and at 24 refuſed to be preſident of an academy meant to have been eſtabliſhed at Genoa. He ſpent ſeveral years at St Peterſburgh with great credit; and in 1733 returned to Baſil, where he ſucceſſively filled the chair of phyſic, natural and ſpeculative philoſophy. In his firſt work, *Exercitationes Mathematicæ*, he took the only title he then had, *viz.* "Son of John Bernouilli," and never would ſuffer any other to be added to it. This work appeared in Italy with the great inquiſitor's privilege added to it, and it claſſed Bernouilli in the rank of inventors. He gained or divided nine prizes, which were contended for by the moſt illuſtrious mathematicians in Europe, from the academy of ſciences. The only man who has had ſucceſs of the ſame kind is Euler, his countryman, diſciple, rival, and friend. His firſt prize he gained at 24 years of age. In 1734 he divided one with his father: but this hurt the family union; for the father conſtrued the conteſt itſelf into a want of reſpect; and the ſon did not ſufficiently conceal that he thought (what was really the caſe) his own piece better than his father's. Beſides this, he declared for Newton, againſt whom his father had contended all his life. In 1740, Mr Bernouilli divided the prize "On the Tides of the Sea" with Euler and Maclaurin. The academy at the ſame time crowned a fourth piece, whoſe only merit was that of being Carteſian; but this was the laſt public act of adoration paid by it to the authority of the author of the Vortices, which it had obeyed perhaps too long. In 1748, Mr Daniel Bernouilli ſucceeded his father in the academy of ſciences, and was himſelf ſucceeded by his brother John; this place, ſince its firſt erection, *i. e.* 84 years, never having been without a Bernouilli to fill it. He was extremely reſpected at Baſil; and to bow to Daniel Bernouilli, when they met him in the ſtreets, was one of the firſt leſſons which every father gave every child. He uſed to tell two little adventures, which he ſaid had given him more pleaſure than all the other honours he had received. He was travelling with a learned ſtranger, who, being pleaſed with his converſation, aſked his name: "I am Daniel Bernouilli," anſwered he, with great modeſty; "And I," ſaid the ſtranger (who thought he meant to laugh at him), "am Iſaac Newton." Another time he was giving a dinner to the famous Koenig the mathematician, who boaſted with a ſufficient degree of ſelf-complacency, of a difficult problem he had reſolved with much trouble. Bernouilli went on doing the honours of his table; and, when they went to drink coffee, preſented him with a ſolution of the problem more elegant than his own. He died in March 1782.

BEROEA (anc. geog.), a noble city of Macedonia, to the ſouth of Edeſſa, or Ægæ, and ſouth-eaſt of Cyrtus. The people are commended in Scripture for their reception of the Goſpel on a fair and impartial examination.—Another *Beroea* of Syria (Stephanus); called alſo *Beroe*, and by the inhabitants *Beroëa*. It is the ſtanding tradition for ſome ages, that it is the modern Aleppo; called *Chalep* in Nicetas, Nicephorus, and Zonaras; from which it is ſuppoſed the preſent appellation *Aleppo* is derived; diſtant 90 miles from the Levant Sea and the port of Scanderoon, and about 100 miles weſt of the Euphrates. E. Long. 36. 0. Lat. 36. 30.

BEROOT, or Bairout, a town of Phœnicia, a province of Syria in Turkey in Aſia. It is the ancient Berytus; but there are now no remains of its former beauty, except its ſituation. It ſtands in a plain, which from the foot of Lebanon runs out into the ſea, narrowing to a point, about two leagues from the ordinary line of the ſhore, and on the north ſide forms a pretty long road, which receives the river of Nahr-el-

Salib, called alſo *Nahr-Bairout*. The river has ſuch frequent floods in winter, as to have occaſioned the building of a conſiderable bridge; but it is in ſo ruinous a ſtate as to be impaſſable. The bottom of the road is rock, which chafes the cables, and renders it very inſecure. From hence, as we proceed weſtward towards the point, we reach, after an hour's journey, the town of Bairout. This belonged to the Druzes, till lately that it was taken from them, and a Turkiſh garriſon placed in it. Still, however, it continues to be the emporium of the Maronites and the Druzes, where they export their cottons and ſilks, almoſt all of which are deſtined for Cairo. In return, they receive rice, tobacco, coffee, and ſpecie, which they exchange again for the corn of the Bekaa and the Hauran. This commerce maintains near 6000 perſons. The dialect of the inhabitants is juſtly cenſured as the moſt corrupt of any in the country; it unites in itſelf the 12 faults enumerated by the Arabian grammarians.—The port of Beroot, formed like all the others on the coaſt by a pier, is like them choaked up with ſand and ruins. The town is ſurrounded by a wall, the ſoft and ſandy ſtone of which may be pierced by a cannon ball without breaking or crumbling; which was unfavourable to the Ruſſians in their attack: but in other reſpects this wall, and its old towers, are defenceleſs. Two inconveniences will prevent Beroot from ever becoming a place of ſtrength; for it is commanded by a chain of hills to the ſouth-eaſt, and is entirely deſtitute of water, which the women are obliged to fetch from a well at the diſtance of half a quarter of a league, though what they find there is but indifferent. By digging in order to form reſervoirs, ſubterraneous ruins have been diſcovered; from which it appears, that the modern town is built on the ancient one. The ſame may be obſerved of Latakia, Antioch, Tripoli, Saide, and the greater part of the towns on the coaſt, which have been occaſioned by earthquakes that have deſtroyed them at different periods. We find likewiſe, without the walls to the weſt, heaps of rubbiſh, and ſome ſhafts of columns, which indicate that Beroot has been formerly much larger than at preſent. The plain around it is entirely planted with white mulberry trees, which are young and flouriſhing; by which means the ſilk produced here is of the very fineſt quality. In deſcending from the mountains (ſays M. Volney), no proſpect can be more delightful than to behold, from their ſummits or declivities, the rich carpet of verdure formed by the tops of theſe uſeful trees in the diſtant bottom of the valley. In ſummer, it is inconvenient to reſide at Beroot on account of the heat and the warmth of the water: the town, however, is not unhealthy, though it is ſaid to have been ſo formerly. It has ceaſed to be unhealthy ſince the Emir Fakr-el-din planted a wood of fir trees, which is ſtill ſtanding a league to the ſouthward of the town. E. Long. 35. 38. N. Lat. 34. 18.

BEROSUS, prieſt of the temple of Belus at Babylon, in the time of Ptolemy Philadelphus, wrote the Hiſtory of Chaldea, which is often cited by the ancients, and of which Joſephus gives ſome curious fragments. The Athenians, according to Pliny, cauſed his ſtatue, with a golden tongue, to be placed in their Gymnaſium.

BERRE, a town of Provence in France, ſeated on a lake of the ſame name. It is remarkable for the quantity and goodneſs of the ſalt that is made there, but the air is very unwholeſome. E. Long. 4. 32. N. Lat. 43. 32.

BERRETINI da Crotona (Pietro), painter of hiſtory and landſcape, was born at Crotona in 1596; and, according to ſome writers, was a diſciple of Andrea Commodi; though others affirm that he was the diſciple of Baccio Ciarpi, and the author of the Abrege ſays he was ſucceſſively the author of both: but he is allowed to have been as great and as enlarged a genius as any of his profeſſion, and to have painted more agreeably than moſt of the artiſts who were his cotemporaries. He went young to Rome, and applied himſelf diligently to ſtudy the antiques, the works of Raphael, Buonaroti, and Polidoro; by which he ſo improved his taſte and his hand, that he diſtinguiſhed himſelf in a degree ſuperior to any of the artiſts of his time. He worked with remarkable eaſe and freedom; his figures are admirably grouped; his diſtribution is truly elegant; the chiaro-ſcuro is judiciouſly obſerved; and through his whole compoſitions there appears uncommon grace: but De Piles obſerves, that it was not ſuch a grace as was the portion of Raphael and Correggio; but a general grace, conſiſting rather in a habit of making the airs of his heads always agreeable, than in a choice of expreſſions ſuitable to each ſubject. In his large compoſitions, the colouring had a good effect; but his colouring in freſco is far ſuperior to what he performed in oil: nor do his eaſel pictures appear as finiſhed as might be expected from ſo great a maſter, when compared with what he painted in a larger ſize. By the beſt judges it ſeems to be agreed, that although this maſter was frequently incorrect; though not always judicious in his expreſſions; though irregular in his draperies, and apt to deſign his figures too ſhort and too heavy; yet, by the magnificence of his compoſition, the delicate airs of his figures, the grandeur of his decorations, and the aſtoniſhing beauty and gracefulneſs of the whole together, he muſt be allowed to have been the moſt agreeable mannereſt that any age hath produced.—He died in 1669. Some of his moſt capital works are in the Barberini palace at Rome, and the Palazzo Pitti at Florence.

BERRETONI (Nicolo), hiſtory-painter, was born at Macerata in 1617, and was a diſciple of Carlo Maratti, with whom he ſtudied deſign and colouring for ſome years; and attained ſuch excellence, that he excited even the jealouſy and envy of his maſter, who ſeemed to be apprehenſive of finding a powerful competitor and rival in his pupil.—His early works, after he quitted the ſchool of Maratti, were in the ſtyle and taſte of Guido; and they could not poſſibly have a more high encomium or recommendation. He died in 1682.

BERRIMAN (Dr William), was the ſon of Mr John Berriman apothecary in Biſhopſgate-ſtreet, London, where he was born in 1688. He ſtudied at Oriel-college, Oxford, where he took his ſeveral degrees, and became curate and lecturer of All-hallows in Thames-ſtreet, and lecturer of St Michael's, Queenhithe. In 1720, he was appointed domeſtic chaplain to Dr Robinſon biſhop of London, who ſoon after collated him to the living of St Andrew's Underſhaft; and in 1727, he was elected fellow of Eton-college. He died in 1750, in the 62d year of his age. He wrote, 1. A ſeaſonable Review of Mr Whiſton's Account of Primitive Doxologies. 2. An Hiſtorical Account of the Trinitarian Controverſy, in eight ſermons, at Lady Moyer's lecture. 3. Brief Remarks on Mr Chandler's Introduction to the Hiſtory of the Inquiſition. 4. Sermons at Boyle's lectures, 2 vols 8vo. 5. Chriſtian Doctrines and Duties explained and recommended, in 2 vols 8vo; and other works.

BERRY. See BACCA.

Berry, a province of France, with the title of a duchy. It is bounded on the north, by Solome; on the ſouth, by Marche; on the eaſt, by Nivernois and Bourbonnoiſe; and on the weſt, by Touraine. It is 90 miles in length from north to ſouth, and 73 in breadth from eaſt to weſt. The air is very temperate; and the ſoil produces wheat, rye, and wine little inferior to Burgundy; that of Sancerre, St Satur, and Lavernuſſe, is the beſt. The fruits are in plenty, and pretty good. The paſtures are proper to fatten ſheep. This country produces alſo a good deal of hemp and flax. There are mines of iron and ſilver, but they are neglected. The ſtone quarries, within half a league of Bourges, are very ſerviceable. In the pariſh of St Hilare there is a mine of oker, made uſe of in melting metals and for painting. Near Bourges there is a cold mineral ſpring, which has a clammy fat pellicle over it every morning, of different colours. It lets fall a fine black ſmooth ſediment, which has the ſame ſmell, and almoſt the ſame taſte, as gun-powder, which makes ſome conclude it partakes of ſulphur, vitriol, and oker. The pellicle is as thick as a crown-piece; and when put on a red-hot-fire-ſhovel, will bounce and ſparkle, as will alſo the ſediment. It is certain there is ſaltpetre in theſe waters, though vitriol ſeems to be the moſt predominant. The waters, drank on the ſpot, temperate the heat of the blood and humours, open obſtructions, and ſtrengthen the fibres. Berry is watered by ſeveral rivers; the principal of which are the Loire, the Creuſe, the Cher, the Indre, the Orron, the Evre, the Aurette, the Maulon, the Great and Little Saudre, the Nerre, &c. Near Liniers, there is a lake 20 miles round. Berry is divided into the Upper and the Lower, and Bourges is the capital city. The inhabitants of Bourges carry on a ſmall trade with corn down the Loire: but that of the wine above mentioned is much more conſiderable, it being tranſported to Paris by means of that river and the canal of Briare. But the principal commerce conſiſts in the fat cattle which they ſend to Paris, and the great number of ſheep; theſe laſt bear fine wool; which is uſed in the manufactures of this province and other parts of the kingdom. There are two ſorts of manufactures in Berry; the one for cloths and ſerges, and the other for knit and wove ſtockings. There is likewiſe a great quantity of hemp, which is tranſported elſewhere; for they have not yet got the art of manufacturing it themſelves. At Aubigny there are 2000 perſons generally employed in the making of cloth.

BERSABE (anc. geog.), a town in the tribe of Simeon (Joſhua); the ſouth boundary not only of its own tribe, but of the whole land of Iſrael, as appears from the common expreſſion "from Dan to Berſabe:" in our tranſlation it is Beer-Sheba. It was the reſidence of the patriarchs; as firſt of Abraham, from whom it took its name, and of Iſaac. It ſignifies the well or fountain of the oath; dug by Abraham, and claimed as his property by covenant and the religion of an oath, againſt the inſults of the Philiſtines. Euſebius and Jerome ſay, that there was a citadel and large village of that name in their time. It was called *Beerſheba of Judah* in 1 Kings xix. 3. not to diſtinguiſh it from the Beerſheba of Galilee, which probably did not then exiſt, but to aſcertain the limits of the king of Judah. In the lower age called *Caſtrum Verſabini*.

BERSARII, in writers of the middle age, a kind of hunters or ſportſmen, who purſued wild beaſts in foreſts and chaces. The word ſeems derived from the barbarous Latin *berſare*, "to ſhoot with a bow;" on which principle it ſhould properly denote archers only, or bowmen. Or it might be derived from *berſa*, "the fence *or* pales of a park;" in which view, it ſhould primarily import thoſe who hunt or poach in parks or foreſts.

Hincmar ſpeaks of a kind of inferior officers in the court of Charlemagne, under the denomination of *berſarii, veltrarii*, and *beverarii*. Spelman takes the firſt to denote thoſe who hunted the wolf; the ſecond, thoſe who had the ſuperintendency of the hounds for that uſe; and the third, thoſe who hunted the beaver.

BERSELLO, a fortified town of Italy in the Modeneſe. It was taken by Prince Eugene in 1702; and by the French in 1703, who were obliged to abandon it in 1707. It is ſeated near the confluence of the rivers Linza and Po, in E. Long. 10. 30. N. Lat. 43. 55.

BERSUIRE, a town of France in Lower Poictou. W. Long. 0. 27. N. Lat. 46. 52.

BERTINERO, a town of Romagnia in Italy, with a ſtrong citadel. It is the ſee of a biſhop; and is ſeated on an hill, in E. Long. 11. 47. N. Lat. 44. 8.

BERTRAND (St), an epiſcopal town of France in Gaſcony, and capital of the country of Comminges. E. Long. 0. 30. N. Lat. 43. 2.

BERVY, a ſea-port and parliament town in the county of Mearns in Scotland. W. Long. 2. 0. N. Lat. 56. 40.

BERWICK (the Duke of), was natural ſon of James II. by Mrs Arabella Churchill, ſiſter to the great Duke of Marlborough. He followed the fate of his father, and came into France after the revolution with James II. Here the Duke of Berwick was recommended to the court by his ſuperior merit. He was created marſhal of France, knight of the Holy Ghoſt, duke and peer of France, grandee of Spain, commander in chief of the French armies; in all which ſtations his behaviour was ſuch, that few equalled, perhaps none ſurpaſſed, him. He lived in an age when the renowned Prince of Orage and many other of the greateſt men commanded againſt him. His courage was of the cool ſteady kind; always poſſeſſing himſelf; taking all advantages; not fooliſhly, raſhly, or wantonly throwing away the lives of his ſoldiers. He kept up on all occaſions the moſt ſtrict diſcipline; and did not ſpare puniſhment among his ſoldiers for marauding and other crimes, when properly deſerved; for which ſome inconſiderate people have blamed him. He has been reflected upon by the very zealous and violent adherents of the Stuart family for not being ſufficiently attached to that party, which was his own family. But by a cool examination of his actions, it will appear, that his behaviour in this particular was, as in moſt parts of his life, ſenſible and juſt. When he accepted of employments, received honours, dignities, and became a naturalized Frenchman, he thought it his duty, as an honeſt man, to become a Frenchman, and a real ſubject to the monarch who gave him bread; and to be, or not to be, in the intereſt of the Stuart family, according to the will and commands of the ſovereign whom he ſerved, and in the intereſt of France according to the time and circumſtances; for there is no ſerving two maſters well. But when ordered by his king to be in that family's intereſt, he acted with the greateſt ſincerity; and took the moſt effectual and ſenſible methods to ſerve that unhappy houſe, as the following anecdote, if true, and it has great appearance and probability on its ſide, proves. The Duke of Marlborough, after the ſigning of the treaty of Utrecht, was cenſured by the Britiſh parliament for ſome of the army contracts in relation to bread and forage: upon which he retired into France: and it was then credibly aſſerted, the Duke of Marlborough was brought over to the intereſt of the Stuart family; for it is now paſt a doubt, that Queen Anne had a very ſerious intention of having her brother upon the throne of England after her death: and ſeveral circumſtances, as well as the time of that Duke's landing in England, made many people believe he was gained over to the Stuart party. If the Duke of Berwick was, directly or indirectly, the means of gaining his uncle over to that intereſt, he more effectually ſerved it than that raſh mock army of unhappy gentlemen, who taken priſoners at Preſton in 1715, had it in their power to do. In a word, the Duke of Berwick was, without being a bigot, a moral and religious man; and ſhowed by his life and actions, that morality and religion are very compatible and conſiſtent with the life of a ſtateſman, and a great general; and if they were oftener united in thoſe two profeſſions, it would be much happier for the reſt of mankind. He was killed by a cannon-ball at the ſiege of Philipſburgh, in 1738.

BERWICK, one of the beſt cultivated counties in Scotland; bounded by the river Tweed, on the ſouth; by Lothian, on the north; by the German Ocean, on the eaſt: and by Tiviotdale on the weſt. It abounds with corn and graſs, and has in it ſeveral ſeats of perſons of quality. The principal rivers are the Tweed, the Whiteater, Blackadder, Eye, and Ednel. The chief place is the town and caſtle of Dunſe. Eymouth is the ſea-port, where a great deal of grain is ſhipped. Lauder is the only royal borough, though Greenlaw is the county-town. It ſends one member to parliament.

BERWICK (North), a royal borough and ſea-port in the county of Eaſt Lothian in Scotland. W. Long. 2. 29. N. Lat. 56. 5.

BERWICK-upon-Tweed, is a town on the borders of England and Scotland, and a county of itſelf. It ſtands on the north or Scottiſh ſide of the river Tweed; and is pleaſantly ſituated on an eaſy declivity, almoſt cloſe to the ſea. It has a ditch on the the north and eaſt; but on the ſouth and weſt it has high walls, regularly fortified, and planted with cannon, and to which the river ſerves as a moat. The houſes are generally well built; and the town houſe is a handſome ſtructure, with a lofty turret, in which are eight bells, and a fine clock which tells the quarters, with four dials, one on each ſide the ſquare. The church is a neat building, but has no bells. The bridge is 947 feet long, and is ſupported by fifteen arches. The barracks form a large regular ſquare, and will hold two regiments of foot very conveniently. The town is governed by a mayor, recorder, town-clerk, and four bailiffs, and has a coroner, a treaſurer, four ſerjeants at mace, and a water bailiff. It had a ſtrong caſtle, which now lies quite it ruins. It has a market on Saturdays, extremely well ſupplied: and a fair on Friday on Trinity-week for black cattle and horſes. Corn and eggs are ſhipped from hence for London and other ports; but the principal trade is the ſalmon which are caught in the Tweed, and reckoned to be as good as any in the kingdom. Some are ſent alive, and ſome pickled in kits by perſons who ſubſiſt on that employment, and are called *ſalmon coopers*. The living is a rectory, rated at 20l. a-year in the king's books. Though this town is not admitted to be either in England or Scotland, the Engliſh judges hold aſſizes here; and it is ſubject the biſhop of Durham. It ſends two members to parliament. W. Long. 1. 35. N. Lat. 55. 58.

BERY, or BURY, the villa or ſeat or habitation of a nobleman, a dwelling or manſion houſe, being the chief of a manor: from the Saxon *beorg*, which ſignifies a *hill* or *caſtle*; for heretofore noblemens ſeats were caſtles ſituated on hills, of which we have ſtill ſome remains; as in Herefordſhire there are the *beries* of Stockton, Hope, &c. It was anciently taken for a ſanctuary.

BERY. See BERIA.

BERYL, in natural hiſtory, called by our lapidaries *aqua marina*, is a pellucid gem of a bluiſh green colour, found in the Eaſt Indies, and about the gold mines of Peru: we have alſo ſome from Sileſia, but what are brought from thence are oftener coloured cryſtals than real beryls; and when they are genuine, they are greatly inferior both in hardneſs and luſtre to the oriental and Peruvian kind.

The beryl, like moſt other gems, is met with both in the pebble and columnar form, but in the latter moſt frequently. In the pebble form it uſually appears of a roundiſh but flatted figure, and commonly full of ſmall flat faces, irregularly diſpoſed. In the columnar or cryſtaline form it always conſiſts of hexangular columns, terminated by hexangular pyramids. It never receives any admixture of colour into it, nor loſes the blue and green, but has its genuine tinge in the degrees from a very deep and duſky to the paleſt imaginable of the hue of ſea-water.

The beryl, in its perfect ſtate, approaches to the hardneſs of the garnet, but is often ſofter; and its ſize is from that of a ſmall tare to that of a pea, a horſe-bean, or even a walnut. It may be imitated by adding to 20 pounds of cryſtal-glaſs made without magneſia, ſix ounces of calcined braſs or copper, and a quarter of an ounce of prepared zaffre.—The properties of the beryl were very wonderful in the opinion of the ancient naturaliſts; it kept people from falling into ambuſcades of enemies, excited courage in the fearful, and cured diſeaſes of the eyes and ſtomach. It does none of theſe things now; becauſe people are not ſimple enough to believe it has the virtue to do them.

BERYL-cryſtal, in natural hiſtory, a ſpecies of what Dr Hill calls *ellipomacroſtyla*, or imperfect cryſtals, is of an extreme pure, clear and equal texture, and ſcarce ever ſubject to the ſlighteſt films or blemiſhes. It is ever conſtant to the peculiarity of its figure, which is that of a long and ſlender column, remarkably tapering towards the top, and very irregularly hexangular. It is of a very fine tranſparence, and naturally of a pale brown; and carries ſuch evident marks of diſtinction from all brown cryſtals, that our lapidaries call it, by way of eminence, the *beryl-cryſtal*, or ſimply the *beryl*.

BERYTUS (anc. geog.), a ſea-port town of Phœnicia on the Mediterranean, ſo ancient as to be thought to have been built by Saturn. It was deſtroyed by Tryphon, but rebuilt by the Romans. Agrippa placed here two legions, whence it became a colony. It enjoyed the *jus Italicum*, and had an excellent ſchool for the ſtudy of the law in Juſtinian's time. Now BEROOT; which ſee.

BES, or BESSIS, in Roman antiquity, two-thirds of the As. See As.

BES alſo denotes two thirds of the jugerum. See JUGERUM.

BESAILE, ſignifies the father of a grandfather.

BESAILE, in law, a writ that lies where the great grandfather was ſeized in fee of any lands, &c. at the time of his death: and after his deceaſe a ſtranger enters thereon, the ſame day, and keeps out the heir.

BESANÇON, a city of France, capital of the Franche Compte, and one of the moſt ancient cities of Europe. It is the ſee of an archbiſhop, and has a parliament as well as a univerſity. It is ſeated on the river Dreux, which divides it into two parts, the greateſt of which is a peninſula. The entrance is ſhut up by a mountain, on which they have built a large citadel, which commands all the city. There are many names of places in and about the city, that are plainly corruptions of the Latin, and are marks of its antiquity, as Chamars, Campus Martis, Chamuſe, Campus Muſarum, Chandane, Campus Dianæ, &c. The metropolitan church is built at the bottom of St Stephen's hill; and is a very handſome ſtructure with a high tower ſteeple. The great altar is placed in the middle choir, where on high days they expoſe reliques in ſilver ſhrines, enriched with gold and jewels. There are ſeveral tombs and other things remarkable in the churches; and after you have paſt the church of Notre Dame, and the ſquare that it looks into, you come to a triumphal arch, erected in honour of the emperor Aurelian, on which are ſeveral figures of men and animals, pretty entire. It ſerves as a gate to the cloiſter of St John the Great. The great hoſpital of the order of the Holy Ghoſt is a ſtructure worth ſeeing. The ſtreets are wide and handſome; and the houſes are well built with free-ſtone, and covered with ſlate, chiefly about the ſquare called *Battan*, which is adorned with a fountain, the water of which proceeds from the ſtatue of Bacchus. The river Dreux is paſſed over on a ſtone bridge, to enter from one part of Beſancon into the other. The market-place is at the entrance; and on the left is another ſquare, adorned with a fountain, where the great ſtreet begins, which traverſes all this part, from the bridge to St John the Great. The new ſquare is not far from this ſtreet, from whence you go to the town-houſe, which is a large ſtructure with four wings, before the front of which is the ſtatue of Charles V. in bronze, with a globe in one hand and a ſword in the other. The imperial eagle is raiſed over a large baſon, and ſpouts out water by both his beaks. The governor's palace is the moſt magnificent in the province, and there is a fountain a little farther, adorned with the figure of a naked woman, with water ſpringing out at her nipples. E. Long. 6. 10. N. Lat. 47. 26.

BESANT, or BEZANT, a coin of pure gold, of an uncertain value, ſtruck at Byzantium, in the time of the Chriſtian emperors; from hence the gold offered by the king at the altar is called *beſant* or *biſant*.

BESANTED, or BEZANTED. This word means *full of beſants*; and is uſed to denote a field, ordinary, or charge, covered with above eight beſants: for if there be but eight or fewer, their number muſt be particularly mentioned.

BESELEEL *and* OOLIAH, architects, ſculptors, and painters, ſuppoſed to have made all the ornaments in braſs, ſilver, &c. of the firſt tabernacle in the wilderneſs, 1490 B. C.

BESIERS, or BEZIERS, an ancient and handſome town of France, in Lower Languedoc, with a biſhop's ſee, and the title of a viſcounty. It has a delightful ſituation; and the country in which it ſtands is fertile in corn, oil, and produces excellent wine. It is ſeated on a hill near the river Orbe, in E. Long. 3. 23. N. Lat. 43. 21.

BESISTAN, or BERSTEIN: Thus at Conſtantinople, Adrianople, and in ſome other towns within the Grand Signior's dominions, they call thoſe places where the merchants have their ſhops, and expoſe their merchandizes to ſale. Each ſort of merchants have their particular beſiſtan, which muſt alſo be underſtood of the workmen, all thoſe of the ſame trade working in the ſame place. Theſe beſiſtans are commonly large galleries, vaulted over, whoſe gates are ſhut every night. Sometimes the wardens and keepers of the beſiſtans will anſwer for the merchandizes, on paying them a very moderate perquiſite for every ſhop.

BESLERIA (from Baſilius Beſler, an apothecary at Nuremberg, author of a book, intitled, *Hortis Eyſtetenſis*), a genus of the angioſpermia order, belonging to the didynamia claſs of plants. Of this genus there are three ſpecies; the melittifolia, with branching footſtalks and oval leaves: the lutea, with ſimple footſtalks growing in cluſters, and ſpear-ſhaped leaves; and the criſtata, with ſtalks growing ſingle, and a five-leaved involucrum. All theſe are natives of the warm parts of America, and cannot be preſerved in Britain without artificial heat. But as they are remarkable neither for beauty nor any other property, we forbear any particular deſcription.

BESORCH, a coin of tin, or ſome alloyed metal, current at Ormus at the rate of $\frac{7}{49}$ parts of a farthing ſterling.

BESOZZI, or BEZUTIUS (Ambrogio), a painter of conſiderable eminence, was born at Milan in 1648. He worked ſome time under Gioſeffo Danedi, called *Montalti*: he afterwards went to Rome, where he ſtudied from the antiques and the pictures of the greateſt maſters; and at laſt perfected himſelf in the ſchool of Ciro Ferri. His great excellency conſiſted in painting architecture, friezes, imitations of baſs-relieves, and other decorations. He died at Milan in 1706, aged 58 years.

BESSARABIA, a territory of Turkey in Europe, lying between Moldavia, the Danube, the Black Sea, and Little Tartary. It is inhabited by independent Tartars, who maintain themſelves by their cattle, huſbandry, and by robbery. Their religion, manners, and cuſtoms, are the ſame of thoſe with the Crim Tartars. When there are any forces ſent againſt them, they retire among the mountains near the Black Sea, where it is impoſſible to come at them on account of the moraſſes and defiles.

BESSARION, titular patriarch of Conſtantinople and archbiſhop of Nice, and one of thoſe illuſtrious perſons who contributed to the reſurrection of letters in the 15th century, was born at Trebiſond. He was very zealous to reunite the Greek with the Latin church, and engaged the emperor John Paleologus to intereſt himſelf in bringing this great work about. He paſſed into Italy, appeared at the council of Florence, harangued the fathers, and made himſelf admired as well by his modeſty as by his uncommon abilities. The Greek Schiſmatics conceived ſo mortal an averſion to him, that he was obliged to remain in Italy; where pope Eugenius IV. honoured him with the purple in 1439. He fixed his abode at Rome, and would have been raiſed to the Papal chair, if cardinal Alain had not oppoſed it, as injurious to the Latin church, to chooſe a Greek however illuſtrious. He was employed in ſeveral embaſſies, but that to France proved fatal to him. When legate at this court, he happened to viſit the duke of Burgundy, before he ſaw Louis XI. which ſo diſconcerted the capricious haughty monarch, as to occaſion him a very ungracious reception. Nay, the king even took the cardinal legate by his moſt magnificent beard, ſaying in his fine Latin, *Barbara Græca genus retinent quod habere ſolebant:* and this affront ſo chagrined the cardinal, as to occaſion his death at Ravenna upon his return in 1472. This at leaſt is what Matthieu relates in his Hiſtory of Louis XI. Beſſarion loved the literati, and protected them. Argyropilus, Theodore of Gaza, Poggius, Laurentius Valla, &c. formed in his houſe a kind of academy. His library was large and curious; and the ſenate of Venice, to whom he gave it, preſerve it to this day with attention and regard. He left ſome works, which rank among thoſe that helped to revive letters; as, *Defenſio Doctrinæ Platonicæ*, &c. Tranſlations of ſome Pieces of Ariſtotle. Orations, Epiſtles, *&c.*

BESSICA (anc. geog.), a diſtrict of Thrace towards mount Hæmus to the ſouth of the Hebrus. It was inhabited by a fierce and barbarous people noted for their robberies. Their chief city Uſcudama is now known by the name of *Adrianople*. They lived under their own kings till the conſulate of M. Licinius Lucullus and C. Caſſius Varus; when the conſul Lucullus invaded their country, and having gained a great victory over them, took their metropolis, and ſubjected the whole nation to the Roman laws. The Romans, notwithſtanding they had ſubdued them by force of arms, ſtill ſuffered them to live under their own kings; for Piſo, while he governed Macedon in quality of proconſul, having treacherouſly ſeized Rabocentus, whom Suetonius calls *prince of the Beſſi*, cauſed him to be publicly beheaded. This affront ſo exaſperated the whole nation that they revolted; but were overthrown in a great battle by Octavius the father of Auguſtus. During the civil wars of Rome they attempted anew to recover their liberty, but were again defeated by the famous M. Brutus. In the reign of Auguſtus one Vologeſus, a native of the country, and prieſt of Bacchus, having, under pretence of religion, drawn together great crowds of people, made himſelf maſter of the whole country; and entering the Cherſoneſus, committed there the moſt dreadful ravages. He was at laſt, however, overcome by L. Piſo; who obliged the ſavage inhabitants to lay down their arms, and ſubmit to ſuch conditions as he was pleaſed to impoſe upon them. From this time the Beſſi continued ſubject to the Romans without attempting any more to regain their liberty.

BESSIS. See BES.

BESTAIL, or BESTIAL, in ancient ſtatutes, all kinds of beaſts or cattle, eſpecially thoſe purveyed for the king's proviſion.

BESTIARII, in Roman antiquity, ſuch as fought againſt beaſts, or thoſe who were expoſed to them by ſentence of the law. There were four kinds of beſtiarii: the firſt were thoſe who made a trade of it, and fought for money; the ſecond were ſuch young men as, to ſhow their ſtrength and dexterity in managing their arms, fought againſt beaſts; the third kind was, where ſeveral beſtiarii were let looſe at once, well armed, againſt a number of beaſts; and the fourth kind were thoſe condemned to the beaſts, conſiſting either of enemies taken priſoners in war, or as being ſlaves, and guilty of ſome enormous crime; thoſe were all expoſed naked, and without defence.

BESTRICIA, a town of Tranſylvania, remarkable for the gold mines in its neighbourhood. E. Long. 22. 5. N. Lat. 48. 0.

BETA, the BEET; a genus of the digynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 12th order, *Holoraceæ*. The calyx has four leaves; there is no corolla, the ſeeds are kidney-ſhaped, and ſituated within the baſe of the calyx.

Species. 1. The maritima, or ſea-beet, grows naturally by the ſea-ſide, and in ſalt marſhes, in many parts of England, as alſo on the Baſs iſland at the mouth of the Forth in Scotland. It has been ſuppoſed by many to be only a variety of the common white beet; but Mr Miller aſſures us he has been unable to make any variation in them by culture. 2. The hortenſis, or common white beet, is cultivated in gardens for the ſake of its leaves which are frequently uſed in ſoups. The root of this ſort ſeldom grows larger than a man's thumb; the ſpikes of flowers come out from the wings of the leaves, which are long, and have narrow leaves placed between the flowers. The lower leaves of the plant are thick and ſucculent, and their footſtalks broad. The varieties of this are, the white beet, the green beet, and the Swiſs or chard beet. Theſe will vary from the one to the other, but have never been found to change to the firſt or third ſort. 3. The vulgaris, or red beet, with a pyramidal root, hath large, thick, ſucculent leaves, which are for the moſt part of a dark-green or purple colour. The roots of this are large, and of a deep red colour. The larger theſe roots grow, the tenderer they are, and the deeper their colour, the more they are eſteemed. The varieties of this ſpecies are, the common red beet, the turnip-rooted beet, and the green-leaved red beet. 4. The cicla, or root of ſcarcity; for which ſee AGRICULTURE, nº 52.

Culture. The common white beet is commonly ſown by itſelf in the beginning of March, upon an open ſpot of ground, not too moiſt. When the plants have put out four leaves, the ground ſhould be hoed as is practiſed for carrots, carefully cutting up all the weeds, and alſo the plants where they are too near each other, leaving them at leaſt ſix inches aſunder. In three weeks or a month's time the ground ſhould be hoed a ſecond time to cut up the weeds and thin the plants to a greater diſtance, for by this time they will be out of danger; ſo ſhould not be left nearer than eight or nine inches, if regard is had to the goodneſs of the leaves; and if it is of the Swiſs kind, with broad leaves, the plants muſt not be nearer than a foot. In ſix weeks after, the ground ſhould be hoed over a third time, which if properly done will deſtroy all the weeds. After this the plant will ſpread and prevent the weeds from growing, therefore will want but little cleaning for a conſiderable time, and the leaves will ſoon be fit for uſe. The outer larger leaves ſhould be firſt gathered, leaving the ſmaller inner ones to grow large; by which method a ſmall ſpot of ground will ſupply a moderate family for a whole year, provided the plants are not allowed to run to ſeed, for in that caſe they will not be good.

The red beet is frequently ſown with onions, carrots, or parſnips; but if theſe are not to be ſoon removed, the beets ought to be ſown by themſelves. This ſort requires a deep light ſoil; the ſeeds ſhould be ſown in March, and muſt be treated in the ſame manner as the former ſort: but the plants ſhould not be left nearer than a foot diſtance, or in a good land a foot and a half; for the leaves will cover the ground at that diſtance. The roots will be fit for uſe in autumn, and continue good all winter; but in the ſpring, when they begin to ſhoot, they will be hard and ſtringy.

Medicinal and other uſes. Decoctions of beets gently looſen the belly; hence they have been ranked among the emollient herbs: the plants remaining after the boiling are ſuppoſed to have rather a contrary effect. They afford little nouriſhment, and are ſaid by ſome to be prejudicial to the ſtomach. The juice expreſſed from the roots is a powerful errhine. The root of the red beet is ſometimes uſed to improve the colour of claret; and Mr Margraff found that good ſugar might be produced from the roots of the white kind by the methods practiſed abroad for procuring it from the ſugar cane. By ſome it is recommended to cultivate the white beet in large quantities as food for cattle. See AGRICULTURE, nº 51.

BETANZOS, a town of Galicia in Spain, ſeated on the Mandeo, and a bay of the ſea, in W. Long. 7. 50. N. Lat. 43. 21.

BETEL, or BETLE, in botany, an Indian plant (a ſpecies of PIPER), of great uſe and eſteem in the eaſt, where it makes a conſiderable article of commerce. See PIPER.

BETELFAGUI, a town of Aſia, in Arabia Felix, famous for the vaſt quantity of coffee bought and ſold there; being the mart where the country people bring their coffee to ſell; and where the Europeans come, or ſend their factors or brokers, to purchaſe it. E. Long. 57. 20. N. Lat. 15. 40.

BETHABARA (anc. geog.), a term denoting *a paſſage*; and therefore by many referred to the paſſage at Jericho, where the Iſraelites paſſed over dryſhod; by Lightfoot, to the paſſage at Scythopolis; but Cellarius refers it to the mid-way between both; becauſe there were doubtleſs ſeveral paſſages or fords on the Jordan. Here John is ſaid to have baptized on the other ſide Jordan, (Evangeliſts).

BETHAGLO, or BETH-HAGLA (anc. geog.), a town of the tribe of Benjamin (Joſhua xvii. 21.). In Jerome's time there was a village called *Agla*, ten miles from Eleutheropolis, towards Gaza, and ſuppoſed to be Bethagla.

BETHANY (anc. geog.), a village at the foot of mount Olivet, on the eaſt ſide, about two miles to the eaſt of Jeruſalem, (John, Jerome); where Lazarus dwelt and was raiſed from the dead; and where happened the aſcenſion of our Saviour.

BETHARAMPHTHA (anc. geog.), a town of Galilee, (Ptolemy); of the Peraea, (Joſephus); which being walled round by Herod Antipas, was called *Julius*, after Julia, the daughter of Auguſtus, and conſort of Tiberius: it ſtood to the north of the lake of Geneſareth, at the influx of the Jordan into that lake; and here Dr Well's places Bethſaida.

BETHARAN (anc. geog.), a town of the Peraea, or on the other ſide Jordan. Said to be called *Livias*, or *Libias*, in the Greek manner, by Herod in honour of Livia, (Euſebius, Jerome); and of the ſame latitude almoſt with Jeruſalem, (Ptolemy); called *Julias* by Joſephus, who always calls the Livia of Auguſtus *lia*.

BETHAVEN (anc. geog.), a town in the tribe of Ephraim, and a name given Bethel by Hoſea, after the eſtabliſhment of the idolatry of Jeroboam there: meaning it to have become the houſe of iniquity, from being the houſe of God; but Bethaven was a diſtinct town (Joſhua vii. 2.) to the ſouth-eaſt of Bethel.

BETHEL (anc. geog.), a city of Samaria, on the borders of the tribe of Benjamin, anciently called *Luz*, (Moſes); but they ſeem to be diſtinguiſhed, (Joſhua xvi. 2.). They were, however, contiguous places. Bethel was properly the place of Jacob's viſion; and Luz, or Lus, an adjoining town, afterwards called *Bethel*, the former name being loſt in that of *Bethel*. It was twelve miles to the north-eaſt of Jeruſalem, (Jerome); and called *Bethaven*, (Hoſea).

BETHESDA, (called in the Greek, κολυμϐηθρα προϐατικη, and thence in the Vulgate, *Piſcina Probatica*, becauſe, according to ſome, the ſheep were waſhed in it, which were appointed for ſacrifices), was the Hebrew name for a pool or public bath, which had five porticos, piazzas, or covered walks around it. This bath, for its ſingular uſefulneſs, was called Betheſda, בית חכרה, *Beth Chezda*, or the *houſe of Mercy*, becauſe, as Pool, in his Annotations, obſerves the erecting of baths was an act of great kindneſs to the common people, whoſe indiſpoſitions in hot countries required frequent bathing. However, ſome will have the word Betheſda to be בית אשרה, or the *ſink-houſe*, or *drain*, becauſe the waters which came from the temple, and the place where the victims were waſhed, flowed thither. From the Greek word κολυμϐηθρα being uſed

Betheſda. by Joſephus (*Antiq.* xv. 3.) to denote the baths at Jericho, Dr Macknight, in his Harmony of the Goſpels, concludes that their opinion ſeems to be without a proper foundation who affirm, that this pool ſerved for waſhing the ſheep deſigned for ſacrifice before they were driven into the temple, and for waſhing the entrails of the beaſts ſacrificed there: beſides, he thinks it inconſiſtent with the ſituation of Betheſda, *near the ſheep-gate* (or *market*, as our Engliſh tranſlators have rendered the Greek επι τη προϐατικη κολυμϐηθρα, though ſome copies have it, Εν τη, &c.) in the ſouth-eaſt wall of the city; or, according to the compilers of the Univerſal Hiſtory, in that which was on the north eaſt, a great way from the temple. However this may be, we are told (John v. 2, 3, &c.) that in the porticoes of this bath, at the time of a certain feaſt (which is generally ſuppoſed to have been the paſſover), there lay a multitude of impotent folk, ſuch as the blind, halt, and withered, waiting for the moving of the water: for an angel went down at a certain ſeaſon into the pool, and troubled the water; that is, moved it in a ſenſible manner. Whoſoever then firſt, after the troubling of the water, ſtepped into it, was made whole of whatever diſeaſe he had. Some writers confine the miracle of the pool of Betheſda to the ſeaſon of this particular feaſt mentioned in verſe 1. of this chapter, becauſe they underſtand κατα καιρον, *by times* (verſe 4.), which our tranſlators render, *a certain ſeaſon*, meant *at that ſeaſon*; that is, the ſeaſon mentioned verſe 1.; and ſince the evangeliſt does not ſay that the water of Betheſda had this ſanative quality at any other feaſt, we are at liberty to make what ſuppoſition ſeems moſt convenient. Perhaps it was intended to ſhow that Ezekiel's (xlvii.) viſion of waters iſſuing out of the ſanctuary was about to be fulfilled, of which waters it is ſaid, (ib. verſe 9.) "they ſhall be healed, and every thing ſhall live whither the river cometh." But it muſt be obſerved, that the fourth verſe of this chapter of St John is not in the Cambridge MSS. which formerly was Beza's, nor in one or two more of great authority. See Dr Mill's judgment of it in that part of his *Prolegomena* to which he refers the reader in his note on the text. But though it ſhould be rejected, the difficulty for which ſome would have it cancelled, Dr Macknight obſerves, remains ſtill: becauſe the ſeventh verſe implies that cures were performed in this pool, and that only one at a time was cured, and conſequently that theſe cures were miraculous. If ſo, it is as eaſy to conceive that an angel moved the water, and gave it its healing quality, as to fancy thoſe cures were performed miraculouſly any other way. Grotius thinks, that the angel is ſaid to have deſcended, not becauſe he was ever ſeen to do ſo, but becauſe the Jews were perſuaded that God brought ſuch things to paſs by the miniſtration of angels; ſo that from that violent motion of the water, and the cure following it, the preſence of an angel was with reaſon ſuppoſed. Dr Hammond ſuppoſes, that the waters became medicinal by being impregnated with a healing warmth from the blood and entrails of the ſacrificed beaſts that were waſhed there; and that the αγγελος, *angel*, or *meſſenger*, in the text is not to be underſtood of thoſe celeſtial beings that are uſually diſtinguiſhed by that name, but only of a common meſſenger, *viz.* an officer or ſervant of the prieſt, who at a proper ſeaſon was ſent by him to ſtir the pool.

BETHLEHEM, a town of Paleſtine, famous for the birth of Jeſus Chriſt. It was once a flouriſhing town, but is now only a poor village. It is ſituated two leagues ſouth-eaſt of Jeruſalem, on an eminence, in a country full of hills and valleys, and might be rendered very agreeable. The ſoil is the beſt in all theſe diſtricts: fruits, vines, olives, and ſeſamum ſucceed here extremely well; but cultivation is wanting. They reckon about 600 men in this village capable of bearing arms upon occaſion; and this often occurs, ſometimes to reſiſt the Pacha, ſometimes to make war with the adjoining villages, and ſometimes in conſequence of inteſtine diſſentions. Of theſe 600 men, about 100 are Latin Chriſtians, who have a vicar dependent on the great convent of Jeruſalem. Formerly their whole trade conſiſted in the manufacture of beads; but the reverend fathers not being able to find a ſale for all they could furniſh, they have reſumed the cultivation of their lands. They make a white wine, which juſtifies the former celebrity of the wines of Judea, but it has the bad property of being very heady. The neceſſity of uniting for their common defence prevails over their religious differences, and makes the Chriſtians live here in tolerable harmony with the Mahometans, their fellow-citizens. Both are of the party *Yamani*, which, in oppoſition to that called *Kaiſi*, divides all Paleſtine into two factions, perpetually at variance. The courage of theſe peaſants, which has been frequently tried, has rendered them formidable through all that country. Here is a church built by St Helena, in the form of a croſs, which is very large; and from its top may be ſeen all the country round about. The roof is lofty, flat, and compoſed of cedar on the inſide, and leaded without. Both ſides of the nave are ſupported by two rows of marble pillars, each made of one piece, and eleven in a row, inſomuch that they make as it were five naves, ſeparated from each other by theſe rows of pillars, in each of which is the picture of ſome ſaint. On the wall over the pillars there is a very beautiful Moſaic work, on a gold ground. The walls were formerly overlaid with fine marble, but the Turks have taken it to adorn their moſques. The three upper ends of the croſs terminate in three ſemicircles, having in each an altar. Over the chancel there is a ſtately cupola, covered with lead on the outſide, and within adorned with Moſaic work. Cloſe to the church is the monaſtery of the Franciſcans; which is large but indifferently built. The gardens are defended with ſtrong walls, and at the north-weſt of them ſtands a tower now almoſt in ruins. Their chapel is better taken care of. Through this there is a paſſage to a ſquare cave, where they ſay the Innocents were buried. Beyond this there are paſſages to the tombs of St Jerom, St Paula, Eſtochium, and Euſebius of Cremona. Beyond theſe there is a grot or cell, which they ſay was the lodging-place of St Jerom when he tranſlated the Bible. Another entrance leads to a vault or chapel, 12 feet wide and 40 long, whoſe floor is paved, and ſides lined with white marble, and the roof is adorned with Moſaic work, now much decayed. At the end of this there is an arched concavity, with an altar, over which is a picture of the nativity, and under it a vault, the middle of which is a ſtar made with ſtones of various colours, to mark the place where they ſay our Saviour was born;

Bethlehem.

and near this is the manger where they pretend he was laid; it is hewn out of a rock, and is now flagged with white marble.

BETHLEHEM, in the ſtate of Pennſylvania, is a ſmall town of about 60 houſes, on the north ſide of the river Lehigh or Weſt-branch of Delaware, 53 miles north of Philadelphia, in Lat. 40. 37. It was begun and is ſettled by a number of the evangelical United Brethren, vulgarly called Moravians. Theſe, in honour of the birth place of Chriſt, called this their firſt and chief ſettlement in America, *Bethlehem*.

It has a pleaſant and healthy ſituation, and moſtly good ſtately houſes of hammered ſtone, and fine mill-works on a creek called *Manakes*. Gentlemen and Ladies, who travel for their health or pleaſure, commonly viſit it, to ſee the ſingular inſtitution of this religious ſociety and their curioſities. There is a water-work of a ſimple conſtruction on the foot of the hill, whereon the town ſtands, which forces the water of a ſpring above 100 feet high for the uſe of the inhabitants, into the town and ſeveral public buildings. On the river Lehigh, is a ferry, where the flat, carrying a team with ſix horſes, works itſelf by a rope, and the current of the ſtream, forwards and backwards acroſs the river.

At the beginning of the year 1790, the inhabitants were 550 in number.

BETHLEHEM, a town of the Netherlands, in the province of Brabant, ſubject to the houſe of Auſtria. E. Long. 4. 40. N. Lat. 51. 2.

BETHLEHEMITES, or BETHLEMITES, in Church Hiſtory, a ſort of monks introduced into England in the year 1257, habited like the Dominicans, except that, on their breaſt, they wore a ſtar with five rays, in memory of the ſtar or comet which appeared over Bethlehem at the nativity of our Saviour. They were celled at Cambridge, and had only one houſe in England.

There is alſo an order of Bethlehemites ſtill ſubſiſting in Peru, who have convents at Lima; one called of the incurables, the other of our Lady of mount Carmel. Theſe Bethlehemites came originally from the city of Guatimala in Mexico, where they were inſtituted by the venerable Peter Joſeph of Betaneur, for the ſervice of the poor. Innocent XI. in 1687, approved the inſtitute. They have already nine convents in Peru.

The Bethlehemites, though outwardly of great ſimplicity, paſs for the moſt refined politicians; inſomuch as to be called the quinteſſence of the Carmelites and Jeſuits. They are all fryars. For their almoner they chooſe a ſecular prieſt, whom they hire, and who has no vote in the chapter.

BETHORON, (anc. geog.), a town of Samaria; Upper and Nether, and both in the tribe of Ephraim, built by Shera grand daughter of Ephraim, 1 Chron. viii. 24. both which were reſtored by Solomon, after falling to decay, 1 Kings ix. 17. and 2 Chron. viii. 5. Their diſtance was almoſt the whole breadth of the tribe of Ephraim, the Upper being in the north, the Nether in the ſouth, of that tribe, Joſhua xvi. We know more of the Nether than of the Upper: it was ſituate on a mountain, and therefore Joſephus and Jerome mention going up or aſcending; and it ſtood on the public road to Lydda and Cæſarea, diſtant an hundred ſtadia, or twelve miles from Jeruſalem: and on account of this vicinity, ſome allot it to the tribe of Benjamin.

BETH-PEOR, (anc. geog.) a town of the Reubenites, on the other ſide Jordan, at mount Foger, over againſt Jericho, ſix miles above Livias. It had a temple ſacred to the idol Baal-Peor, Numbers xxv. 3. called Beel-Phegor by the Vulgate, interpreted Priapus by Jerome.

BETHPHAGE, (anc. geog.) a place at the weſt deſcent or declivity of mount Olivet, Matthew xxi. 1. From which it may be gathered, that the whole of that declivity, with a part of the valley, and the extreme ſkirts of the city, went under the common name of Bethphage.

BETHSAIDA. See BETHARAMPHTHA.

BETHSAN, or BETHSEAN, (anc. geog.) a town of Samaria, in the half tribe of Manaſſeh, on the borders of Galilee, about half a league from Jordan, on this ſide, having half of its territory in the Peraea: it was afterwards called Scythopolis: it was diſtant from Tiberias, ſituate on the lake Geneſareth, 120 ſtadia, or 15 miles, to the ſouth; and from Jeruſalem to the north, 600 ſtadia, or 75 miles. As to the origin of the appellation Scythopolis, there ſcarce appears any thing in hiſtory that has a relation to it, but the irruption of the Scythians, in the time of the Medes, when they over-ran all Aſia. It was the greateſt city of all the Decapolis, (Joſephus.) It is called Baeſon by Stephanus.

BETHUNE (Maximilian de), Duke of Sully, grand maſter of the artillery, and marſhal of France, ſovereign prince of Enrichemont and Bois-Bell, Marquis of Roſny, and one of the ableſt and moſt upright miniſters France ever had, was deſcended from an illuſtrious houſe, and was born in 1560. He entered very young into the ſervice of Henry of Bourbon then king of Navarre, afterwards Henry IV. of France, who was juſt ſeven years his elder. He was bred in the reformed religion, and continued in the profeſſion of it to the end of his life, though from political motives he adviſed his maſter to abjure it, as the only method of putting an end to the miſeries of France. After Henry had gained poſſeſſion of the kingdom, Sully performed all the duties of a great and good miniſter, while his maſter exerciſed all the offices of a great and good king. He had been at the battles of Coutras, Arques, and Ivry; at the ſieges of Paris, Noyon, Rouen, and Laon; and ſignalized himſelf on every important occaſion. In 1597 he was made chief overſeer of the highways of France; and the following year was raiſed to the poſt of ſuperintendant of the finances. Though he was then but 40 years of age, and had hitherto ſignalized himſelf only in the army, he put the king's finances in ſuch order, that he paid his debts, which amounted to two hundred millions of livres, and laid up great ſums in the king's treaſury. In 1601 he was made grand-maſter of the artillery, the next year governor of the Baſtile, and afterwards ſuperintendant of the fortifications. He was then ſent into England as embaſſador extraordinary; and had, at his return, the government of Poictou. At laſt Henry IV. in 1606, erected in his favour the territory of Sully on the Loire into a duchy and peerage, and made him grand-maſter of the ports and havens. After the murder of that great prince in 1610, the Duke of Sully, who had ſerved him with the greateſt zeal and fidelity, was obliged to retire to one of his houſes, where he enjoyed a private life; but in 1634 he was made marſhal of France, upon which he reſigned the poſt of grand-maſter of the artillery. He died in his caſtle of Villebon on the 21ſt of December 1641, at 82 years of age. His Memoirs are ranked among the beſt books of French hiſtory: they contain a moſt particular account of whatever paſſed from the peace of 1570 to the death of Henry IV. in 1610: and acquire additional value from the many curious perſonal anecdotes preſerved in them. They were tranſlated into Engliſh by Mrs Lennox in 1757.

BETHUNE, a town of France, in Artois, containing upwards of 5000 inhabitants. There is an entrance into this city through four gates, and it is ſurrounded with walls and fortified. The city and the caſtle taken together are of a triangular figure, but the caſtle itſelf is a very irregular building. The houſes are very indifferent, and the ſtreets ill paved; however, there is a large handſome ſquare, and ſeveral churches. In the marſhy lands near the city there are ſeveral canals cut for the conveniency of whitening linen. It is ſeated on a rock by the river Belſe. E. Long. 2. 48. N. Lat. 50. 32.

BETIS, a governor of Gaza under Darius, famous for his valour and loyalty; he defended a place of conſequence with a few men againſt Alexander, who was there ſhot through the ſhoulder. Betis thinking him ſlain, returned triumphantly to the city; but in a ſecond aſſault he was wounded and brought to Alexander, who cruelly ordered him to be put to death.

BETLEY, a town of Staffordſhire in England. It is ſeated on the confines of the county, next to Cheſhire, in a barren ſandy ſoil. W. Long. 2. 15. N. Lat. 53. 0.

BETLIS, a ſtrong town of Armenia or Turcomania belonging to a bey or prince of the country, who is very powerful, and is ſubject to neither the grand ſignior nor king of Perſia. It lies on the road from Tauris to Aleppo, and the prince can ſtop caravans whenever he pleaſes; for the paſſage between the mountains is ſo narrow, that ten men can defend it againſt 1000. The town is ſeated between two mountains about a cannon-ſhot from each other, and the caſtle is on an eminence exactly in the middle. This eminence is in the ſhape of a ſugar-loaf: and is ſo ſteep on all ſides, that it is impoſſible to get up but by winding round about it. The people in and about the town are ſhepherds, but are ready to take up arms at the command of their prince. E. Long. 42. 40. N. 37. 20.

BETON, a name given by the French engineers to a kind of mortar, which they uſe in raiſing the foundations of maſonary under water. It conſiſts of twelve parts of pozzolans or Dutch tarraſs, ſix of good ſand, nine of unſlaked lime, thirteen of ſtone ſplinters about the ſize of an egg, and three of tile-duſt or cinders, or ſcales of iron out of a forge; this being well worked together, is left to ſtand for about 24 hours, or till it becomes ſo hard as not to be ſeparated without a pick-axe.

BETONICA, BETONY: A genus of the gymnoſpermia order, belonging to the didynamia claſs of plants; and in the natural method ranking under the 42d order, *verticillatæ*. The calyx is awned; the upper lip of the corolla is aſcending and flattiſh; and the tube is cylindric.

Species, &c. Of this genus botanical writers enumerate the following ſpecies. 1. The officinalis, purple or wood betony. 2. The danica, or greater Daniſh betony. 3. The alpina, or leaſt Alpine betony. 4. The orientalis, or eaſtern betony, with very long narrow leaves, and a thick ſpike of flowers. 5. The incana, or hoary Italian betony, with a fleſh-coloured flower. Of theſe the firſt ſpecies only deſerves notice. It is a low plant growing in woods and ſhady places where it is found in abundance; the flowers come forth in June and July, of a purpliſh colour, and ſtand in ſpikes on the top of the ſtalks. The leaves and flowers have an herbaceous, roughiſh, ſomewhat bitteriſh taſte, accompanied with a very weak aromatic flavour. This herb has been long a favourite among writers on the materia medica, who have not failed to attribute to it abundance of good qualities. Experience, however, does not diſcover any other virtue in betony than that of a mild corroborant: as ſuch, an infuſion or light decoction of it may be drank as tea; or a ſaturated tincture in rectified ſpirits given in ſuitable doſes, in laxity or debility of the viſcera, and diſeaſes proceeding from thence. The powder of the leaves ſnuffed up the noſe provokes ſneezing; and hence betony is ſometimes made an ingredient in ſternutatory powders: this effect does not ſeem to be owing, as is generally ſuppoſed, to any peculiar ſtimulating virtues in the herb, but to the rough hairs with which the leaves are covered. The roots of this plant differ greatly in their quality from the other parts: their taſte is very bitter and nauſeous; taken in a ſmall doſe, they vomit and purge violently, and are ſuppoſed to have ſomewhat in common with the roots of hellebore. According to Simon Paulli and Bartholinus, this plant affects thoſe who gather any conſiderable quantity of it with a diſorder reſembling drunkenneſs. Its leaves are ſometimes ſmoked like tobacco.

BETONICA Aquatica. See SCROPHULARIA.

BETONICA Pauli. See VERONICA.

BETONY. See BETONICA.

BETROTHMENT, a mutual promiſe or compact between two parties for a future marriage. The word imports as much as giving one's troth; that is, true faith, or promiſe. Betrothment amounts to the ſame with what is called by civilians and canoniſts *ſponſalia*, or "eſpouſals;" ſometimes *deſponſation*, and by the French *fiancailles*.

BETTERTON (Thomas), the celebrated actor, was the ſon of Mr Betterton under-cook to King Charles I. and was born in Tothil-ſtreet Weſtminſter in the year 1635. Having received the firſt rudiments of a genteel education, his fondneſs for reading induced him to requeſt of his parents that they wound bind him an apprentice to a bookſeller, which was readily complied with, fixing on one Mr Rhodes near Charing-croſs for his maſter. This gentleman, who had been wardrobe-keeper to the theatre in Blackfriars before the troubles, obtained a licence in 1659, from the powers then in being, to ſet up a company of players in the Cock-pit in Drury-Lane, in which company Mr Betterton entered himſelf, and, though not much above 20 years of age, immediately gave proof of the moſt capital genius and merit.

Preſently after the reſtoration, two diſtinct theatres were eſtabliſhed by royal authority; the one in Drury-Lane in conſequence of a patent granted to Henry

Killigrew, Eſq; which was called the *King's Company*: the other in Lincoln's-Inn-Fields, who ſtyled themſelves the *Duke of York's Servants*, the patentee of which was the ingenious Sir William Davenant: which laſt mentioned gentleman having long had a cloſe intimacy with and warm friendſhip for Mr Rhodes, engaged Mr Betterton, and all who had acted under Mr Rhodes, into his company; which opened in 1662 with a new play of Sir William's, in two parts, called the *Siege of Rhodes*. In this piece, as well as in the ſubſequent characters which Mr Betterton performed, he increaſed his reputation and eſteem with the public, and indeed became ſo much in favour with King Charles II. that by his majeſty's ſpecial command he went over to Paris to take a view of the French ſtage, that he might the better judge what would contribute to the improvement of the Engliſh; and it was upon this occaſion, as is generally ſuppoſed, that moving ſcenes were firſt introduced upon the Engliſh theatre, which before had been only hung with tapeſtry.

In the year 1670 he married one Mrs Sanderſon, a female performer on the ſame ſtage, who, both as an actreſs and a woman, was every thing that human perfection was capable of arriving at, and with whom he through the whole courſe of his remaining life poſſeſſed every degree of happineſs that a perfect union of hearts can beſtow.

When the duke's company removed to Dorſet-Gardens, he ſtill continued with them; and on the coalition of the two companies in 1684, he acceded to the treaty, and remained among them; Mrs Betterton maintaining the ſame foremoſt figure among the women that her huſband ſupported among the male performers. And ſo great was the eſtimation that they were both held in, that in the year 1675, when a paſtoral, called *Caliſto* or the *Chaſte Nymph*, written by Mr Crown at the deſire of Queen Catherine conſort to Charles II. was to be performed at court by perſons of the greateſt diſtinction, our Engliſh Roſcius was employed to inſtruct the gentlemen, and Mrs Betterton honoured with the tutorage of the ladies, among whom were the two princeſſes Mary and Anne, daughters of the Duke of York, both of whom ſucceeded to the crown of theſe realms. In grateful remembrance of which, the latter of them, when queen, ſettled a penſion of L. 100 *per annum* on her old inſtructreſs.

In 1693, Mr Betterton having ſounded the inclinations of a ſelect number of the actors whom he found ready to join with him, obtained, through the influence of the Earl of Dorſet, the royal licence for acting in a ſeparate theatre; and was very ſoon enabled, by the voluntary ſubſcriptions of many perſons of quality, to erect a new playhouſe within the walls of the Tennis-Court in Lincoln's-Inn-Fields. To this ſtep Mr Betterton is ſaid to have been induced, partly by ill treatment from the managers, and partly with a view to repair, by the more enlarged profits of a manager, the loſs of his whole fortune (upwards of L. 2000) which he had undergone in the year 1692, by adventuring it in a commercial ſcheme to the Eaſt-Indies. Be this, however, as it will, the new theatre opened in 1695 with Mr Congreve's *Love for Love*, the ſucceſs of which was amazingly great. Yet in a few years it appeared that the profits ariſing from this theatre, oppoſed as it was by all the ſtrength of Cibber's and Vanbrugh's writings at the other houſe, were very inſignificant; and Mr Betterton growing now into the infirmities of age, and labouring under violent attacks of the gout, he gladly quitted at once the fatigues of management and the hurry of the ſtage.

The public, however, who retained a grateful ſenſe of the pleaſure they had frequently received from this theatrical veteran, and ſenſible of the narrowneſs of his circumſtances, reſolved to continue the marks of their eſteem to him by giving him a benefit. On the 7th of April 1709 the comedy of *Love for Love* was performed for this purpoſe, in which this gentleman himſelf, though then upwards of 70 years of age, acted the youthful part of Valentine; as in the September following he did that of Hamlet, his performance of which the author of the Tatler has taken a particular notice of. On the former occaſion, thoſe very eminent performers, Mrs Barry, Mrs Bracegirdle, and Mr Dogget, who had all quitted the ſtage ſome years before, in gratitude to one whom they had had ſo many obligations to, acted the parts of Angelica, Mrs Frail, and Ben; and Mr Rowe wrote an epilogue for that night, which was ſpoken by the two ladies, ſupporting between them this once powerful ſupporter of the Engliſh ſtage. The profits of this night are ſaid to have amounted to upwards of L. 500, the prices having been raiſed to the ſame that the operas and oratorios are at preſent; and when the curtain drew up, almoſt as large an audience appearing behind as before it.

The next winter Mr Betterton was prevailed on by Mr Owen M'Swinney, then manager of the opera-houſe in the Hay-market (at which plays were acted four times a-week), to continue performing, though but ſeldom. In conſequence of which, in the enſuing ſpring, viz. on the 25th of April 1710, another play was given out for this gentleman's benefit, viz. The *Maid's Tragedy* of Beaumont and Fletcher, in which he himſelf performed his celebrated part of Melanthus. This, however, was the laſt time of his appearing upon the ſtage. For having been ſuddenly ſeized with the gout, and being impatient at the thoughts of diſappointing his friends, he made uſe of outward applications to reduce the ſwellings of his feet, which enabled him to walk on the ſtage, though obliged to have his foot in a ſlipper. But although he acted that day with unuſual ſpirit and briſkneſs, and met with univerſal applauſe, yet he paid very dear for this tribute he had paid to the public; for the fomentations he had made uſe of occaſioning a revulſion of the gouty humour to the nobler parts, threw the diſtemper up into his head, and terminated his life on the 28th of that month. On the 2d of May his body was interred with much ceremony in the cloyſter of Weſtminſter, and great honour paid to his memory by his friend the Tatler, who has related in a very pathetic, and at the ſame time the moſt dignified manner, the proceſs of the ceremonial. As an *author*, Mr Betterton had a conſiderable degree of merit. His dramatic works are, 1. Amorous Widow, a comedy. 2. Diocleſian, a dramatic opera. 3. Maſque in the Opera of the Propheteſs. 4. Revenge, a comedy. 5. Unjuſt Judge, a tragedy. 6. Woman made a Juſtice, a comedy. As an *actor*, he was certainly one of the greateſt of either his own or any other age; but thoſe who are deſirous of having him painted out in the moſt lively colours to their imagination, we muſt refer to the deſcription given of him by his cotemporary and friend Colley Cibber, in the apology for his own life.

BETUE, or **BETAW**, a territory of the Low Countries in the duchy of Guelderland, between the rivers Rhine and Leck. The ground is very moiſt, and the rains often render the roads impaſſable. It is divided into the Upper and Lower.

BETULA, the **BIRCH-TREE**: A genus of the tetrandria order, belonging to the monœcia claſs of plants; and in the natural method ranking under the 50th order, *Amentaceæ*. The calyx of the male is monophyllous, trifid, and triflorous; and the corolla is parted into four ſegments: The female calyx is monophyllous, trifid, and biflorous: The ſeeds have a membranaceous wing on both ſides.

Species. 1. The alba, or common birch tree, is ſo well known as to need no deſcription. It is in general of a humble growth; however, in a ſoil and ſituation it affects, it will riſe to a great height, and ſwell to a conſiderable ſize. There is a ſpruceneſs in its general appearance in ſummer; and in winter its bark ſome times exhibits, in its variegations of red and white, no inelegant object. Were it not for its being ſo commonly ſeen upon poor ſoils, and in bleak inhoſpitable ſituations, as well as for the mean and degrading purpoſes to which it is univerſally put, the birch would have ſome claim to being admitted to a place among the ornamentals. 2. The nana, or dwarf-birch, with roundiſh leaves, grows naturally in the northern parts of Europe and on the Alps. It ſeldom riſes above two or three feet high, having ſlender branches garniſhed with round leaves, but ſeldom produces flowers here. It is preſerved in ſome curious gardens for the ſake of variety, but is a plant of no uſe. 3. The lenta, or Canada birch, grows to a timber-tree of 60 or more feet in height. The leaves are heart-ſhaped, oblong, ſmooth, of a thin conſiſtence, pointed, and very ſharply ſerrated. They differ in colour; and the varieties of this ſpecies go by the names of, 1. Duſky Canada birch; 2. White-paper birch; 3. Poplar-leaved Canada birch; 4. Low-growing Canada birch, &c.—4. The nigra, or black Virginia birch-tree, will grow to upwards of 60 feet in height. The branches are ſpotted, and more ſparingly ſet in the trees than the common ſorts. The leaves are broader, grow on long footſtalks, and add a dignity to the appearance of the tree; and as it is naturally of upright and ſwift growth, and arrives at ſo great a magnitude, Hanbury thinks it ought to have a ſhare among the foreſt-trees, and to be planted for ſtandards in open places, as well as to be joined with other trees of its own growth in plantations more immediately deſigned for relaxation and pleaſure. There are ſeveral varieties of this ſpecies, differing in the colour, ſize of the leaves, and ſhoots; all of which have names given them by nurſerymen, who propagate the different ſorts for ſale; ſuch as, 1. The broad-leaved Virginian birch; 2. The poplar-leaved birch; 3. The paper birch; 4. The brown birch, &c.—5. The alnus, or alder-tree, will grow to a large timber tree. Like the birch, it ſuffers, as an ornamental, from an aſſociation of ideas; we not only ſee it very common, but we ſee it in low, dreary, dirty ſituations: nevertheleſs, if the alder be ſuffered to form its own head in an open advantageous ſituation, it is by no means an unſightly tree: in Stow Gardens, in what is called the old part, there are ſome very fine ones; and in coming round from the houſe by the road leading to Buckingham, there is one which is truly ornamental. Hacked and diſfigured in the manner in which alders in general are, they have but little effect in doing away the unſightlineſs of a ſwamp; but if they were ſuffered to riſe in groups and ſinglets, open enough to have room to form their full tops, and cloſe enough to hide ſufficiently the unſeemlineſs of the ſurface, even a moor or a moraſs ſeen from a diſtance might be rendered an agreeable object. Wherever the ſoil is or can be made paſturable, the alder ſhould by no means be permitted to gain a footing. Its ſuckers and ſeedlings poiſon the herbage; and it is a fact well known to the obſervant huſbandman, that the roots of the alder have a peculiar property of rendering the ſoil they grow in more moiſt and rotten than it would be if not occupied by this aqueous plant. Plantations of alders ſhould therefore be confined to ſwampy, low, unpaſturable places; except when they are made for the purpoſes of ornament; and in this caſe the native ſpecies ought to give place to its more ornamental varieties, of which Hanbury makes five; namely, 1. The long-leaved alder; 2. The white alder; 3. The black alder; 4. The hoary-leaved alder; 5. The dwarf alder.

Culture. The firſt ſort is eaſily propagated: it may be raiſed either from ſeeds or layering; and it will flouriſh in almoſt any ſoil and ſituation. The method of propagating the foreign ſorts of birch is, 1. From ſeeds, which are produced in America, where they are natives: and if they are ſown in beds of fine mould, covering them over about a quarter of an inch deep, they will readily grow. During the time they are in the ſeminary, they muſt be conſtantly weeded, watered in dry weather, and when they are one or two years old, according to their ſtrength, they ſhould be planted in the nurſery in rows in the uſual manner. Weeding muſt always be obſerved in ſummer, and digging between the rows in winter; and when the plants are about a yard or four feet high, they will be of a good ſize to be planted out for the ſhrubbery-quarters. A part, therefore, may then be taken up for ſuch purpoſes; whilſt the remainder may be left to grow for ſtandards, to anſwer ſuch other purpoſes as may be wanted. 2. Theſe trees may alſo be propagated by layers; and this is the way to continue the peculiarities in the varieties of the different ſorts. A ſufficient number of plants ſhould be procured for this purpoſe, and ſet on a ſpot of double-dug ground, three yards diſtance from each other. The year following, if they have made no young ſhoots, they ſhould be headed to within half a foot of the ground, to form the ſtools, which will then ſhoot vigorouſly the ſummer following; and in the autumn the young ſhoots ſhould be plaſhed near the ſtools, and the tender twigs layered near their ends. They will then ſtrike root, and become good plants by the autumn following: whilſt freſh twigs will have ſprung up from the ſtools, to be ready for the ſame operation. The layers, therefore, ſhould be taken up, and the operation performed afreſh. If the plants deſigned for ſtools have made good ſhoots the firſt year, they need not be headed down, but plaſhed near the ground, and all the young twigs layered. Thus may an immediate crop be raiſed this way; whilſt young ſhoots will ſpring out in great plenty below the plaſhed part, in order for layering the ſucceeding year. This work, therefore, may be repeated every autumn or winter; when ſome of the ſtrongeſt layers may be planted out, if they are immediately wanted; whilſt the others may be removed into the nurſery, to grow to be ſtronger plants, before they are removed to their deſtined habitations. 3. Cuttings alſo, if ſet in a moiſt ſhady border the beginning of October, will frequently grow: But as this is not a ſure method, and as theſe trees are ſo eaſily propagated by layers, it hardly deſerves to be put in practice.

The propagation of the alder, like that of the other aquatic natives, is very eaſy: it may be raiſed either from ſuckers, from cuttings, or by layering; and no doubt from ſeed, though this mode of propagation is ſeldom practiſed in this country. Evelyn mentions a peculiar method of raiſing this tree from cuttings or truncheons, which he calls the *Jerſey-manner*: he ſays “I received it from a moſt ingenious gentleman of that country: it is, to take truncheons of two or three feet long at the beginning of the winter, and to bind them in faggots, and place the ends of them in water till towards the ſpring, by which ſeaſon they will have contracted a ſwelling ſpire or knur about that part, which being ſet does (like the gennet-moil apple-tree) never fail of growing and ſtriking root.” Millar recommends truncheons of three feet long, two feet of which to be thruſt into the ground. Hanbury ſays that truncheons are uncertain, and ſtrongly recommends layering; which for preſerving the varieties, as well as for ornamental plantations of alders in general, is the beſt method.

Uſes. In ſome of the northern parts of Europe the wood of the white birch is much uſed for making carriages and wheels, being hard and of long duration. In France it is generally uſed for making wooden ſhoes, and in Britain for making womens ſhoe-heels, packing-boxes, brooms, hoops, &c. It alſo makes very good fuel, and is planted along with hazel to make charcoal for forges. The bark of the birch tree ſeems in a manner incorruptible. In Sweden the houſes are covered with it, and it laſts many years. It frequently happens that the wood is entirely rotten, when the bark is perfectly ſound and good. In Kamtſchatka it is uſed for making drinking cups. It abounds with a reſinous matter, to which its durability is certainly owing. In conſequence of this matter, it is highly inflammable: and in the northern countries torches are made of this bark ſliced and twiſted together. The bark itſelf conſiſts of two different ſubſtances; a thick brittle browniſh red one; and ſeveral very thin, ſmooth, white, tranſparent membranes. In theſe laſt the inflammable property reſides. The thick brittle part is leſs reſinous, and has a roughiſh taſte. It has been thought to poſſeſs ſome medical virtues, but concerning theſe experience has as yet determined nothing certain. Upon deeply wounding or boring the trunk of the tree in the beginning of ſpring, a ſweetiſh juice iſſues forth, ſometimes, as is ſaid, in ſo large quantity as to equal the weight of the whole tree and root; one branch will bleed a gallon or more in a day. This juice is recommended in ſcorbutic diſorders, and other foulneſſes of the blood; its moſt ſenſible effect is to promote the urinary diſcharge. By proper fermentation with the addition of ſugar, this juice makes a pleaſant wine. The bark of the Canada birch is very light, tough, and durable; and the inhabitants uſe it for canoes. Notwithſtanding theſe uſes to which the birch is applicable when already in poſſeſſion, the planting of it is not recommended, except in bleak and barren ſituations where no other tree will thrive, and except as a ſkreen and guardian to nurſe up and defend from chilling blaſts plants of greater value.

The alder tree flouriſhes beſt in low marſhy ſituations, in which it is frequently planted to make hedges, and is alſo of great uſe for ſecuring the banks of rivers. Graſs grows well beneath its ſhade: the wood is ſoft and brittle; but laſts a long time under water, and conſequently is of uſe for pipes, and to lay under the foundations of buildings ſituated upon bogs. Womens ſhoe heels, ploughman’s clogs, and various articles of the turner kind, are made of it. The bark gives a red colour, and with the addition of copperas a black: it is chiefly uſed by fiſhermen to ſtain their nets. In the Highlands of Scotland near Dundonnel, Mr Pennant ſays, the boughs cut in the ſummer, ſpread over the fields, and left to rot in the winter, are found to anſwer as a manure. In March, the ground is cleared of the undecayed parts, and then ploughed. The freſh gathered leaves are covered with a glutinous liquor; and ſome people ſtrew them on their floors to kill fleas. Theſe inſects are ſaid to be entangled in the glutinous liquor of the leaves, as birds are by birdlime. The whole plant is aſtringent, and its bark has been recommended in intermittent fevers. The bark of the black berry-bearing alder is ſaid to be the moſt certain purge for horned cattle in obſtinate conſtipations of the bowels. Horſes, cows, goats, and ſheep, eat the leaves of all the ſpecies of betula; but ſwine refuſe them. When eaten by cows, they are ſaid greatly to increaſe the quantity of the milk.

BETULEIUS (Sixtus), an able grammarian, a good Latin poet, and philoſopher, born at Memmingin in the year 1500; his true name was *Birck*. He taught the belles letters and philoſophy with reputation: and became principal of the college of Augſburg, where he died on the 16th of June 1554. He publiſhed ſeveral works in proſe; and his dramatic pieces of Joſeph, Suſannah, and Judith, are eſteemed.

BEVECUM, a town of the Auſtrian Netherlands, in the province of Brabant. E. Long. 4. 50. N. Lat. 50. 45.

BEVEL, among maſons, carpenters, &c. a kind of ſquare, one leg whereof is frequently crooked, according to the ſweep of an arch or vault. It is moveable on a centre, and ſo may be ſet to any angle.

Bevel-Angle, any other angle beſides thoſe of 90 or 45 degrees.

BEVELAND (North and South), two iſlands in the province of Zealand, between the eaſtern and weſtern branches of the river Scheld, making part of the United Provinces.

BEVELLING, in ſhip-building, the art of hewing a timber with a proper and regular curve, according to a mould which is laid on one ſide of its ſurface. “In order to have any piece of timber to its proper bevel, it will be neceſſary, firſt, to make one ſide *fair* and *out of winding*; a term uſed to ſignify that the ſide of a timber ſhould be a plane. If this ſide be uppermoſt,

permoſt, and placed horizontally, or upon a level, it is plain, if the timber is to be hewed ſquare, it may be done by a plummet and line; but if the timber is not hewed ſquare, the line will not touch both the upper and lower edge of the piece; or if a ſquare be applied to it, there will be wood wanting either at the upper or lower ſide. This is called *within* or *without* a ſquare. When the wood is deficient at the under ſide, it is called *under-bevelling;* and when it is deficient on the upper ſide, it is called *ſtanding-bevelling:* and this deficiency will be more or leſs according to the depth of the piece; ſo that, before the proper bevellings of the timbers are found, it will be ſometimes very convenient to aſſign the breadth of the timbers; nay in moſt caſes it will be abſolutely neceſſary, eſpecially afore and abaft: though the breadth of two timbers, or the timber and room, which includes the two timbers and the ſpace between them, may be taken without any ſenſible error, as far as the ſquare body goes. For as one line repreſents the moulding ſide of two timbers, the foreſide of the one being ſuppoſed to unite with the aftſide of the other; the two may be conſidered as one entire piece of timber." *Murray's Ship-building.*

BEVERAGE, in a general ſenſe ſignifies a *drink:* hence nectar is ſaid to be the beverage of the gods. In writers of the middle age, beverage, *beveragium,* or *biberagium,* denotes money given to an artificer, or other perſon, to drink, over and above his hire or wages.

BEVERIDGE (William), a learned Engliſh biſhop, in the beginning of the 17th century, was born in the year 1638, and educated in St John's college, Cambridge, where he diſtinguiſhed himſelf very early by his extenſive learning, and particularly by his knowledge of the oriental languages. Upon the deprivation of Dr Thomas Ken, biſhop of Bath and Wells, for not taking the oaths to the government in 1691, he refuſed the offer of that ſee, tho' he was then chaplain to King William and Queen Mary. In 1704 he was conſecrated to the biſhopric of St Aſaph; in which high function he ſo behaved himſelf all along, and diſcharged it in ſo exemplary a manner, that he approved himſelf a truly primitive prelate. He died at his lodgings at the Cloiſters in Weſtminſter-abbey in 1707, aged 71. As his whole life was ſpent in acts of piety and charity, ſo he gave remarkable inſtances of both at his death, leaving the bulk of his eſtate for the propagation of the goſpel, and promoting of Chriſtian knowledge, at home as well as abroad. His Private Thoughts upon a Chriſtian Life is a very popular, though in many points a very exceptionable, book. He wrote ſeveral other works on various ſubjects, particularly on the oriental tongues.

BEVERLAND (Hadrian), a man of excellent genius in the end of the 16th century, but who proſtituted it in the ſtudy and compoſition of books of a very obnoxious kind. He was a perfect maſter of Ovid, Catullus, Petronius, and authors of that ſtamp. He is famous for his book on Original Sin, in which he maintained, that Adam's ſin conſiſted in his commerce with his wife, and that original ſin is nothing elſe but the inclination of the ſexes to each other: it was condemned to be burnt. He led a ſcandalous life, but ſeems to have repented of his wicked manners and lewd writings; for he publiſhed a treatiſe in the end of his life, *De Fornicatione cavenda,* in 1698. It is ſaid he died mad.

BEVERLEY, a town of Yorkſhire, governed by a mayor, a recorder, 12 aldermen, &c. and ſends two members to parliament. The minſter here is a very fair and neat ſtructure, and the roof is an arch of ſtone. In it are ſeveral monuments of the Percies, Earls of Northumberland, who had added a little chapel to the choir, in the windows whereof there are ſeveral pictures of that family painted on glaſs. At the upper end of the choir, at the right of the altar-place, ſtands the freed-ſtool, made of one entire ſtone, to which every one that fled had a right of protection. At the upper end of the body of the church, next the choir, hangs an ancient table, with the picture of King Athelſtane, who founded the church. Between them is this inſcription:

Als free make I thee,
As heart can wiſh, or egh can ſee.

Hence the inhabitants pay no toll in any town or port in England. In the body of the church ſtands an ancient monument, called *Virgin's Tomb,* becauſe two virgin-ſiſters lie buried there, who gave the town a piece of land, into which any free man may put three milk cows from Lady-day till Michaelmas. At the lower end of the body of the church is a large font of agate ſtone.

Near the minſter, on the ſouth ſide of it, is a place called *Hall-Garth,* wherein they keep a court of record, called *Provoſt's Court* In this cauſes ariſing within the liberties may be tried for any ſum. The liberties contain above 100 towns and parts of towns, in Holderneſſe and other parts of the eaſt-riding belonging to it. The town is a mile in length, having pleaſant ſprings running quite through it. It is beautified with two ſtately churches; and has a free-ſchool, with two fellowſhips, ſix ſcholarſhips, and three exhibitions in St John's college, Cambridge, belonging to it; beſides ſix alms-houſes where none are admitted but thoſe that give bond to leave their effects to the poor when they die. The principal trade of this town is making malt, oat-meal, and tanned leather; and the poor people chiefly ſupport themſelves by making bone-lace. About a mile eaſt from the town, there is a mineral water, which cures eruptions of the ſkin, and is beneficial in the king's evil. E. Long. 0. 9. N. Lat. 53. 50.

BEVERLY (John of), in Latin *Joannes Beverlacius,* archbiſhop of York in the eighth century, was born of a noble family at Harpham in Northumberland, and was juſtly eſteemed one of the beſt ſcholars of his time. He was firſt a monk, and afterwards abbot of the monaſtery of St. Hilda, when his merit recommended him to the favour of Alfred king of Northumberland, who in the year 685 advanced him to the ſee of Haguſtald or Hexham, and in 687 tranſlated him to the archbiſhopric of York. This prelate was tutor to the famous Bede; and lived in the ſtricteſt friendſhip with Acca and other Anglo-Saxon doctors, ſeveral of whom he engaged to write comments on the Holy Scriptures. In 704, he founded a college at Beverly for ſecular prieſts; and after he had governed the ſee of York 34 years, being tired of the tumults and confuſions that prevailed in the church, diveſted himſelf of his epiſcopal character, and retired to Beverly; where he died four years after, on the 7th of May 721.—Bede and other monkiſh writers aſcribe ſeveral miracles to him. Between 300 and 400 years after his death, his body was taken up by Afric archbiſhop of York, and placed in a ſhrine richly adorned with ſilver, gold, and precious ſtones: and in 1416, the day of his death was, by a ſynod held at London, appointed a feſtival. We are told that William the Conqueror, when he ravaged Northumberland with a numerous army, ſpared Beverly alone, out of a religious veneration for St John of that place. This prelate wrote ſome pieces which are mentioned by Bale and Pits, viz. 1. *Pro Luca exponenda.* 2. *Homiliæ in Evangelia.* 3. *Epiſtolæ ad Hildam Abbatiſſam.* 4. *Epiſtolæ ad Herebaldum, Andenum, et Bertinum.*

BEVERUNGEN, a town of Germany, in the dioceſe of Paderborn, ſeated at the confluence of the rivers Beve and Weſer, in E. Long. 9. 30. N. Lat. 51. 40.

BEVILE, in heraldry, a thing broken or opening like a carpenter's rule; Thus he beareth argent, a chief bevile, vert, by the name of *beverlis*.

BEVIN (Elway), a muſician eminently ſkilled in the knowledge of practical compoſition, flouriſhed towards the end of Queen Elizabeth's reign. He was of Welch extraction, and had been educated under Tallis, upon whoſe recommendation it was that in 1589 he was ſworn gentleman extraordinary of the chapel; from whence he was expelled in 1637, it being diſcovered that he adhered to the Romiſh communion. He was alſo organiſt of Briſtol cathedral, but forfeited that employment at the ſame time with his place in the chapel. Child afterwards Doctor, was his ſcholar. He has compoſed ſundry ſervices, and a few anthems. Before Bevin's time the precepts for the compoſition of canon were known to few. Tallis, Bird, Waterhouſe, and Farmer, were eminently ſkilled in this moſt abſtruſe part of muſical practice. Every canon, as given to the public, was a kind of enigma. Compoſitions of this kind were ſometimes exhibited in the form of a croſs, ſometimes in that of a circle; there is now extant one reſembling a horizontal ſun-dial: and the *reſolution* (as it was called) of a canon, which was the reſolving it into its elements and reducing it into ſcore, was deemed a work of almoſt as great difficulty as the original compoſition. But Bevin, with a view to the improvement of ſtudents, generouſly communicated the reſult of many years ſtudy and experience in a treatiſe which is highly commended by all who have taken occaſion to ſpeak of it. This book was publiſhed in 4to 1631, and dedicated to Goodman biſhop of Glouceſter, with the following title: 'A briefe and ſhort inſtruction of 'the art of muſicke, to teach how to make diſcant of 'all proportions that are in uſe: very neceſſary for all 'ſuch as are deſirous to attain to knowledge in the art; 'and may by practice, if they can ſing, ſoone be able 'to compoſe three, four, and five parts, and alſo to 'compoſe all ſorts of canons that are uſuall, by theſe 'directions of two or three parts in one upon the 'plain ſong.' The rules contained in this book for compoſition in general are very brief; but for the compoſition of canon there are in it a great variety of examples of almoſt all the poſſible forms in which it is capable of being conſtructed, even to the extent of 60 parts.

Hawkins's Hiſtory of Muſic.

BEWDLY, a town of Worceſterſhire in England, ſeated on the bank of the river Severn, in W. Long. 2. 20. N. Lat. 52. 25. It has its name *Bewdley*, *Beawley*, or *Beaulieu*, from the pleaſant ſituation on the declivity of a hill overlooking the river, and commanding a fine proſpect of the country, and formerly of the foreſt of Wyre, remarkable for its tall ſtately oaks and other trees, which have ſince been either blown or cut down. It was formerly accounted ſo delightful a place, that Henry VII. built a houſe here for prince Arthur, which he called *Tiken-hall*. Bewdley ſent burgeſſes to parliament very early, and had charters and great privileges from Edward IV. and Henry VII. which were confirmed, with the addition of others, by Henry VIII. in whoſe time it was annexed to the county of Worceſter. King James I. granted it a charter; of which a ſurrender was procured in Charles II.'s time, and the corporation was new-modelled. King James II. compelled it to accept of a new charter; but the former ſurrender, upon a trial, was held void, and a new charter was obtained of Queen Anne. In conſequence of this it is governed by a bailiff and burgeſſes, recorder, ſteward, town-clerk, &c. The town is neat and well built; and carries on a conſiderable trade, by means of the Severn, in ſalt, glaſs, iron-ware and Mancheſter goods; but its chief manufacture is in caps, commonly called *Monmouth caps*. It has a good market for corn, malt, leather, and hops.

BEWITS, in falconry, pieces of leather, to which a hawk's bells are faſtened, and buttoned to his legs.

BEY, among the Turks, ſignifies a governor of a country or town. The Turks write *begh*, or *bek*, but pronounce it *bey*.

This word is particularly applied to a lord of a banner, whom, in the ſame language, they call *ſangiac beg* or *bey*. Every province in Turkey is divided into ſeven ſangiacs, or banners, each of which qualifies a bey; and theſe are all commanded by the governor of the province, whom they alſo call *begler-beg*, that is, lord of all the beghs or beys of the province: theſe beys are much the ſame as bannerets were formerly in England.

Bey of Tunis, denotes a prince or king thereof; anſwering to what at Algiers is called the *dey*. In the kingdom of Algiers, each province is governed by a bey, or vice-roy, who is appointed and removed at pleaſure by the dey; but has a deſpotic power within his juriſdiction; and at the ſeaſon for collecting the tribute from the Arabs, is aſſiſted by a body of troops from Algiers.

BEYS (Giles), a celebrated printer at Paris, in the 16th century, and the firſt introducer of the conſonants j and v.

BEZA (Theodore), one of the principal pillars of the reformed church, was born at Vezelai, in Burgundy, June 24th, 1519. He was brought up by his uncle Nicholas de Beza, counſellor of the parliament of Paris, till the month of December 1528, when he ſent him to ſtudy at Orleans, and afterwards at Bourges, where he was under the care of Melchior Wolmar, under whom he made an extraordinary progreſs in polite learning, and from him imbibed the principles of Calviniſm. His uncle intended him for the bar; but the law not ſuiting his diſpoſition, he ſpent moſt of his time in reading the Greek and Latin authors, and in compoſing verſes. In 1539, he took up his licentiate's degree, and went to Paris. He fell into ſnares in his youth, and wrote ſome licentious things. Sickneſs awakened him; and he purſued a vow he had formerly made, of entering into the reformed religion. According to this reſolution he went to Geneva, and made public profeſſion of the reformed religion. In 1549, he accepted of the Greek profeſſorſhip at Lauſanne, where he alſo read lectures in French on the New Teſtament to the refugees of both ſexes who dwelt in that city. Having ſettled at Geneva, he adhered to Calvin in the ſtricteſt manner, and became in a little time his colleague in the church and in the univerſity. He was ſent to Nerac, at the ſolicitation of ſome great men of the kingdom, to convert the king of Navarre, and to confer with him upon affairs of importance. This was when the Guiſes had got the authority under the reign of Francis II. to the prejudice of the princes of the blood. The king of Navarre having teſtified, both by letters and deputies, that he deſired that Beza might aſſiſt at the conference of Poiſſi, the ſenate of Geneva conſented. The aſſembly hearkened attentively to his harangue, till, ſpeaking of the real preſence, he ſaid, that the body of Jeſus Chriſt was as diſtant from the bread and wine, as the higheſt heaven is from the earth. This made a murmur: ſome cried out, *Blaſphemavit!* others got up to go away. Cardinal de Tournon, who ſat in the firſt place, deſired the king and queen either to ſilence Beza, or to permit him and his company to withdraw. The king did not ſtir, nor any of the princes, and leave was given to go on. Throughout the whole conference he behaved himſelf with great ability. He often preached before the queen of Navarre, the prince of Condé, and in the ſuburbs of Paris. After the maſſacre of Vaſſi, he was deputed to the king to complain of this violence. The civil war followed ſoon after, during which the prince of Condé kept him with him; and while the prince was impriſoned, he lived with Admiral de Coligni, and did not return to Geneva till after the peace 1563. In 1571, he was choſen moderator at the national ſynod of Rochelle; and the year after, aſſiſted at that of Niſmes; after this, he aſſiſted at the conferences of Montheliard, and at thoſe of Bern. The infirmities of old age beginning to fall heavy upon him in 1597, he could ſeldom ſpeak in public: and at laſt he left it off entirely in the beginning of the year 1600. However, in 1597, he wrote ſome animated verſes againſt the Jeſuits, on occaſion of the report that was made of his death, and of his having before he died made profeſſion of the Roman faith. He lived till the 13th of October 1605. He was a man of extraordinary merit, and one who did great ſervices to the Proteſtant cauſe. This, however, expoſed him to innumerable ſlanders and calumnies; but he ſhowed both to the Catholics and Lutherans, that he underſtood how to defend himſelf. He wrote, 1. A Tranſlation of the New Teſtament; 2. Turned the Pſalms into Latin verſe; 3. Publiſhed a Treatiſe on the Sacraments; 4. Some Sermons on the Paſſion of Jeſus Chriſt and on Solomon's Song; 5. A Verſion of the Canticles, in lyric verſe; 6. A French tragi-comedy, intitled, The Sacrifice of Abraham; and many other pieces.

BEZANS, cotton cloths, which come from Bengal: ſome are white, and others ſtriped with ſeveral colours.

BEZANTLER, the branch of a deer's horns next below the brow-antler.

BEZOAR, in natural hiſtory and medicine, a general name for certain animal-ſubſtances ſuppoſed to be effectual in preventing the fatal conſequences of poiſon. The word comes from the Perſian *badzeher*, *bazeher*, or *pahazar*, which ſignifies an antidote.

The firſt mention made of bezoar is in Avenzoar, an Arabian phyſician, who gives a very romantic account of its origin. He deſcribes it as generated of the tears or gum of the eyes of ſtags; who, after eating ſerpents, uſed to run into the water up to the noſe, where they ſtood till their eyes began to ooze a humour, which, collecting under the eye-lids, gradually thickened and coagulated, till, being grown hard, it was thrown off by the animal in rubbing frequently. Other opinions no leſs fabulous obtained till the time of Garcias al Horto, phyſician to the Portugueſe viceroy of the Indies, who gave the firſt genuine account of it. Kempſer afterwards gave a deſcription of it, with ſome new particulars.

The bezoar is a calculous concretion found in the ſtomach of certain animals of the goat kind. See Capra. It is compoſed of concentrical coats ſurrounding one another, with a little cavity in the middle, containing a bit of wood, ſtraw, hair, or the like ſubſtances.

There are two ſorts of bezoar; one brought from Perſia and the Eaſt-Indies, the other from the Spaniſh Weſt-Indies. The firſt or beſt ſort, called *oriental bezoar*, is of a ſhining dark green or olive colour, and an even ſmooth ſurface; on removing the outward coat, that which lies underneath it appears likewiſe ſmooth and ſhining. The *occidental* has a rough ſurface, and leſs of a green colour than the foregoing; it is likewiſe much heavier, more brittle, and of a looſer texture; the coats are thicker, and on breaking exhibit a number of ſtriæ curiouſly interwoven. The oriental is generally leſs than a walnut; the occidental for the moſt part larger, and ſometimes as big as a gooſe egg. The firſt is univerſally moſt eſteemed, and is the only ſort now retained by the London college: the Edinburgh, in the edition of their pharmacopœia preceding the preſent, directed both: but they now ſeem to allow them to be uſed promiſcuouſly, retaining in their catalogue only the name *bezoar lapis*.

This ſtone is in high eſteem among the Perſians, and even of greater value than in Europe; which, with ſundry other circumſtances needleſs to relate here, has given occaſion to many to ſuſpect, that the true bezoar is never brought to us. Some authors relate with great confidence, that all the ſtones commonly ſold under this name are artificial compoſitions. That ſome of them are ſo, is evident: hence the great differences in the accounts which different perſons have given of their qualities: the ſtones examined by Slare as oriental bezoar did not diſſolve in acids; thoſe which Grew and Boyle made trial of, did; thoſe employed by Geoffroy (in ſome experiments related in the French memoirs

1710) did not ſeem to be acted on by rectified ſpirit; whilſt ſome of thoſe examined by Neumann at Berlin almoſt totally diſſolved therein. The common mark of the goodneſs of this ſtone, is its ſtriking a deep green colour on white paper that has been rubbed with chalk.

Bezoar was not known to the ancient Greeks, and is firſt taken notice of by the Arabians (as above mentioned), who extol it in a great variety of diſorders, particularly againſt poiſons. Later writers alſo beſtow extraordinary commendations on it as a ſudorific and alexipharmac; virtues to which it certainly has no pretence. It has no ſmell or taſte, is not digeſtible in the ſtomach of the animal in which it is found, and is ſcarce capable of being acted on by any of the juices of the human body. It cannot be conſidered in any other light than as an abſorbent; and is much the weakeſt of all the common ſubſtances of that claſs. It has been given to half a dram, and ſometimes a whole dram, without any ſenſible effect; though the general doſe (on account of its great price) is only a few grains.

Bezoar, in a more extenſive ſenſe, includes all ſubſtances formed ſtratum ſuper ſtratum in the ſtomachs or inteſtines of animals; in which ſenſe pearls, the concretions called *crabs-eyes*, &c. belong to the claſs of bezoars. To this alſo belong the hippolithus, or *bezoar equinum*, a ſtone ſometimes found in the ſtomach or inteſtines of a horſe; the monkey-bezoar, a ſtone ſaid to be found in the ſtomachs of certain monkeys in Brazil and the Eaſt-Indies, harder than the oriental bezoar, of a dark-green colour, and very coſtly on account of its ſcarcity.—*Bezoar bovinum*, is a yellowiſh ſtone found in the ox's gall bladder.—*Human bezoars* are ſtony ſubſtances found in the inteſtines of ſeveral perſons, formed from the ſtones of plums, or other fruits, retained in the cœcum or other guts, and growing coated over, of which we have an inſtance given by Dr Cole, Phil. Tranſ. n°235.—*Bezoar microcoſmicum* is the ſame with the human calculus; and is various in its degrees of hardneſs, as well as in its ſize and figure. It has been uſed in the place of the more coſtly ſorts.—As to the *bezoar hyſtricis*, a concretion found in the gall-bladder of an Indian porcupine; and the German bezoar, or that found in mountain-deer, eſpecially on the Alps; theſe, not being ſtones, are more properly called by late writers *ægagropilæ*; the former conſiſting of woolly fibres, and a bitter friable matter, having neither laminæ nor membranes; the latter being a ball of hair or herbs, or perhaps roots, compacted in the ſtomach of the animal.—They are all as medicines, unworthy of regard.—The bezoar bovinum, or ox-bezoar, is uſed by miniature-painters in ſeveral caſts of yellow.

Bezoar-mineral. See Pharmacy-*Index*.

Foſſil Bezoar, is a kind of figured ſtone, formed, like the animal bezoar, of ſeveral coats or ſtrata ranged round ſome extraneous body which forms a nucleus, and ſuppoſed to have the ſame virtues. It is found chiefly in Sicily, in ſand and clay pits. It is of a purple colour, with a rough ſurface, the ſize of a walnut, and light. When broken, it is found to be an irony cruſt, containing in its hollow a fine greeniſh white earth, reſembling pale bezoar. The earth is uſed, and not the ſhells. It ſeems to be of the nature of bole armeniac. It is alſo called *Sicilian earth*.

BEZOARDIC, an appellation given to whatever partakes of the nature of bezoar; alſo to compound medicines whereof bezoar makes an ingredient.

BIA, in commerce, a name given by the Siameſe to thoſe ſmall ſhells which are called *cowries* throughout almoſt all the other parts of the Eaſt Indies. See Cowries.

BIÆUM, *βιαιον*, in rhetoric, denotes a kind of counter-argument, whereby ſomething alleged for the adverſary is retorted againſt him, and made to conclude a different way: for inſtance, *Occidiſti, quia adſtitiſti interfecto.—βιαιον, Immo quia adſtiti interfecto, non occidi; nam ſi id eſſet, in fugam me conjeciſſem.* "You killed the perſon, becauſe you were found ſtanding by his body. *Biæum*, Rather I did not kill him becauſe I was found ſtanding by his body; ſince, in the other caſe, I ſhould have fled away."

Biæum, in the Grecian laws, was an action brought againſt thoſe who raviſhed women, or uſed violence to any man's perſon.

BIAFAR, or Biafra, a kingdom of Africa, ſituated to the eaſt of Benin, to the weſt of Medra, from which it is divided by a chain of mountains, and extending ſouthward to the fourth degree of north latitude. The natives are the moſt of all negroes addicted to, and infatuated with, magic; imagining themſelves capable of cauſing rain, thunder, and lightning: therefore they worſhip the devil with great zeal, and even ſacrifice their children to him.

BIAFORA, in the cuſtoms of the middle age, a form of cry or alarm to arms; on the hearing whereof the inhabitants of towns or villages were to iſſue forth, and attend their prince. The word ſeems originally from Gaſcony; and the Italians even now on a ſudden inſurrection of the people, commonly cry, *Viva-fora*, by an uſual change of the letter B into V.

BIARCHUS, an officer in the court of the emperors of Conſtantinople, intruſted with the care and inſpection of the proviſions of the ſoldiery.

BIALOGOROD, or Akerman, a ſtrong town of Beſſarabia, in European Turkey. It is ſeated on a lake called *Vidono*, near the ſea ſide, in E. Long. 22. 50. N. Lat. 46. 24.

BIANA, a town of Aſia in the dominions of the Great Mogul, remarkable for its excellent indigo. E. Long. 77. 0. N. Lat. 26. 20.

BIANCHI (Franceſco), called *Il Frari*, an eminent painter, was born at Modena; and had the honour of being maſter to one of the moſt eſteemed painters that ever appeared, Antonio Correggio. His colouring was delicately fine; his attitudes full of grace; and his invention extremely grand. His works had an aſtoniſhing beauty, and are prized as highly as even thoſe of Correggio. He died in 1520.

BIANCHINI (Francis), one of the moſt learned men of his time, was born at Verona in 1662, of a noble and ancient family. His taſte for natural philoſophy and mathematics induced him to eſtabliſh the academy of Aletofili, at Verona. He went to Rome in 1684; and was made librarian to cardinal Ottoboni, who was afterwards Pope under the name of Alexander VIII. He alſo became canon of St Mary de la Rotonda, and at length of St Lawrence in Damaſo. He was eſteemed by the learned; and was a member of many academies. He publiſhed ſeveral ingenious diſſertations, &c. and died in 1729, aged 67.

BIAS, one of the ſeven ſages of Greece, flouriſhed about 608 before Chriſt. He was accuſtomed to ſay, "It is a ſickneſs of the mind to wiſh for impoſſible things." During the ſiege of Priena, his native city, being aſked why he was the only one who retired from the place without carrying any thing with him, he replied, That he carried his all with him; meaning, that his knowledge and virtue were the only bleſſings that were peculiarly his own, ſince they could not be taken from him. He expired while pleading for one of his friends.

Bias, or *Biaſs*, in a general ſenſe, the inclination or bent of a perſon's mind to one thing more than another.—It alſo ſignifies the lead or weight put into a bowl, that draws or turns the courſe of it any way to which the bias looks.

BIBERACH, a free and imperial city of Suabia in Germany. It has a large manufacture in fuſtians, and is ſeated in a pleaſant fertile valley on the river Ruſs. E. Long. 10. 2. N. Lat. 48. 4.

BIBERSBERG, a town of Upper Hungary, ſituated in E. Eong. 17. 25. N. Lat. 48. 35.

BIBIENA (Ferdinand Galli), an excellent painter and architect, was born at Bologna in 1657; and was ſurnamed *Bibiena* from a territory of that name in Tuſcany, in which his father was born. He acquired ſuch reputation by his ſkill in architecture, the decorations of the theatre, and perſpective, that the duke of Parma invited him to his court, and made him his firſt painter and architect. Bibiena at length went to the emperor's court, where he had the ſame honours and advantages. He wrote two books of architecture; and died at Bologna, at above 80 years of age. His ſons followed with ſucceſs the ſame profeſſion.

BIBLE (in Greek βιβλος, *the book*), a name applied by Chriſtians by way of eminence or diſtinction to the collection of ſacred writings, or the holy ſcriptures of the Old and New Teſtaments; known alſo by various other appellations, as, the Sacred Books, Holy Writ, Inſpired Writings, Scriptures.. &c. The Jews ſtyled the Bible (that is, the Old Teſtament) *mikra;* which ſignifies *Leſſon* or *Lecture.*

This collection of the ſacred writings containing thoſe of the Old and New Teſtaments, is juſtly looked upon as the foundation of the Jewiſh as well as the Chriſtian religion. The Jews, it is true, acknowledged only the ſcriptures of the Old Teſtament, the correcting and publiſhing of which is unanimouſly aſcribed, both by the Jews and Chriſtians, to Ezra. Some of the ancient fathers, on no other foundation than that fabulous and apocryphal book, the ſecond book of Eſdras, pretend, that the ſcriptures were entirely loſt and deſtroyed at the Babyloniſh captivity, and that Ezra reſtored them all again by divine revelation. What is certain is, that in the reign of Joſiah there was no other book of the law extant beſides that found in the temple by Hilkiah; from which original, by order of that pious king, copies were immediately written out, and ſearch made for all the other parts of the ſcriptures, (2 Kings xxii.); by which means copies of the whole became multiplied among the people, who carried them with them into their captivity. After the return of the Jews from the Babyloniſh captivity, Ezra got together as many copies as he could of the Sacred writings, and out of them all prepared a correct edition, diſpoſing the ſeveral books in their proper order, and ſettling the canon of ſcripture for his time. Theſe books he divided into three parts. 1. The Law. 2. The Prophets. 3. The Cetubim or Hagiographia, i. e. *The Holy Writings.*

I. The Law contains. 1. Geneſis. 2. Exodus. 3. Leviticus. 4. Numbers. 5. Deuteronomy.

II. The writings of the prophets are, 1. Joſhua. 2. Judges, with Ruth. 3. Samuel. 4. Kings. 5. Iſaiah. 6. Jeremiah, with his Lamentations. 7. Ezekiel. 8. Daniel. 9. The twelve minor Prophets. 10. Job. 11. Ezra. 12. Nehemiah. 13. Eſther.

III. And the Hagiographia conſiſts of, 1. The Pſalms. 2. The Proverbs. 3. Eccleſiaſtes. 4. The Song of Solomon. This diviſion was made for the ſake of reducing the number of the ſacred books to the number of the letters in their alphabet, which amount to 22.. At preſent, the Jews reckon 24 books in their canon of ſcripture, in diſpoſing of which the law ſtands as it did in the former diviſion, and the prophets are diſtributed into the former and latter prophets.

The former prophets are,

Joſhua, Judges, Samuel, Kings.

The latter prophets are,

Iſaiah, Jeremiah, Ezekiel, and the 12 minor prophets.

And the Hagiographia conſiſts of

The Pſalms, the Proverbs, Job, the Song of Solomon, Ruth, the Lamentations, Eccleſiaſtes, Eſther, Daniel, Ezra, the Chronicles.

Under the name of Ezra, they comprehend Nehemiah. It is true this order hath not always been obſerved, but the variations from it are of little or no moment.

The five books of the law are divided into 54 ſections. This diviſion many of the Jews hold to have been appointed by Moſes himſelf; but others, with more probability, aſcribe it to Ezra. The deſign of this diviſion was, that one of theſe ſections might be read in their ſynagogues every ſabbath-day. The number was 54, becauſe in their intercalated years a month being then added, there were 54 ſabbaths. In other years, they reduced them to 52, by twice joining together two ſhort ſections. Till the perſecution of Antiochus Epiphanes, they read only the law; but the reading of it being then prohibited, they ſubſtituted in the room of it 54 ſections out of the prophets; and when the reading of the law was reſtored by the Maccabees, the ſection which was read every ſabbath out of the law ſerved for their firſt leſſon, and the ſection out of the prophets for their ſecond. Theſe ſections were divided into verſes, of which diviſion, if Ezra was not the author, it was introduced not long after him, and ſeems to have been deſigned for the uſe of the Targumiſts or Chaldee interpreters: for after the return of the Jews from the Babyloniſh captivity, when the Hebrew language ceaſed to be their mother tongue, and the Chaldee grew into uſe inſtead of it, the cuſtom was that the law ſhould be firſt read in the original Hebrew, and then interpreted to the people in the Chaldee language, for which purpoſe theſe ſhorter ſections or periods were very convenient.

The diviſion of the ſcriptures into chapters, as we at preſent have them, is of much later date. Some attribute

bute it to Stephen Langton, archbiſhop of Canterbury, in the reigns of John and Henry III. But the true author of the invention was Hugo de Sancto Caro, commonly called *Hugo Cardinalis*, becauſe he was the firſt Dominican that ever was raiſed to the degree of cardinal. This Hugo flouriſhed about the year 1240. He wrote a comment on the ſcriptures, and projected the firſt concordance, which is that of the vulgar Latin Bible. The aim of this work being for the more eaſy finding out any word or paſſage in the ſcripture, he found it neceſſary to divide the book into ſections, and the ſections into ſubdiviſions; for till that time the vulgar Latin Bibles were without any diviſion at all. Theſe ſections are the chapters into which the Bible hath ever ſince been divided. But the ſubdiviſion of the chapters was not then into verſes, as it is now. Hugo's method of ſubdividing them was by the letters A, B, C, D, E, F, G, placed in the margin at an equal diſtance from each other, according to the length of the chapters. The ſubdiviſion of the chapters into verſes, as they now ſtand in our Bibles, had its original from a famous Jewiſh rabbi, named mordecai Nathan, about the year 1445. This rabbi, in imitation of Hugo Cardinalis, drew up a concordance to the Hebrew Bible, for the uſe of the Jews. But though he followed Hugo in his diviſion of the books into chapters, he refined upon his invention as to the ſubdiviſion, and contrived that by verſes: this being found to be a much more convenient method, it has been ever ſince followed. And thus, as the Jews borrowed the diviſion of the books of the holy ſcriptures into chapters from the Chriſtians, in like maner the Chriſtians borrowed that of the chapters into verſes from the Jews.

The order and diviſion of the books of the Bible, as well of the Old as the New Teſtament, according to the diſpoſition made by the council of Trent, by decree I. ſeſſion iv. are as follows: where we are to obſerve, that thoſe books to which the aſteriſms are prefixed, are rejected by the Proteſtants as apocryphal.

Geneſis,
Exodus,
Leviticus,
Numbers,
Deuteronomy,
Joſhua,
Judges and Ruth,
1 Samuel, or 1 Kings,
2 Samuel, or 2 Kings,
1 Kings, otherwiſe called 3 Kings,
2 Kings, otherwiſe called 4 Kings,
1 Chronicles,
2 Chronicles,
1 Eſdras (as the LXX and Vulgate call it), or the book of Ezra,
2 Eſdras or (as we have it) the book of Nehemiah,
* Tobit,
* Judith,
Eſther,
Job,
Pſalms,
Proverbs,
Eccleſiaſtes,
Song of Solomon,
* The book of Wiſdom,
* Eccleſiaſticus,
Iſaiah,
Jeremiah and * Baruch,
Ezekiel,
Daniel,
Hoſea,
Joel,
Amos,
Obadiah,
Nahum, which we place immediately after Micah, before Habakkuk.
Jonah, which we place immediately after Obadiah.
Micah,
Habakkuk,
Zephaniah,
Haggai,
Zechariah,
Malachi,
* 1 Maccabees,
* 2 Maccabees.

The books of the New Teſtament are,

The Goſpel of
St Matthew,
St Mark,
St Luke,
St John.

The acts of the Apoſtles.

The Epiſtle of St Paul to
the Romans,
the Corinthians, I.
the Corinthians, II.
the Galatians,
the Epheſians,
the Philippians,
the Coloſſians,
the Theſſalonians, I.
the Theſſalonians, II.
Timothy, I.
Timothy, II.
Titus,
Philemon,
the Hebrews,

The general Epiſtle of
St James,
St Peter, I.
St Peter, II.
St John, I.
St John, II.
St John, III.
St Jude,

The Revelation of St John.

The apocryphal books of the Old Teſtament, according to the Romaniſts, are, the book of Enoch (ſee Jude 14), the third and fourth books of Eſdras, the third and fourth book of Maccabees, the prayer of Manaſſeh, the Teſtament of the twelve Patriarchs, the Pſalter of Solomon, and ſome other pieces of this nature.

The apocryphal books of the New Teſtament are, the epiſtle of St Barnabas, the pretended epiſtle of St Paul to the Laodiceans, ſeveral ſpurious goſpels, Acts of the Apoſtles, and Revelations; the book of Hermas, intitled, the Shepherd, Jeſus Chriſt's Letter to Abgarus, the epiſtles of St Paul to Seneca, and ſeveral other pieces of the like nature, as may be ſeen in the collection of the apocryphal writings of the New Teſtament made by Fabricus.

The books which are now loſt and cited in the Old

Teſtament are theſe, the book of the *Righteous*, or of Jaſher, as our verſion of the Bible has it (Joſh. x. 13. and 2 Sam. i. 18); the book of the wars of the Lord, (Numb. xxi. 14); the annals of the kings of Iſrael, ſo often cited in the books of the Kings and Chronicles. The authors of theſe annals were the prophets, who lived in the kingdoms of Judah and Iſrael We have likewiſe but a part of Solomon's 3000 proverbs and his 1005 ſongs. (1 Kings iv. 32.); and we have entirely loſt what he wrote upon plants, animals, birds, fiſhes, and reptiles.

Ezra, in the opinion of moſt learned men, publiſhed the ſcriptures in the Chaldee character: for that language being grown wholly into uſe among the Jews, he thought proper to change the old Hebrew character for it, which hath ſince that time been retained only by the Samaritans, among whom it is preſerved to this day.

Prideaux is of opinion that Ezra made additions in ſeveral parts of the Bible, where any thing appeared neceſſary for illuſtrating, connecting, or completing the work; in which he appears to have been aſſiſted by the ſame ſpirit in which they were firſt written. Among ſuch additions are to be reckoned the laſt chapter of Deuteronomy, wherein Moſes ſeems to give an account of his own death and burial, and the ſucceſſion of Joſhua after him. To the ſame cauſe our learned author thinks are to be attributed many other interpolations in the Bible, which creates difficulties and objections to the authenticity of the ſacred text, no ways to be ſolved without allowing them. Ezra changed the names of ſeveral places which were grown obſolete, and inſtead of them put their new names, by which they were then called in the text. Thus it is that Abraham is ſaid to have purſued the kings who carried Lot away captive, as far as Dan; whereas that place in Moſes's time was called *Laiſh*; the name *Dan* being unknown till the Danites, long after the death of Moſes, poſſeſſed themſelves of it.

The Jewiſh canon of Scripture was then ſettled by Ezra, yet not ſo but that ſeveral variations have been made in it. Malachi, for inſtance, could not be put in the Bible by him, ſince that prophet is allowed to have lived after Ezra; nor could Nehemiah be there, ſince mention is made, in that book, of Jaddus, as high-prieſt, and of Darius Codomanus, as king of Perſia, who were at leaſt 100 years later than Ezra. It may be added, that in the firſt book of Chronicles, the genealogy of the ſons of Zerubbabel is carried down for ſo many generations as muſt neceſſarily bring it to the time of Alexander, and conſequently this book could not be in the canon in Ezra's days. It is probable, the two books of Chronicles, Ezra, Nehemiah, Eſther, and Malachi, were adopted into the Bible in the time of Simon the Juſt, the laſt of the men of the great Synagogue.

The Jews, at firſt, were very reſerved in communicating their ſcripture to ſtrangers: deſpiſing and ſhunning the Gentiles, they would not diſcloſe to them any of the treaſures concealed in the Bible. We may add, that the people bordering on the Jews, as the Egyptians, Phœnicians, Arabs, &c. were not very curious to know the laws or hiſtory of a people, whom in their turn they hated and deſpiſed. Their firſt acquaintance with theſe books was not till after the ſeveral captivities of the Jews, when the ſingularity of the Hebrew laws and ceremonies induced ſeveral to deſire a more particular knowledge of them. Joſephus ſeems ſurpriſed to find ſuch ſlight foot-ſteps of the ſcripture-hiſtory interſperſed in the Egyptian, Chaldean, Phœnician, and Grecian hiſtory; and accounts for it hence, that the ſacred books were not as yet tranſlated into the Greek or other languages, and conſequently not known to the writers of thoſe nations.

The firſt verſion of the Bible was that of the SEPTUAGINT into Greek in the time of Ptolemy Philadelphus; though ſome maintain that the whole was not then tranſlated, but only the Pentateuch; between which and the other books in the verſion called of the Seventy, the critics find a great diverſity in point of ſtyle and expreſſion, as well as of accuracy.

Hebrew BIBLES, are either manuſcript or printed. The beſt manuſcript Bibles are thoſe copied by the Jews of Spain. Thoſe copied by the Jews of Germany are leſs exact, but more common. The two kinds are eaſily diſtinguiſhed from each other; the former being in beautiful characters, like the Hebrew Bibles of Bomberg, Stephens, and Plantin; the latter in characters like thoſe of Munſter and Gryphius. F. Simon obſerves, that the oldeſt manuſcript Hebrew Bibles are not above ſix or ſeven hundred years old; nor does rabbi Menaham, who quotes a vaſt number of them, pretend that any of them exceed ſix hundred years.

Dr Kennicot, in his Diſſertatio Generalis prefixed to his Hebrew Bible, p. 21, obſerves, that the moſt ancient manuſcripts were written between the years 900 and 1100: but though thoſe that are the moſt ancient are not more than 800 or 900 years old, they were tranſcribed from others of a much more ancient date. The manuſcript preſerved in the Bodleian library is not leſs than 800 years old. Another manuſcript, not leſs ancient, is preſerved in the Cæſarean library at Vienna.

The moſt ancient printed Hebrew Bibles are thoſe publiſhed by the Jews of Italy, eſpecially of Peſaro and Breſſe. Thoſe of Portugal alſo printed ſome parts of the Bible at Liſbon, before their expulſion.—This may be obſerved in the general, that the beſt Hebrew Bibles are thoſe printed under the inſpection of the Jews; their being ſo many *minutiæ* to be obſerved, that it is ſcarce poſſible for any other to ſucceed in it.

In the beginning of the 16th century Dan. Bomberg printed ſeveral Hebrew Bibles in folio and quarto at Venice, moſt of which are eſteemed both by the Jews and Chriſtians: the firſt in 1517, which is the leaſt exact, and generally goes by the name of Felix Prætenſis, the perſon who reviſed it. This edition contains the Hebrew text, the targum, and the commentaries of ſeveral rabbins. In 1528, the ſame Bomberg printed the folio Bible of rabbi Benchajim, with his preface, the maſoretical diviſions, a preface of Aben Ezra, a double *maſora*, and ſeveral various readings. The third edition was printed in 1618; it is the ſame with the ſecond, but much more correct. From the former editions it was that Buxtorf, the father, printed his rabbinical Hebrew Bible at Baſil, in 1618; which though there are many faults in it, is more correct than any of the former. In 1623 appeared at Venice a new edition of the rabbinical Bible by Leo of Modena, a rabbin of that city, who pretended to have corrected a great number of faults in the former edition; but, beſides that it is much inferior to the other Hebrew Bibles of Venice, with regard to paper and print, it has paſſed through the hands of the inquiſitors, who have altered many paſſages in the commentaries of the rabbins.

As to Hebrew Bibles in 4to, that of R. Stephens is eſteemed for the beauty of the characters; but it is very incorrect. Plantin alſo printed ſeveral beautiful Hebrew Bibles at Antwerp: one, in eight columns, with a preface by Arias Montanus in 1571, which far exceeds the Complutenſian in paper and print, and contents; this is called the Royal Bible, becauſe it was printed at the expence of Philip II. of Spain: another at Geneva in 1619; beſides many more of different ſizes, with and without points. Manaſſeh Ben Iſrael, a learned Portugueſe Jew, publiſhed two editions of the Hebrew Bible at Amſterdam; the one in 4to in 1635; the other in 8vo in 1639: the firſt has two columns, and for that reaſon is commodious for the reader. In 1639, R. Jac. Lombroſo publiſhed a new edition in 4to at Venice, with ſmall literal notes at the bottom of each page, where he explains the Hebrew words by Spaniſh words. This Bible is much eſteemed by the Jews at Conſtantinople: in the text they have diſtinguiſhed between words where the point *camets* is to be read with a *camets-katuph*, that is, by *o*, and not an *a*.

Of all the editions of the Hebrew Bible in 8vo, the moſt beautiful and correct are the two of Jo. Athias, a Jew of Amſterdam. The firſt, of 1661, is the beſt paper; but that of 1667 is the moſt exact: that, however, publiſhed ſince at Amſterdam by Vander Hooght, in 1705, is preferable to any of them.

After Athias, three Hebraizing Proteſtants engaged in reviſing and publiſhing the Hebrew Bible; *viz.* Clodius, Jablonſki, and Opitius.—Clodius's edition was publiſhed at Frankfort in 1677, in 4to. At the bottom of the page it has the various readings of the former editions; but the author does not appear ſufficiently verſed in the accenting, eſpecially in the poetical books; beſides, as it was not publiſhed under his eye, many faults have crept in. That of Jablonſki in 1699, in 4to, at Berlin, is very beautiful as to letter and print: but, though the editor pretends he made uſe of the editions of Athias and Clodius, ſome critics find it ſcarce in any thing different from the 4to edition of Bomberg. That of Opitius is alſo in 4to at Keil, in 1709; the character is large and good, but the paper bad: it is done with a great deal of care; but the editor made uſe of no manuſcripts but thoſe of the German libraries; neglecting the French ones, which is an omiſſion common to all three. They have this advantage, however, that beſides the diviſions uſed by the Jews, both general and particular, into *paraſkes* and *peſukim*, they have alſo thoſe of the Chriſtians, or of the Latin Bibles, into chapters and verſes; the *keri-ketib*, or various readings, Latin ſummaries, &c. which made them of conſiderable uſe, with reſpect to the Latin editions and the concordances.

The little Bible of R. Stephens, in 16to, is very much prized for the beauty of the character. Care, however, muſt be taken; there being another edition of Geneva exceedingly like it, excepting that the print is worſe, and the text leſs correct. To theſe may be added ſome other Hebrew Bibles without points, in 8vo and 24to, which are much coveted by the Jews; not that they are more exact, but more portable than the reſt, and are uſed in their ſynagogues and ſchools: of theſe there are two beautiful editions, the one of Plantin, in 8vo, with two columns, and the other in 24to, reprinted by Raphalengius at Leyden in 1610. There is alſo an edition of them by Laurens at Amſterdam in 1631, in a larger character; and another in 12mo, at Frankfort, in 1694, full of faults, with a preface of M. Leuſden at the head of it.

Houbigant publiſhed an elegant edition of the Hebrew Bible at Paris in 1573, contained in four volumes folio. The text is that of Van der Hooght, without points, to which he has added marginal notes, ſupplying the variations of the Samaritan copy. Dr Kennicott, after almoſt 20 years laborious collation of near 700 copies, manuſcript and printed, either of the whole or of particular parts of the Bible, did, in 1776, publiſh the firſt volume of his Hebrew Bible in folio. The text is that of Everard Vander Hooght, already mentioned, differing from it only in the diſpoſition of the poetical parts which Dr Kennicott has printed in hemiſtichs, into which they naturally divide themſelves: however the words follow one another in the ſame order as they do in the edition of Vander Hooght. This edition is printed on an excellent type; the Samaritan text, according to the copy in the London Polyglot, is exhibited in a column parallel with the Hebrew text; thoſe parts of it only being introduced in which it differs from the Hebrew. The numerous variations both of the Samaritan manuſcripts from the printed copy of the Samaritan texts, and of the Hebrew manuſcripts from the printed text of Vander Hooght, are placed ſeparately at the bottom of the page, and marked with numbers referring to the copies from which they are taken. The ſecond volume, with the Diſſertatio Generalis, which completes this valuable and important work has been lately publiſhed.

Greek BIBLES.—There is a great number of editions of the Bible in Greek; but they may be all reduced to three or four principal ones, viz. that of Complutum, or Alcala de Henares, that of Venice, that of Rome, and that of Oxford. The firſt was publiſhed in 1515, by Cardinal Ximenes, and inſerted in the Polyglot Bible, uſually called the *Complutenſian Bible:* this edition is not juſt, the Greek of the Seventy being altered in many places according to the Hebrew text. It has, however, been reprinted in the Polyglot Bible of Antwerp, in that of Paris, and in the 4to Bible, commonly called *Vatablus's Bible.*

The ſecond Greek Bible is that of Venice, printed by Aldus in 1518. Here the Greek text of the Septuagint is reprinted juſt as it ſtood in the manuſcript, full of faults of the copyiſts, but eaſily amended. This edition was reprinted at Straſburg in 1526, at Baſil in 1545, at Frankfort in 1597, and other places, with ſome alterations to bring it nearer the Hebrew. The moſt commodious is that of Frankfort, there being added to this little *ſcholia*, which ſhow the different interpretations of the old Greek tranſlators: the author of this collection has not added his name, but it is commonly aſcribed to Junius.

The third Greek Bible is that of Rome, or the Vatican, in 1587, with Greek *ſcholia* collected from the manuſcripts in the Roman libraries by Pet. Morin. It was firſt ſet on foot by Cardinal Montalbo, afterwards Pope Sextus Quintus. This fine edition has been reprinted at Paris in 1628 by J. Morin, prieſt of the oratory, who has added the Latin tranſlation, which in the Roman was printed ſeparately, with *ſcholia*. The Greek edition of Rome has been printed in the Polyglot Bible of London; to which are added, at bottom, the various readings of the Alexandrian manuſcript. This has been alſo reprinted in England in 4to and 12mo, with ſome alterations. It has been again publiſhed at Franeker in 1709 by Bos, who has added all the various readings he could find.

The fourth Greek Bible is that done from the Alexandrian manuſcript, begun at Oxford by Dr Grabe in 1707. In this the Alexandrian manuſcript is not printed ſuch as it is, but ſuch as it was thought it ſhould be; *i. e.* it is altered wherever there appeared any fault of the copyiſts, or any word inſerted from any particular dialect: this ſome think an excellence, but others a fault; urging, that the manuſcript ſhould have been given abſolutely and entirely of itſelf, and all conjectures as to the readings ſhould have been thrown into the notes.

Latin Bibles, how numerous ſoever, may be all reduced to three claſſes; the ancient vulgate, called alſo *Italica*, tranſlated from the Greek Septuagint; the modern vulgate, the greateſt part of which is done from the Hebrew text; and the new Latin tranſlations, done alſo from the Hebrew text, in the 16th century. We have nothing remaining of the ancient vulgate, uſed in the primitive times in the weſtern churches, but the Pſalms, Wiſdom, and Eccleſiaſtes. Nobilius has endeavoured to retrieve it from the works of the ancient Latin fathers; but it was impoſſible to do it exactly, becauſe moſt of the fathers did not keep cloſe to it in their citations.

As to the modern vulgate, there are a vaſt number of editions very different from each other. Cardinal Ximenes has inſerted one in the Bible of Complutum, corrected and altered in many places. R. Stephens, and the doctors of Louvain, have taken great pains in correcting the modern vulgate.

The beſt edition of Stephens's Latin Bible is that of 1540, reprinted in 1545, in which are added on the margin the various readings of ſeveral Latin manuſcripts which he had conſulted. The doctors of Louvain reviſed the modern vulgate after R. Stephens; and added the various readings of ſeveral Latin manuſcripts. The beſt of the Louvain editions are thoſe at the end of which are added the critical notes of Francis Lucas of Bruges.

All theſe reformations of the Latin Bible were made before the time of Pope Sixtus V. and Clement VIII. ſince which people have not dared to make any alterations, excepting in comments and ſeparate notes. The correction of Clement VIII. in 1592, is now the ſtandard throughout all the Romiſh churches: that pontiff made two reformations; but it is the firſt of them that is followed. From this the Bibles of Plantin were done, and from thoſe of Plantin all the reſt; ſo that the common Bibles have none of the after corrections of the ſame Clement VIII. It is a heavy charge that lies on the editions of Pope Clement, viz. that they have ſome new texts added, and many old ones altered, to countenance and confirm what they call the Catholic doctrine; witneſs that celebrated paſſage of St John, *tres ſunt*, &c. There are a great number of Latin Bibles of the third claſs, comprehending the verſions from the originals of the ſacred books made within theſe 200 years. The firſt is that of Santes Pagninus, a Dominican, under the patronage of Pope Leo X. printed at Lyons, in 4to, in 1527, much eſteemed by the Jews. This the author improved in a ſecond edition. In 1542, there was a beautiful edition of the ſame at Lyons, in folio, with *ſcholia*, publiſhed under the name of Michael Villanovanus, *i. e.* Michael Servetus, author of the *ſcholia*. Thoſe of Zurich have likewiſe publiſhed an edition of Pagninus's Bible in 4to; and R. Stephens reprinted it in folio, with the vulgate, in 1557, pretending to give it more correct than in the former editions. There is alſo another edition of 1586, in four columns, under the name of *Vatablus*: and we find it again in the Hamburg edition of the Bible in four languages.

In the number of Latin Bibles is alſo uſually ranked the verſion of the ſame Pagninus corrected, or rather rendered literal, by Arias Montanus; which correction being approved of by the doctors of Louvain, &c. was inſerted in the Polyglot Bibles of Philip II. and ſince in that of London. There have been various editions of this in folio, 4to, and 8vo; to whom have been added the Hebrew text of the Old Teſtament, and the Greek of the New. The beſt of them all is the firſt, which is in folio, 1571.

Since the Reformation there have been ſeveral Latin verſions of the Bible from the originals, by Proteſtants. The moſt eſteemed are thoſe of Munſter, Leo Juda, Caſtalio, and Tremellius; the three laſt whereof have been reprinted various times. Munſter publiſhed his verſion at Baſil in 1534, which he afterwards reviſed; he publiſhed a correct edition in 1546. Caſtalio's fine Latin pleaſes moſt people; but there are ſome who think it too much affected; the beſt edition thereof is that in 1573. Leo Juda's verſion, altered a little by the divines of Salamanca, was added to the ancient Latin edition, as publiſhed by R. Stephens, with notes, under the name of *Vatablus's Bible*, in 1545. It was condemned by the Pariſian divines, but printed with ſome alterations by the Spaniſh divines of Salamanca. That of Junius and Tremellius is preferred, eſpecially by the Calviniſts, and has undergone a great number of editions.

One may add a fourth claſs of Latin Bibles, comprehending the vulgate edition corrected from the originals. The Bible of Iſidorus Clarus is of this number: that author, not being contented with reſtoring the ancient Latin copy, has corrected the tranſlator in a great number of places, which he thought ill rendered. Some Proteſtants have followed the ſame method; and among others, Andrew and Luke Oſiander, who have each publiſhed a new edition of the vulgate, corrected from the originals.

Oriental Bibles.—At the head of the Oriental verſions of the Bible muſt be placed the Samaritan; as being the moſt ancient of all, though neither its age nor author have been yet aſcertained, and admitting no more for holy ſcripture but the Pentateuch, or five books.

books of Moſes. This tranſlation is made from the Samaritan Hebrew text, which is a little different from the Hebrew text of the Jews. This verſion has never been printed alone; nor any where but in the Polyglots of London and Paris.

Chaldee BIBLES, are only the gloſſes or expoſitions made by the Jews in the time when they ſpake the Chaldee tongue. Theſe they call by the name of *Targumim*, or *paraphraſes*, as not being any ſtrict verſions of the Scripture. They have been inſerted entire in the large Hebrew Bibles of Venice and Baſil; but are read more commodiouſly in the Polyglots, being there attended with a Latin tranſlation.

Syriac BIBLES.—There are extant two verſions of the Old Teſtament in the Syriac language: one from the Septuagint, which is ancient, and made probably about the time of Conſtantine; the other called *antiqua et ſimplex*, made from the Hebrew, as ſome ſuppoſe, about the time of the apoſtles. This verſion is printed in the Polyglots of London and Paris.

In the year 1562, Widmanſtadius printed the whole New Teſtament in Syriac, at Vienna, in a beautiful character: after him there were ſeveral other editions; and it was inſerted in the Bible of Philip II. with a Latin tranſlation. Gabriel Sionita alſo publiſhed a beautiful Syriac edition of the Pſalms, at Paris, in 1525, with a Latin interpretation.

Arabic BIBLES.—In the year 1516, Aug. Juſtinian, biſhop of Nebio, printed at Genoa an Arabic verſion of the Pſalter, with the Hebrew text and Chaldee paraphraſe, adding Latin interpretations. There are alſo Arabic verſions of the whole ſcriptures in the Polyglots of London and Paris; and we have an addition of the Old Teſtament entire, printed at Rome in 1671, by order of the congregation *de propaganda fide*; but it is of little eſteem, as having been altered agreeably to the vulgate edition. The Arabic Bibles among us are not the ſame with thoſe uſed with the Chriſtians in the Eaſt. Some learned men take the Arabic verſion of the Old Teſtament, printed in the Polyglots, to be that of Saadias, who lived about the year 900; at leaſt in the main. Their reaſon is, that Aben Ezra, a great antagoniſt of Saadias, quotes ſome paſſages of his verſion, which are the ſame with thoſe in the Arabic verſion of the Polyglots; yet others are of opinion, that Saadias's verſion is not extant. In 1622, Erpenius printed an Arabic Pentateuch, called alſo the Pentateuch of Mauritania, as being made by the Jews of Barbary, and for their uſe. This verſion is very literal, and eſteemed very exact. The four Evangeliſts have alſo been publiſhed in Arabic, with a Latin verſion, at Rome, in 1591, folio. Theſe have been ſince reprinted in the Polyglots of London and Paris, with ſome little alterations of Gabriel Sionita. Erpenius publiſhed an Arabic New Teſtament entire, as he found it in his manuſcript copy, at Leyden, in 1616.

There are ſome other Arabic verſions of late date mentioned by Walton in his Prolegomena; particularly a verſion of the Pſalms preſerved in Sion College, London, and another of the Prophets at Oxford; neither of which have been publiſhed.

Cophtic BIBLES.—There are ſeveral manuſcript copies of the Cophtic Bible in ſome of the great libraries, eſpecially in that of the French king. Dr Wilkins publiſhed the Cophtic New Teſtament in 4to in the year 1716, and the Pentateuch alſo in 4to in 1731, with Latin tranſlations. He reckons theſe verſions to have been made in the end of the ſecond, or the beginning of the third century.

Ethiopic BIBLES.—The Ethiopians have alſo tranſlated the Bible into their language.—There have been printed ſeparately, the Pſalms, Canticles, ſome chapters of Geneſis, Ruth, Joel, Jonah, Zephaniah, Malachi, and the New Teſtament; all which have been ſince reprinted in the Polyglot of London. As to the Ethiopic New Teſtament, which was firſt printed at Rome in 1548, it is a very inaccurate work, and is reprinted in the Engliſh Polyglot with all its faults.

Armenian BIBLES.—There is a very ancient Armenian verſion of the whole Bible, done from the Greek of the Seventy, by ſome of their doctors about the time of Chryſoſtom. This was firſt printed entire in 1664, by one of their biſhops at Amſterdam, in 4to; with the New Teſtament in 8vo.

Perſian BIBLES.—Some of the fathers ſeem to ſay, that all the ſcripture was formerly tranſlated into the language of the Perſians; but we have nothing now remaining of the ancient verſion, which was certainly done from the Septuagint. The Perſian Pentateuch printed in the London Polyglot is, without doubt, the work of Rabbi Jacob, a Perſian Jew. It was publiſhed by the Jews at Conſtantinople, in the year 1551. In the ſame Polyglot we have likewiſe the four Evangeliſts in Perſian, with a Latin tranſlation; but this appears very modern, incorrect, and of little uſe. Walton ſays this verſion was written above 400 years ago. Another verſion of the Goſpels was publiſhed at Cambridge by Wheloc in the laſt century: there are alſo two Perſian verſions of the Pſalms made in the laſt century from the vulgar Latin.

Gothic BIBLES.—It is generally ſaid, that Ulphilas, a Gothic biſhop, who lived in the fourth century, made a verſion of the whole Bible, excepting the book of Kings, for the uſe of his countrymen. That book he omitted, becauſe of the frequent mention of the wars therein; as fearing to inſpire too much of the military genius into that people. We have nothing remaining of this verſion but the four Evangeliſts, printed in 4to, at Dort, in 1665, from a very ancient MS.

WHILST the Roman empire ſubſiſted in Europe, the reading of the Scriptures in the Latin tongue, which was the univerſal language of that empire, prevailed every where. But ſince the face of affairs in Europe has been changed, and ſo many different monarchies erected upon the ruins of the Roman empire, the Latin tongue has by degrees grown into diſuſe: whence has ariſen a neceſſity of tranſlating the Bible into the reſpective languages of each people; and this has produced as many different verſions of the Scriptures in the modern languages, as there are different nations profeſſing the Chriſtian religion. Hence we meet with French, Italian, Spaniſh, German, Flemiſh, Daniſh, Sclavonian, Poliſh, Bohemian, and Ruſſian or Muſcovite Bibles; beſides the Anglo-Saxon, and modern Engliſh and Iriſh Bibles.

French BIBLES. The oldeſt French Bible we hear of is the verſion of Peter de Vaux, chief of the Waldenſes, who lived about the year 1160. Raoul de Preſle tranſlated the Bible into French in the reign of Charles V.

king of France, about the year 1380. Beſides theſe, there are ſeveral old French tranſlations of particular parts of the Scripture. The doctors of Louvain publiſhed the Bible in French at Louvain, by order of the emperor Charles V. in 1550. There is a verſion by Iſaac le Maitre de Sacy, publiſhed in 1672, with explanations of the literal and ſpiritual meaning of the text, which was received with wonderful applauſe, and has been often reprinted. As to the New Teſtaments in French, which have been printed ſeparately, one of the moſt remarkable is that of F. Amelotte of the oratory, compoſed by the direction of ſome French prelates, and printed with annotations in the year 1666, 1667, and 1670. The author pretends he had been at the pains to ſearch all the libraries in Europe, and collate the oldeſt manuſcripts. But, in examining his work, it appears that he has produced no conſiderable various readings, which had not before been taken notice of either in the London Polyglot or elſewhere. The New Teſtament of Mons printed in 1665, with the archbiſhop of Cambray's permiſſion, and the king of Spain's licence, made a great noiſe in the world. It was condemned by Pope Clement IX. in 1668, and by Pope Innocent XI. in 1679, and in ſeveral biſhoprics of France at ſeveral times. The New Teſtament publiſhed at Trevoux in 1702, by Simon, with literal and critical annotations upon difficult paſſages, was condemned by the biſhops of Paris and Meaux in 1702. F. Bohours, a Jeſuit, with the aſſiſtance of F. F. Michael Tellier, and Peter Bernier, Jeſuits likewiſe, publiſhed a tranſlation of the New Teſtament in 1697: but this tranſlation is, for the moſt part, harſh and obſcure, which was owing to the author's keeping too ſtrictly to the Latin text from which he tranſlated.

There are likewiſe French tranſlations publiſhed by Proteſtant authors; one by Robert Peter Olivetan, printed at Geneva in 1535, and ſince often reprinted with the corrections of John Calvin and others; another by Sebaſtian Caſtalio, remarkable for particular ways of expreſſion never uſed by good judges of the language. John Diodati likewiſe publiſhed a French Bible at Geneva in 1644; but ſome find fault with his method, in that he rather paraphraſes the text than tranſlates it. Faber Stapalenſis tranſlated the New Teſtament into French, which was reviſed and accommodated to the uſe of the reformed churches in Piedmont, and printed in 1434. Laſtly, M. John Le Clerc publiſhed a New Teſtament in French at Amſterdam in 1703, with annotations taken chiefly from Grotius and Hammond; but the uſe of this verſion was prohibited in Holland by order of the States-General, as tending to revive the errors of Sabellius and Socinus.

Italian Bibles. The firſt Italian Bible publiſhed by the Romaniſts is that of Nicholas Malerme, a Benedictine monk, printed at Venice in 1471. It was tranſlated from the Vulgate. The verſion of Anthony Brucioli, publiſhed at Venice in 1532, was prohibited by the Council of Trent. The Calviniſts likewiſe have their Italian Bibles. There is one of John Diodati in 1607 and 1641, and another of Maximus Theophilus in 1551, dedicated to Francis de Medicis Duke of Tuſcany. The Jews of Italy have no entire verſion of the Bible in Italian; the inquiſition conſtantly refuſing to allow them the liberty of printing one.

Spaniſh Bibles. The firſt Spaniſh Bible that we hear of is that mentioned by Cyprian de Valera, which he ſays was publiſhed about the year 1500. The Epiſtles and Goſpels were publiſhed in that language by Ambroſe de Monteſin in 1512; the whole Bible by Caſſiodore de Reyna, a Calviniſt, in 1569; and the New Teſtament, dedicated to the emperor Charles V. by Francis Enzinas, otherwiſe called *Driander*, in 1543. The firſt Bible which was printed in Spaniſh for the uſe of the Jews was that printed at Ferrara in 1553, in Gothic characters, and dedicated to Hercules d'Eſt Duke of Ferrara. This verſion is very ancient, and was probably in uſe among the Jews of Spain before Ferdinand and Iſabella expelled them out of their dominions in 1492.

German Bibles. The firſt and moſt ancient tranſlation of the Bible in the German language is that of Ulphilas biſhop of the Goths, about the year 360. This biſhop left out the book of Kings, which treats chiefly of war, leſt it ſhould too much encourage the martial humour of the Goths. An imperfect manuſcript of this verſion was found in the abbey of Verden near Cologn, written in letters of ſilver, for which reaſon it is called *Codex Argenteus*; and it was publiſhed by Francis Junius in 1665. The oldeſt German printed Bible extant is that of Nuremburg, printed in 1443; but who the author of it was is uncertain. John Emzer, chaplain to George Duke of Saxony, publiſhed a verſion of the New Teſtament in oppoſition to Luther. There is a German Bible of John Eckius in 1537, with Emzer's New Teſtament added to it; and one by Ulembergius of Weſtphalia, procured by Ferdinand Duke of Bavaria, and printed in 1630. Martin Luther having employed eleven years in tranſlating the Old and New Teſtament, publiſhed the Pentateuch in 1522, the hiſtorical books and the Pſalms in 1524, the books of Solomon in 1527, Iſaiah in 1529, the Prophets in 1531, and the other books in 1540; he publiſhed the New Teſtament in 1522. The learned agree, that his language is pure, and the verſion clear and free from intricacies: it was reviſed by ſeveral perſons of quality, who were maſters of all the delicacies of the German language. The German Bibles which have been printed in Saxony, Switzerland, and elſewhere, are for the moſt part the ſame as that of Luther, with very little variation. In 1604 John Piſcator publiſhed a verſion of the Bible in German, taken from that of Junius and Tremellius: but his turn of expreſſion is purely Latin, and not at all agreeable to the genius of the German language: the Anabaptiſts have a German Bible printed at Worms in 1529. John Crellius publiſhed his verſion of the New Teſtament at Racovia in 1630; and Felbinger his at Amſterdam in 1660.

Flemiſh Bibles. The Flemiſh Bibles of the Romaniſts are very numerous, and for the moſt part have no author's name prefixed to them, till that of Nicholas Vinck, printed at Lovain in 1548. The Flemiſh verſions made uſe of by the Calviniſts till the year 1637, were copied principally from that of Luther. But the ſynod of Dort having in 1618 appointed a new tranſlation of the Bible into Flemiſh, deputies were named for the work, which was not finiſhed till the year 1637.

Daniſh Bibles. The firſt Daniſh Bible was publiſhed by Peter Palladius, Olaus Chryſoſtom, John Synningius, and John Maccabæus, in 1550, in which they followed Luther's firſt German verſion. There are two other verſions, the one by John Paul Reſenius biſhop of Zealand, in 1605: the other, being the New Teſtament only, by John Michel, in 1524.

Swediſh Bible. In 1534 Olaus and Laurence publiſhed a Swediſh Bible from the German verſion of Martin Luther. It was reviſed in 1617, by order of king Guſtavus Adolphus, and was afterwards almoſt univerſally received.

Bohemian, Poliſh, Ruſſian or Muſcovite, and Sclavonian Bibles. The Bohemians have a Bible tranſlated by eight of their doctors, whom they had ſent to the ſchools of Wirtemberg and Baſil, on purpoſe to ſtudy the original languages. It was printed in Moravia in the year 1539. The firſt Poliſh verſion of the Bible, it is ſaid, was that compoſed by Hadewich wife of Jagellon Duke of Lithuania, who embraced Chriſtianity in the year 1390. 1599 there was a Poliſh tranſlation of the Bible publiſhed at Cracow, which was the work of ſeveral divines of that nation, and in which James Wieck, a Jeſuit, had a principal ſhare. The Proteſtants, in 1596, publiſhed a Poliſh Bible from Luther's German verſion, and dedicated it to Uladiſlaus IV. king of Poland. The Ruſſians or Muſcovites publiſhed the Bible in their language in 1581. It was tranſlated from the Greek by St Cyril, the apoſtle of the Sclavonians; but this old verſion being too obſcure, Erneſt Gliik who had been carried priſoner to Moſcow after the taking of Narva, undertook a new tranſlation of the Bible in Sclavonian; who dying in 1705, the Czar Peter appointed ſome particular divines to finiſh the tranſlation: but whether it was ever printed, we cannot ſay.

Engliſh-Saxon Bibles. If we inquire into the verſions of the Bible of our own country, we ſhall find that Adelm biſhop of Sherburn, who lived in 709, made an Engliſh-Saxon verſion of the Pſalms; and that Eadfrid, or Ecbert, biſhop of Lindiſferne, who lived about the year 730, tranſlated ſeveral of the books of Scripture into the ſame language. It is ſaid likewiſe, that venerable Bede, who died in 785, tranſlated the whole Bible into Saxon. But Cuthbert, Bede's diſciple, in the enumeration of his maſter's works, ſpeaks only of his tranſlation of the Goſpel; and ſays nothing of the reſt of the Bible. Some pretend, that King Alfred, who lived in 890, tranſlated a great part of the Scriptures. We find an old verſion in the Anglo-Saxon of ſeveral books of the Bible, made by Elfric abbot of Malmeſbury: it was publiſhed at Oxford in 1699. There is an old Anglo-Saxon verſion of the four Goſpels, publiſhed by Matthew Parker archbiſhop of Canterbury in 1571, the author whereof is unknown. Dr Mill obſerves, that this verſion was made from a Latin copy of the old Vulgate.

Saxon Bibles.—The whole Scripture is ſaid by ſome to have been tranſlated into the Anglo-Saxon by Bede about the year 701, though others contend he only tranſlated the Goſpels.

We have certain books or parts of the Bible by ſeveral other tranſlators: as, 1. The Pſalms, by Adelm biſhop of Shireborn, contemporary with Bede; though by others this verſion is attributed to King Alfred, who lived 200 years after. Another verſion of the Pſalms in Anglo-Saxon was publiſhed by Spelman in 1640. 2. The Evangeliſts, ſtill extant, done from the ancient vulgate, before it was reviſed by St Jerom, by an author unknown, and publiſhed by Matth. Parker in 1571. An old Saxon verſion of ſeveral books of the Bible, made by Elfric abbot of Malmeſbury, ſeveral fragments of which were publiſhed by Will. Lilly in 1638, the genuine copy by Edm. Thwaites in 1699, at Oxford.

Indian Bible.—A tranſlation of the Bible into the North American Indian language by Elliot was publiſhed in 4to at Cambridge in 1685.

Engliſh Bibles.—The firſt Engliſh Bible we read of was that tranſlated by J. Wickliffe about the year 1360; but never printed, though there are MS. copies of it in ſeveral of the public libraries. J. de Treviſa, who died about the year 1398, is alſo ſaid to have tranſlated the whole Bible; but whether any copies of it are remaining, does not appear.

Tindal's.—The firſt printed Bible in our language was that tranſlated by Will. Tindal, aſſiſted by Miles Coverdale, printed abroad in 1526; but moſt of the copies were bought up and burnt by Biſhop Tunſtal and Sir Thomas More. It only contained the New Teſtament, and was reviſed and republiſhed by the ſame perſon in 1530. The prologues and prefaces added to it reflect on the biſhops and clergy; but this edition was alſo ſuppreſſed, and the copies burnt. In 1532, Tindal and his aſſociates finiſhed the whole Bible except the Apocrypha, and printed it abroad: but while he was afterwards preparing for a ſecond edition, he was taken up and burnt for hereſy in Flanders.

Matthews's.—On Tindal's death, his work was carried on by Coverdale, and John Rogers ſuperintendant of an Engliſh church in Germany, and the firſt martyr in the reign of Queen Mary, who tranſlated the Apocrypha, and reviſed Tindal's tranſlation, comparing it with the Hebrew, Greek, Latin, and German, and adding prefaces and notes from Luther's Bible. He dedicated the whole to Henry VIII. in 1537, under the borrowed name of Thomas Matthews; whence this has been uſually called *Matthews's Bible*. It was printed at Hamburgh, and licence obtained for publiſhing it in England by the favour of Archbiſhop Cranmer and the Biſhops Latimer and Shaxton.

Cranmer's.—The firſt Bible printed by authority in England, and publicly ſet up in churches, was the ſame Tindal's verſion, reviſed, compared with the Hebrew, and in many places amended, by Miles Coverdale afterwards biſhop of Exeter; and examined after him by Archbiſhop Cranmer, who added a preface to it: whence this was called *Cranmer's Bible*. It was printed by Grafton, of the largeſt volume, and publiſhed in 1540; and, by a royal proclamation, every pariſh was obliged to ſet one of the copies in their church, under the penalty of 40 ſhillings a-month; yet, two years after, the Popiſh biſhops obtained its ſuppreſſion of the King. It was reſtored under Edward VI. ſuppreſſed again under Queen Mary, and reſtored again in the firſt year of Queen Elizabeth, and a new edition of it given in 1562.

Geneva.—Some Engliſh exiles at Geneva in Queen Mary's reign, Coverdale, Goodman, Gilbie, Sampſon, Cole, Whittingham, and Knox, made a new tranſlation, printed there in 1560, the New Teſtament having been printed in 1557; hence called the *Geneva Bible*; containing the variations of readings, marginal annotations, &c. on account of which it was much valued by the puritan party in that and the following reigns.

Biſhop's.—Archbiſhop Parker reſolved on a new tranſlation for the public uſe of the church, and engaged the biſhops and other learned men to take each a ſhare or portion. Theſe being afterwards joined together, and printed with ſhort annotations in 1568, in a large folio, made what was afterwards called the *Great Engliſh Bible*, and commonly the *Biſhop's Bible*. The following year it was alſo publiſhed in 8vo, in a ſmall but fine black letter: and here the chapters were divided into verſes; but without any breaks for them, in which the method of the Geneva Bible was followed, which was the firſt Engliſh Bible where any diſtinction of verſes was made. It was afterwards printed in large folio, with corrections, and ſeveral prolegomena, in 1572: this is called *Matthew Parker's Bible*. The initial letters of each tranſlator's name were put at the end of his part: *e. gr.* at the end of the Pentateuch, W. E. for William Exon; that is, William Biſhop of Exeter, whoſe allotment ended there: at the end of Samuel, R. M. for Richard Menevenſis, or Biſhop of St David's, to whom the ſecond allotment fell: and the like of the reſt. The Archbiſhop overſaw, directed, examined, and finiſhed the whole. This tranſlation was uſed in the churches for 40 years, though the Geneva Bible was more read in private houſes, being printed above 30 times in as many years. King James bore it an inveterate hatred on account of the notes; which at the Hampton court conference he charged as partial, untrue, ſeditious, &c. The Biſhop's Bible too had its faults. The King frankly owned he had yet ſeen no good tranſlation of the Bible in Engliſh; but he thought that of Geneva the worſt of all.

Rhemiſh.—After the tranſlation of the Bible by the biſhops, two other private verſions had been made of the New Teſtament: the firſt by Laur. Thomſon, made from Beza's Latin edition, together with the notes of Beza, publiſhed in 1582 in 4to, and afterwards in 1589, varying very little from the Geneva Bible; the ſecond by the Papiſts at Rheims in 1584, called the *Remiſh Bible*, or *Rhemiſh Tranſlation*. Theſe finding it impoſſible to keep the people from having the Scriptures in the vulgar tongue, reſolved to give a verſion of their own as favourable to their cauſe as might be. It was printed on a large paper, with a fair letter and margin. One complaint againſt it was its retaining a multitude of Hebrew and Greek words untranſlated, for want, as the editors expreſs it, of proper and adequate terms in the Engliſh to render them by; as the words *azymes*, *tunike*, *rational*, *holocauſt*, *prepuce*, *paſche*, &c. However, many of the copies were ſeized by th Queen's ſearchers, and confiſcated; and Th. Cartwright was ſolicited by ſecretary Walſingham to refute it: but, after a good progreſs made therein, Archbiſhop Whitgift prohibited his further proceeding therein, as judging it improper the doctrine of the church of England ſhould be committed to the defence of a puritan, and appointed Dr Fulke in his place, who refuted the Rhemiſts with great ſpirit and learning. Cartwright's refutation was alſo afterwards publiſhed in 1618, under Archbiſhop Abbot. About 30 years after their New Teſtament, the Roman Catholics publiſhed a tranſlation of the Old at Doway, 1609 and 1610, from the vulgate, with annotations; ſo that the Engliſh Roman Catholics have now the whole Bible in their mother-tongue; though it is to be obſerved, they are forbidden to read it without a licence from their ſuperiors.

King James's.—The laſt Engliſh Bible was that which proceeded from the Hampton court conference in 1603, where many exceptions being made to the Biſhop's Bible, King James gave orders for a new one; not, as the preface expreſſes it, for a tranſlation altogether new, nor yet to make of a bad one a good one, but to make a good one better, or of many good ones one beſt. Fifty-four learned perſons were appointed for this office by the King, as appears by his letter to the archbiſhop, dated in 1604; which being three years before the tranſlation was entered upon, it is probable ſeven of them were either dead or had declined the taſk, ſince Fuller's liſt of the tranſlators makes but 47; who being ranged under ſix diviſions, entered on their province in 1607. It was publiſhed in 1613, with a dedication to James, and a learned preface, and is commonly called *King James's Bible*. After this, all the other verſions dropped and fell into diſuſe, except the Epiſtles and Goſpels in the Common Prayer Book, which were ſtill continued according to the Biſhop's tranſlation till the alteration of the liturgy in 1661, and the Pſalms and Hymns, which are to this day continued as in the old verſion.

The judicious Selden, in his Table Talk, ſpeaking of the Bible, ſays, "The Engliſh tranſlation of the Bible is the beſt tranſlation in the world, and renders the ſenſe of the original beſt, taking in for the Engliſh tranſlation the Biſhop's Bible, as well as King James's. The tranſlators in King James's time took an excellent way. That part of the Bible was given to him who was moſt excellent in ſuch a tongue (as the Apocrypha to Andrew Downs), and then they met together, and one read the tranſlation, the reſt holding in their hands ſome Bible either of the learned tongues, or French, Spaniſh, Italian, &c. If they found any fault, they ſpoke; if not, he read on."

King James's Bible is that now read by authority in all the churches in Britain.

Welch BIBLES.—There was a Welch tranſlation of the Bible made from the original in the time of Queen Elizabeth, in conſequence of a bill brought into the houſe of commons for this purpoſe in 1563. It was printed in folio in 1588. Another verſion which is the ſtandard tranſlation for that language, was printed in 1620. It is called *Parry's Bible*. An impreſſion of this was printed in 1690, called *Biſhop Lloyd's Bible*. Theſe were in folio. The firſt 8vo impreſſion of the Welch Bible was made in 1630.

Iriſh BIBLE.—Towards the middle of the 16th century, Bedell, biſhop of Kilmore, ſet on foot a tranſlation of the Old Teſtament into the Iriſh language; the New Teſtament and the Liturgy having been before tranſlated into that language. The biſhop appointed one King to execute this work, who, not underſtanding the oriental languages, was obliged to tranſlate it from the Engliſh. This work was received by Bedell, who, after having compared the Iriſh tranſlation with the Engliſh, compared the latter with the Hebrew, the LXX. and the Italian verſion of Diodati. When this work was finiſhed, the biſhop would have been himſelf at the charge of the impreſſion, but his deſign was ſtopped upon advice given to the lord lieutenant and the archbiſhop of Canterbury, that it would prove a ſhameful thing for a nation to publiſh a Bible tranſlated by ſuch a deſpicable hand as King. However, the manuſcript was not loſt, for it went to preſs in the year 1685.

Erſe BIBLE.—There is alſo (lately finiſhed at Edinburgh) a verſion of the Bible in the Gaelic or Erſe language.

BIBLIANDER (Theodore), profeſſor of divinity at Zurich in the 16th century. As he underſtood the oriental languages, he ſet about a new edition of the Koran; the text of which he corrected, by collating the Arabic and Latin copies. To this edition he ſubjoined the life of Mahomet and his ſucceſſors; and prefixed an apology by way of preface, which has been loudly exclaimed againſt.

BIBLIOGRAPHIA, a branch of archæographia, employed in the judging and peruſing of ancient manuſcripts, whether written in books, paper, or parchment.

The ſenſe of it is now extended; and it ſignifies a work intended to give information concerning the firſt or beſt editions of books, and the ways of ſelecting and diſtingiſhing them properly. In ſhort, it is uſed for a *notitia* or deſcription of printed books, either in the order of the alphabet, of the times when printed, or of the ſubject matters. In which ſenſe, bibliographia amounts to much the ſame with what is otherwiſe called *bibliotheca*.

Literary journals afford alſo a kind of bibliographia.

BIBLIOMANCY, a kind of divination performed by means of the Bible. This amounts to much the ſame with what is otherwiſe called *ſortes biblicæ* or *ſortes ſanctorum*. It conſiſted in taking paſſages of Scripture at hazard, and drawing indications thence concerning things future; as in Auguſtin's *tolle & lege*. It was much uſed at the conſecration of biſhops.—F. J. Davidius, a Jeſuit, has publiſhed a bibliomancy under the borrowed name of *Veridicus Chriſtianus*.

BIBLIOTHECA, in its original and proper ſenſe, denotes a library, or place for repoſiting books.

BIBLIOTHECA, in matters of literature, denotes a treatiſe giving an account of all the writers on a certain ſubject; thus, we have bibliothecas of theology, law, philoſophy, &c.

There are likewiſe univerſal bibliothecas, which treat indifferently of all kinds of books; alſo ſelect bibliothecas, which give account of none but authors of reputation.

Many of the bibliothecas agree, in moſt reſpects, with what are otherwiſe called memoirs or journals of literature, except that theſe laſt are confined to new books; but there are other bibliothecas, that differ in nothing from catalogues of the writers on certain ſubjects.

BIBLISTS, ſo the Roman-catholics call thoſe Chriſtians who make Scripture the ſole rule of faith; in which ſenſe, all Proteſtants either are or ought to be bibliſts.

BIBLUS, βιϐλος, in botany, an aquatic plant in Egypt, called alſo *papyrus*; of the ſkin whereof the ancient Egyptians made their paper. See PAPYRUS.

BIBRACTE (anc. geog.), a citadel of the Ædui, according to Strabo; but Cæſar deſcribes it as a town well fortified, very large and populous, and of the greateſt authority among that nation: Now *Beureſt*, or Bevray; a deſolate place four miles to the north-weſt of Autun.

BIBROCI (anc. geog.), an ancient people of Britain: Now the *Hundred of Bray* in Berks.

BICANER, a city of Aſia, on the river Ganges, belonging to the Great Mogul. E. Long. 87. 20. N. Lat. 28. 40.

BICE, or BISE, among painters, a blue colour prepared from the lapis armenus.

Bice bears the beſt body of all bright blues uſed in common work, as houſe-painting, &c. but it is the paleſt in colour. It works indifferently well, but inclines a little to ſandy, and therefore requires good grinding. Next to ultramarine, which is too dear to be uſed in common work, it lies beſt near the eye of all other blues.

BICEPS, the name of ſeveral muſcles: as the biceps humeri, or cubiti; biceps tibiæ, &c. See ANATOMY, *Table of the Muſcles*.

BICESTER, a ſtraggling town of Oxfordſhire in England, ſeated on the road between Oxford and Buckingham.

BICHET, a quantity or meaſure of corn, which differs according to the places where it is uſed. The bichet is not a wooden meaſure, as the minot at Paris, or the buſhel at London; but is compounded of ſeveral certain meaſures. It is uſed in many parts of France, &c.

BICLINIUM, in Roman antiquity, a chamber with two beds in it; or when only two beds were round a table.

BICORNES, an order of plants in the *fragmenti methodi naturalis* of Linnæus, ſo termed from the antheræ having in appearance two horns. See BOTANY.

BIDACHE, a town of Lower Navarre, in France, ſeated on the Bidouſe. W. Long. 10. 0. N. Lat. 41. 31.

BIDAL, or BIDALE, in our ancient cuſtoms, denotes the invitation of friends to drink ale at ſome poor man's houſe, who in conſideration hereof expects ſome contribution for his relief. This cuſtom ſtill obtains in the weſt of England, and is mentioned in ſome ancient ſtatutes.

BIDDLE (John), one of the moſt eminent Engliſh writers among the Socinians, was born at Wotton-under-Edge in Glouceſterſhire and educated in the free ſchool of that place. Being a hopeful youth, he was taken notice of; particularly by Lord George Berkeley, who allowed him an exhibition of ten pounds a-year. This cauſed him vigorouſly to apply himſelf to his ſtudies; and he was, while at ſchool, author of a tranſlation of Virgil's Bucolics, and of the two firſt ſatires of Juvenal. He continued at ſchool till he was 13 years of age. However, having manifeſted in that early period a ſingular piety and contempt of ſecular affairs, he was ſent to the univerſity of Oxford, and entered a ſtudent in Magdalen hall. In 1641, the magiſtrates of Glouceſter choſe him maſter of the free ſchool of that city; and he was much eſteemed: but falling into ſome opinions concerning the Trinity different from thoſe commonly received, and expreſſing his thoughts with too much freedom, he ſuffered various perſecutions and impriſonments in the time of the commonwealth. During one of theſe confinements, which laſted for ſeveral years, being reduced to great indigence, he was employed by Roger Daniel of London to correct the impreſſion of the Greek Septuagint Bible, which that printer was about to publiſh with great accuracy. In 1651, the parliament publiſhed a general act of oblivion, which reſtored him to his full liberty. He was afterwards impriſoned on account of his tenets; and at laſt the Protector baniſhed him for life to St Mary's caſtle in the iſle of Scilly, and ſent him thither in October 1655. Soon after, he was allowed 100 crowns a-year for ſubſiſtence. In 1658, he was ſet at full liberty. After the reſtoration of King Charles II. he was fined in 100 l. and each of his hearers in 20 l. to lie in priſon till paid; which being put in execution, the want of the freſh air and exerciſe made him contract a diſeaſe, of which he died on the 22d of September 1662, in the 47th year of his age. His life was publiſhed in Latin in 1682, by Mr Farrington of the Inner Temple, who repreſents him as poſſeſſed of extraordinary piety, charity, and humility. He would not diſcourſe of thoſe points in which he differed from others with thoſe that did not appear religious according to their knowledge; and was a ſtrict obſerver himſelf, and a ſevere exacter in others, of reverence in ſpeaking of God and Chriſt. He had ſo happy a memory, that he retained word for word the whole New Teſtament, not only in Engliſh, but in Greek,. as far as the fourth chapter of the Revelations of St John.

BIDDIFORD, a town of Devonſhire, ſeated on the river Toridge, over which there is a fine ſtone-bridge with 24 arches. It is a large and populous place, and carries on a conſiderable trade. W. Long. 4. 10. N. Lat. 51. 10.

BIDDING or Offering, denotes the raiſing the price of a thing at a ſale or auction. The French calls this *encherir*. It anſwers to what the Romans called *licitari*: they uſed to bid by holding up the hand or finger.

Bidding is alſo uſed for proclaiming or notifying. In which ſenſe we meet with *bidding of the* BANNS, the ſame with what is otherwiſe called *aſking*.

Bidding-Prayer. It was one part of the office of the deacons in the primitive Chriſtian church, to be a ſort of monitors and directors of the people in the exerciſe of their public devotions in the church. To which end they made uſe of certain known forms of words, to give notice when each part of the ſervice began. This was called by the Greeks κηρυττειν, and by the Latins *prædicare*: which therefore do not ordinarily ſignify to *preach*, as ſome miſtake it; but to perform the office of a crier (κηρυξ, or *præco*) in the aſſembly: whence Syneſius and others call the deacons ιεροκηρυκες, the *holy criers* of the church, appointed to bid or exhort the congregation to pray and join in the ſeveral parts of the ſervice of the church. Agreeable to this ancient practice is the form *Let us pray*, repeated before ſeveral of the prayers in the Engliſh liturgy.

Bidding *of the beads*, a charge or warning which the pariſh-prieſt gave to his pariſhioners at certain ſpecial times, to ſay ſo many pater-noſters, &c. on their beads.

BIDDENS, WATER-HEMP AGRIMONY: A genus of the polygamia æqualis order, belonging to the ſyngeneſia claſs of plants; and in the natural method ranking under the 49th order, *Compoſitæ-oppoſitifoliæ*. The receptacle is paleaceous; the pappus has erect ſcabrous awns; and the calyx is imbricated. Of this genus Linnæus enumerates 13 ſpecies; but none of them appear to merit notice except the tripartita, frequently found by the ſides of rivulets, ditches, and lakes, both in Scotland and England. This grows to the height of two feet; and hath its leaves divided into three, or often five, lanceolate ſerrated lobes, with yellow flowers, which are ſucceeded by flattiſh angular ſeeds, having two beards ariſing from the angles, which are hooked or barbed downwards; and generally they have another ſhorter beard ariſing from the middle of the back of the ſeed. "As this plant (ſays Mr Lightfoot †) is found by a chemical analyſis to poſſeſs much the ſame qualities as the celebrated verbeſina acmela, a plant belonging to a genus very nearly related to this, it is probable it would have the ſame good effect in expelling the ſtone and gravel. A decoction of this plant with alum dyes yarn of a yellow colour. The yarn muſt be firſt ſteeped in alum water, then dried and ſteeped in a decoction of the plant, and afterwards boiled in the decoction. The ſeeds have been known ſometimes to deſtroy the *cyprinus auratus*, or gold-fiſh, by adhering to their gills and jaws."

BIDENTAL, in Roman antiquity, a place blaſted with lightning; which was immediately conſecrated by an haruſpex, with the ſacrifice of a bidens. This place was afterwards accounted ſacred, and it was unlawful to enter it or to tread upon it; for which reaſon it was commonly ſurrounded with a ditch, wall, hedge, ropes, &c. See next article.

BIDENTALES, in Roman antiquity, prieſts inſtituted to perform certain ceremonies and expiations when thunder fell on any place. Their principal office was the ſacrificing a ſheep of two years old, which in Latin is called *bidens*; from whence the place ſtruck with thunder got the name of *bidental*.

BIDENTES, in middle-age writers, denotes two yearlings, or ſheep of the ſecond year. The wool of theſe bidentes, or two years old ſheep, being the firſt ſheering, was ſometimes claimed as a heriot to the king, on the death of an abbot. Among the ancient Romans, the word was extended further to any ſort of beaſts uſed for victims, eſpecially thoſe of that age: whence we meet with *ſues bidentes*.

BIDET, a nag or little horſe, formerly allowed each trooper and dragoon, for his baggage and other occaſions. Bidets are grown into diſuſe, on account of the expences thereof, and the diſorders frequently ariſing from thoſe who attended on them, &c.

BIDIS, (anc. geog.) a ſmall city of Sicily, not far from Syracuſe, whoſe ruins are ſtill to be ſeen in the territory of Syracuſe, about 15 miles to the ſouth-weſt, with a church called *S. Giovanni di Bidini*.

BIDLOO (Godfrey), author of ſeveral treatiſes in anatomy, was born at Amſterdam, March 12th, 1649. In 1688, he was profeſſor of anatomy at the Hague; and, in 1694, at Leyden; when king William III. of England appointed him his phyſician; which he would not accept but on condition of holding his profeſſorſhip, which was readily granted him. He publiſhed, in Latin, 1. The anatomy of the human Body, demonſtrated in 105 cuts, explained by the diſcoveries of the ancient and modern writers. 2. An Oration upon the Antiquity of Anatomy. 3. A. Letter to Anthony

Leewenhoeck

† *Flora Scotica.*

Leewenhoeck on the animals ſometimes found in the liver of ſheep and other animals. 4. Two Decades of Diſſertations in Anatomy and Chirurgery; and other pieces. He died at Leyden, in April 1713.

BIDON, a liquid meaſure, containing about five pints Paris, that is, about five quarts Engliſh wine-meaſure. It is ſeldom uſed but among ſhips crews.

BIE (de Adrian,) an eminent painter, was born at Liere in 1594. After learning the rudiments of the art from different maſters, he travelled to Rome, where he ſpent ſix years in ſtudying the works of the beſt maſters. His induſtry was then rewarded with proportionable ſucceſs; for he found encouragement among the moſt honourable perſons at Rome, and in every part of Italy through which he travelled, from perſons of the firſt diſtinction. His penciling was ſo exceedingly neat, and his touch and colouring ſo very delicate, that he was frequently employed to paint on jaſpar, agate, porphyry, and other precious materials.

BIEEZ, a town of Poland, in the palatinate of Cracovia, remarkable for its mines of vitriol. It is ſeated on the river Weſeloke, in E. Long. 2. 21. N. Lat. 49. 50.

BIEL. See BIENNA.

BIELA, a town of Ruſſia, and capital of a province of the ſame name, ſeated on the river Opſchaw, in E. Long. 34. 55. N. Lat 55. 0.

BIELA OSERO, or BELOZERO, a town of the Ruſſian empire, capital of a duchy, and ſituated on a lake of the ſame name, at the mouth of the river Conſa, in E. Long. 39. 10. N. Lat. 58. 55.

BIELA, a town of Piedmont in Italy, and capital of the Belleſe near the river Cerva, in E. Long. 8. 3. N. Lat. 45. 22.

BIELSKI, a town of Poland, in the palatinate of Polachia, near one of the ſources of the river Narew. E. Long. 22. 55. N. Lat. 53. 50.

BIELSKOI, a town of Ruſſia, in the provine of Smolenſko. E. Long. 35. 5. N. Lat. 56. 40.

BIENNA, a town of Switzerland, ſeated on a lake of the ſame name. The inhabitants are Proteſtants, and in alliance with thoſe of Bern, Soleure, and Friburg. E. Long. 7. 14. N. Lat. 47. 11.

BIENNIAL PLANTS; plants, as the title *biennial* imports, that are only of two years duration. Numerous plants are of this tribe, which being raiſed one year from ſeed, generally attain perfection either the ſame, or in about the period of a twelvemonth, or a little leſs or more, and the following ſpring or ſummer ſhoot up ſtalks, flower, and perfect ſeeds; ſoon after which they commonly periſh; or if any particular ſort ſurvive another year, they aſſume a dwindling and ſtraggling growth, and gradually die off; ſo that biennials are always in their prime the firſt or ſecond ſummer. Biennials conſiſt both of eſculents and flower plants. Of the eſculent kinds, the cabbage, ſavoy, carrot, parſnip, beet, onion, leek, &c. are biennials. Of the flowery tribe, the Canterbury-bell, French honey-ſuckle, wall-flower, ſtock-July-flower, ſweet-William, China-pink, common-pink, matted-pink, carnation, ſcabious, holly-hock, tree-mallow, vervain-mallow, tree-primroſe, honeſty, or moonworth, &c. are all of the biennial tribe; all of which being ſown in March, April, or May, riſe the ſame year, and in ſpring following ſhoot up into ſtalks, flower, and perfect ſeeds in autumn; aſter which moſt of them dwindle: though ſometimes the wall-flowers, holly-hocks, carnations, pinks, will ſurvive and flower the following year; but the plants become ſtraggling, the flowers ſmall and badly coloured: it is therefore eligible to raiſe a ſupply annually from ſeed; although wall-flowers, carnations, and pinks, may be continued by ſlips and layers.

BIER, a wooden machine for carrying the bodies of the dead to be buried. The word comes from the French *biere*, which ſignifies the ſame. It is called in Latin *feretrum, a ferendo*.—Among the Romans the common bier, whereon the poorer ſort were carried, was called *ſandapila*; that uſed for the richer ſort, *lectica, lectica funebris*, ſometimes *lectus*. The former was only a ſort of wooden cheſt, *vilis arca*, which was burnt with the body; the latter was enriched and gilded for pomp. It was carried bare, or uncovered, when the perſon died a natural and eaſy death; when he was much disfigured or diſtorted, it was veiled or covered over.

BIER is more particularly uſed for that whereon the bodies of ſaints are placed in the church to reſt, and expoſed to the veneration of the devout. This is alſo called, in middle-age writers, *lectus, feretrum, lectica,* and *loculus*; and was uſually enriched with gold, ſilver, and precious ſtones, which was the cauſe that the bier of St Benedict was pillaged, and all its ornaments carried off.

BIEROLIET, a town of the Netherlands in Dutch Flanders, where William Bruckfield, or *Beukelings*, who invented the method of pickling herrings, died in 1397. E. Long. 3. 42. N. Lat. 51. 25.

BIFERÆ, plants that flower twice a-year, in ſpring and autumn, as is common between the tropics.

BIFRONS, a perſon double-fronted, or two-faced.

BIFRONS is more peculiarly an appellation of Janus, who was repreſented by the ancients with two faces, as being ſuppoſed to look both backwards and forwards: though other reaſons for it are recited by Plutarch. Sometimes he was painted with four faces, *quadrifons*, as reſpecting the four ſeaſons.

BIGA, in antiquity, a chariot drawn by two horſes abreaſt. Chariot-races, with two horſes, were introduced into the Olympic games in the 93d Olympiad: but the invention was much more ancient, as we find that the heroes in the Iliad fight from chariots of that kind. The moon, night, and the morning, are by mythologiſts ſuppoſed to be carried in *bigæ*, the ſun in *quadrigæ*. Statues in *bigæ* were at firſt only allowed to the gods, then to conquerors in the Grecian games; under the Roman emperors, the like ſtatues, with *bigæ*, were decreed and granted to great and well-deſerving men, as a kind of half triumph, being erected in moſt public places of the city. Figures of *bigæ* were alſo ſtruck on their coins. The drivers of *bigæ* were called *bigarii*; a marble buſt of one Florus a *bigarius* is ſtill ſeen at Rome.

BIGAMY, properly ſignifies being *twice married*; but with us is uſed as ſynonymous to polygamy, or having a plurality of wives at once. Such ſecond marriage, leaving the former huſband or wife, is ſimply void, and a mere nullity, by the eccleſiaſtical law of England: and yet the legiſlature has thought it juſt to make it felony, by reaſon of its being ſo great a violation of the public economy and decency of a well ordered ſtate. For polygamy can never be endured under any rational civil eſtabliſhment, whatever ſpecious reaſons may be urged for it by the eaſtern nations, the fallaciouſneſs of which has been fully proved by many ſenſible writers; but in northern countries the very nature of the climate ſeems to reclaim againſt it; it never having obtained in this part of the world, even from the time of our German anceſtors, who, as Tacitus informs us, "*prope ſoli barbarorum ſingulis uxoribus* "*contenti ſunt*." It is therefore puniſhed by the laws both of ancient and modern Sweden with death. And in Britain, it is enacted by ſtatute 1 Jac. I. c. 11. that if any perſon being married, do afterwards marry again, the former huſband or wife being alive, it is felony; but within the benefit of clergy. The firſt wife in this caſe ſhall not be admitted as an evidence againſt her huſband, becauſe ſhe is the true wife; but the ſecond may, for ſhe indeed is no wife at all: and ſo, *vice verſa*, of a ſecond huſband. This act makes an exception to five caſes, in which ſuch ſecond marriage, though in the three firſt it is void, is yet no felony. 1. Where either party hath been continually abroad for ſeven years, whether the party in England hath notice of the others being alive or no. 2. Where either of the parties hath been abſent from the other ſeven years within the kingdom, and the remaining party hath had no knowledge of the other's being alive within that time. 3. Where there is a divorce (or ſeparation *a menſa et thoro*) by ſentence in the eccleſiaſtical court. 4. Where the firſt marriage is declared abſolutely void by any ſuch ſentence, and the parties looſed *a vinculo*. Or, 5. Where either of the parties was under the age of conſent at the time of the firſt marriage; for in ſuch caſe the firſt marriage was voidable by the diſagreement of either party, which the ſecond marriage very clearly amounts to. But, if at the age of conſent the parties had agreed to the marriage, which completes the contract, and is indeed the real marriage; and afterwards one of them ſhould marry again; Judge Blackſtone apprehends that ſuch ſecond marriage would be within the reaſon and penalties of the act.

BIGATI, in antiquity, a kind of ancient Roman ſilver coins, on one ſide whereof was repreſented a *biga*, or chariot drawn by two horſes. The *bigatus* was properly the Roman denarius, whoſe impreſſion, during the times of the commonwealth, was a chariot driven by Victory, and drawn either by two horſes or four; according to which it was either denominated *bigatus* or *quadrigatus*.

BIGGLESWADE, a town of Bedfordſhire, in England, ſeated on the river Ivel, over which there is a handſome bridge. The town is much more conſiderable now than formerly, on account of its commodious inns for paſſengers, it lying on the principal road from London to York. W. Long. 0. 15. N. Lat. 52. 5.

BIGHT, among ſeamen, denotes one roll or round of a cable or rope, when coiled up.

BIGNON (Jerome), a French writer, was born at Paris, in 1590. He gained an uncommon knowledge, under the care of his father, in philoſophy, mathematics, hiſtory, civil law, and divinity, in a very ſhort time; and was almoſt at the end of his ſtudies at an age when it is uſual to ſend children to ſchool. At ten years of age he gave the public a ſpecimen of his learning, in a Deſcription of the Holy Land; and two years after, he publiſhed a Diſcourſe concerning the principal antiquities and curioſities of Rome; and a ſummary treatiſe concerning the election of Popes. Henry IV. deſired to ſee him, and appointed him page to the dauphin, who was afterward Louis XIII. He appeared at court with all the politeneſs of manners imaginable. He wrote at that time a Treatiſe of the precedency of the kings of France, which he dedicated to Henry IV. who gave him an expreſs order to continue his reſearches on that ſubject: but the death of that prince interrupted his deſign. He publiſhed in 1613, the Formulæ of Marculphus. He was in 1620 made advocate-general in the grand council; and diſcharged that poſt with ſuch reputation, that the king nominated him ſome time after counſellor of ſtate, and at laſt advocate-general in the parliament. He reſigned his offices in 1641; and the year following was appointed chief library keeper of the king's library. He was obliged to reſume his office of advocate-general, and held it till his death. He was employed in the moſt important affairs of ſtate. At laſt this great man, who had always made religion the baſis of his other virtues, died with the moſt exemplary devotion in 1656.

BICNONIA, TRUMPET-FLOWER, or SCARLET JASMINE: A genus of the angioſpermia order, belonging to the didynamia claſs of plants; and in the natural method ranking in the 40th order *Perſonatæ*. The calyx is quinquefid and cup-form: The corolla is bell-ſhaped at the throat, quinquefid, and bellied underneath: The ſiliqua is bilocular; and the ſeeds have membranous wings.

Species. Of this genus Linnæus enumerates 17 ſpecies; of which the following are the moſt remarkable: 1. The radicans, or climbing aſh-leaved bignonia, is a native of Virginia and Canada. It riſes 30 or 40 feet high, having pinnated oppoſite leaves of four pair of ſerrated lobes, and an odd one; all the ſhoots and branches being terminated by beautiful cluſters of large trumpet-ſhaped ſcarlet flowers. The humming birds delight to feed on theſe flowers, and by thruſting themſelves too far into them are ſometimes caught. Of this ſpecies there is a variety with ſmaller flowers. 2. The ſempervirens, or evergreen climbing Virginia bignonia, is a native of Virginia, Carolina, and the Bahama iſlands. The ſtalks are more ſlender than thoſe of the former ſpecies; yet they riſe, upon proper ſupports, to the height of 20 or 30 feet; the flowers are trumpet-ſhaped, erect, and of a yellow colour, proceeding from the ſides and ends of the ſtalks and branches. 3. The catalpa is a native of the ſame countries. It hath a ſtrong woody ſtem and branches, riſing 20 feet high, ornamented with large heart-ſhaped leaves, five or ſix inches long, and almoſt as broad, placed by threes, with whitiſh yellow-ſtriped flowers coming out in panicles towards the end of the branches. This deſerves a place in all curious ſhrubberies as during the ſummer ſeaſon no tree makes a more beautiful appearance: for which reaſon it ſhould be placed conſpicuouſly; or ſome might be planted ſingly upon ſpacious lawns or other large opens of graſs-ground, and permitted to take their natural growth. 4. The unguis, or claw-bignonia, a deciduous climber, is a native of Barbadoes and the

other

Bignonia.

other Weſt India iſlands. It riſes by the help of claw-like tendrils, the branches being very ſlender and weak; and by theſe it will over-top buſhes, trees, &c. twenty or thirty feet high. The branches, however, ſhow their natural tendency to aſpire, for they wind about every thing that is near them: ſo that, together with the aſſiſtance nature has given them of tendrils, it is no wonder they arrive at ſo great a height. Theſe branches, or rather ſtalks, have a ſmooth ſurface, are often of a reddiſh colour, particularly next the ſun, and are very tough. The tendrils grow from the joins; they are bowed, and are divided into three parts. The leaves grow in pairs at the joints, and are four in number at each. Theſe are of an oblong figure, have their edges entire, and are very ornamental to the plant; for they are of an elegant green colour: their under ſurface is much paler than their upper; and their footſtalks, midrib, and veins, alter to a fine purple. The flowers are monopetalous and bell-ſhaped. The tube is very large, and the rim is divided and ſpreads open. They grow from the wings of the leaves in Auguſt, two uſually at each joint; and they are ſucceeded in the countries where they grow natually by long pods. 5. The capreolata, or tendril bignonia, a native of North America, is another fine climber, which riſes by the aſſiſtance of tendrils or claſpers. The leaves grow at the joints oppoſite by pairs, though thoſe which appear at the bottom frequently come out ſingly. They are of an oblong figure, and continue on the plant all winter. The flowers are produced in Auguſt from the wings of the leaves; they are of the ſame nature, and of the ſhape nearly of the former; are large, of a yellow colour, and ſucceeded by ſhort pods.

Culture and Propagation. Of the climbers: 1. If the ſhoots are laid upon the ground, and covered with a little mould, they will immediately ſtrike root, and become good plants for ſetting out where they are wanted. 2. They will all grow by cuttings. The bottom part of the ſtrongeſt young ſhoots is the beſt; and by this method plenty may be ſoon raiſed. 3. They are to be raiſed by ſeeds; but this is a tedious method, eſpecially of the pinnated-leaved ſorts; for it will be many years before the plants raiſed from ſeeds will blow. As to the catalpa, whoever has the conveniency of a bark-bed may propagate it in plenty, 1. By cuttings; which being planted in pots, and plunged into the beds in the ſpring, will ſoon ſtrike root, and may afterwards be ſo hardened to the open air, that they may be ſet abroad in the ſhade before the end of ſummer: in the beginning of October, they ſhould be removed into a green-houſe, or under ſome ſhelter to be protected from the winter's froſt. In the ſpring, after the bad weather is paſt, they may be turned out of the pots, and planted in the nurſery-way, in a well ſheltered place; and if the ſoil be rich, and rather inclined to be moiſt, it will be the better. Here they may ſtand for four or five years, the rows being dug in winter and weeded in ſummer, when they will be of a proper ſize to be planted out to ſtand. Theſe cuttings will often grow in a rich, ſhady, moiſt, border; ſo that whoever can have plenty of them, ſhould plant them pretty thick in ſuch a place, and he may be tolerably ſure, by this way, of raiſing many plants. 2. From ſeed; which is produced in America, and ſhould be ſown in a fine warm border of light rich mould, or elſe in pots or boxes: the ſeedling plants requiring more than a common care.

Bigorre
|
Bilboa.

BIGORRE, a territory or county of France, in the province of Gaſcony. It is bounded on the eaſt by the valley of Aure, the viſcounty of Nebouſſa, Riviere Verdun, and Pardiac; by Bearn on the weſt; on the ſouth, by the valleys of Brotou and Penticouſe in Arragon; and on the north, by the county of Riviere-Bas incorporated with Armagnac. It is 40 miles long from north to ſouth, and 30 in breadth from eaſt to weſt. It is divided into three parts the mountains, the plains, and the Ruſtan. The mountains are incloſed between thoſe of the valley of Aure on the eaſt, thoſe of Arragon on the ſouth, and of Bearn on the weſt. This part contains two principal valleys, Lavedan and Barege. The valley of Bigorre, is of an oval form, and has the hills of Ruſtan on the eaſt. The remarkable towns are Tarbes the capital, Bagneres, Lourd, &c. The mountains are a barrier between France and Spain, and there are four different paſſages which the inhabitants are obliged to guard. Bigorre yields marble, jaſper, ſtone, and ſlate: there are alſo mines of ſeveral ſorts, but they are not worked. The rivers are the Adour, the Elches, the Arroſet, and the Gave of Lavedan; there are alſo three lakes.

BIGOT, a perſon obſtinately and perverſely wedded to ſome opinion or practice, particularly of a religious nature. Cambden, perhaps, has hit upon the true original of the word. He relates, that when Rollo, Duke of Normandy, received Giſla, the daughter of Charles *the Fooliſh*, in marriage, together with the inveſtiture of that dukedom, he would not ſubmit to kiſs Charles's foot: and when his friends urged him by all means to comply with that ceremony, he made anſwer in the Engliſh tongue, NE SE BY God, i. e. *Not ſo by God.* Upon which, the king and his courtiers deriding him, and corruptly repeating his anſwer, called him *bigot;* from whence the Normans were called *bigodi*, or *bigots*.

BIGOT, in Italian *bigontia*, is uſed to denote a Venetian liquid meaſure, containing the fourth part of the amphora, or half the boot.

BIHAEZ, a ſtrong town of Croatia in Hungary, ſeated in an iſle formed by the river Anna, in E. Long. 16. 2. N. Lat. 44. 35.

BILANDER, in navigation, a ſmall merchant-ſhip with two maſts, diſtinguiſhed from other veſſels of the ſame kind by the form of the main-ſail. Few veſſels are now rigged in the manner of bilanders; the name has been variouſly applied in different countries.

BILBILIS, (anc. geog.), a town of Hiſpania Citerior, the birth-place of Martial; now ſuppoſed to be Calatajud in Aarragon on the Xalon.

BILBOA, a large, handſome, and rich town of Spain, capital of Biſcay, with a well frequented harbour. It is remarkable for the wholeſomeneſs of the air and the fertility of the ſoil about it. The inhabitants have always preſerved themſelves from a mixture with the Jews and Moors; and therefore will admit no family to ſettle among them but who can prove themſelves to be of Chriſtian extraction, nor will they admit any ſlaves among them as in the other parts of Spain. The exports are wool, and ſword-blades, with ſome other manufactures of iron and ſteel. The town is ſeated at the mouth of the river Ibaicabal, in W. Lon. 4. 20. N. Lat. 43. 23.

BILBOWS, a puniſhment at ſea, anſwering to the ſtocks at land. The offender is laid in irons, or ſtocks, which are more or leſs ponderous according to the quality of the offence of which he is guilty.

BILDESTON, a town of Suffolk in England, ſeated on a creek on the river Breton. The principal manufacture is in woollen goods, eſpecially blankets. E. Long. 0. 45. N. Lat. 52. 20.

BILDGE of a ſhip, the bottom of her floor, or the breadth of the place the ſhip reſts on when ſhe is aground. Therefore, *bildge-water* is that which lies on her floor, and cannot go to the well of the pump: And *bildge-pumps*, or burr-pumps, are thoſe that carry off the bildge-water. They likewiſe ſay the ſhip is *bildged*, when ſhe has ſome of her timber ſtruck off on a rock or anchor, and ſprings a leak.

BILE, a yellow, bitter juice, ſeparated from the blood in the liver, collected in the porus bilarius and gall-bladder, and thence diſcharged by the common duct into the duodenum. See ANATOMY, n° 97, 98.

BILEDULGERID, or BELAD AL JERID, the *Country of dates*, a kingdom of Africa. It is almoſt of a ſquare form, extending itſelf more than 80 leagues every way, from 28. 30. to 32. 50. north latitude, and from 6 to 12 degrees of weſt longitude. It is bounded on the north by the kingdom of Tunis, on the eaſt by a ridge of lofty mountains which divide it from Tripoli and part of Gaudamis, on the weſt by the countries of Zeb and Mezeb, and on the ſouth by the province of Verghela. The whole country is barren, ſandy, and mountainous, producing little or nothing beſides dates, which grow here in ſuch profuſion, that the face of half the kingdom is covered over with date-trees, and from hence the whole country takes its name. The climate is hot and unhealthy: the people lean, ſwarthy, and ſhrivelled in their complexions; with their eyes inflamed, owing to the reflexion of the ſun-beams from the white hard ſoil; and the ſhowers of duſt and ſand driven by the high winds that blow here at certain ſeaſons are frequently ſo violent as to bury men and cattle under them. Another inconvenience with which the inhabitants are afflicted, for which no other reaſon is given beſides their conſtant living on dates, is, an inveterate ſcurvy in their gums, whence all their teeth drop out; though it frequently ſpreads over their whole bodies, and then they become the moſt unhappy and loathſome objects. They are almoſt entirely free from other diſeaſes: ſo that, when not afflicted with this, they live to a good old age; though it is obſervable, that they diſcover a furrowed countenance, ſhrivelled ſkin, hoary locks, and other ſymptoms of old age, very early in life, and before decrepitude, infirmity, or any decay of their faculties, appear. The plague is not known in Biledulgerid, though ſo frequent in Barbary, and though a conſtant intercourſe is kept up between the two countries; whence it would ſeem, that in certain caſes this terrible diſtemper is not ſo infectious as it is uſually thought to be. The ſame may be ſaid of the ſmall-pox, a diſeaſe little leſs contagious and fatal in hot countries than the plague itſelf. The natives are repreſented as a lewd, treacherous, thieviſh, and ſavage people, who delight in murder and robbery. They are moſtly a mixture of Africans and wild Arabs who mingled themſelves with them. The former live with ſome regularity and civil order in a kind of villages compoſed of a number of little huts; the latter in tents, ranging from place to place in queſt of food and plunder. The Arabs, who pride themſelves in their ſuperiority of birth and talents above the primitive inhabitants, are wholly independent and free, frequently hiring themſelves in the ſervice of the neighbouring princes at war: from which policy ariſe the moſt valuable branches of their public revenue, if any thing can be called common or public in a nation of lawleſs robbers. The reſt purſue no other occupation beſides hunting and plundering; the firſt of which is their common employment, eſpecially hunting of oſtriches, which are ſaid to be of a prodigious ſtature in this country, and as high as a man mounted on a tall horſe. The inhabitants eat the fleſh of theſe animals; barter their feathers for corn, pulſe, and other things they want, uſe their hearts in their necromantic and religious rites, their fat as a medicine of ſovereign virtue, their talons for ear-pendants and other ornaments, and their ſkins they convert into pouches and knapſacks, ſo that not a part of the animal but is employed in ſome uſeful purpoſe. Beſides dates and oſtriches, the Arabs live likewiſe on the fleſh of goats and camels; drinking either the liquor or broth in which that fleſh is boiled, or the milk of their camels; for they ſeldom taſte water, that element being more ſcarce in this country than milk itſelf. In the whole country there is ſcarce a town of any note, or even a ſtream of water that deſerves notice, or that is not dried up half the year.

BILEVELT, a town of Germany, in the circle of Weſtphalia and county of Ravenſburgh, ſubject to the king of Pruſſia, in E. Long. 8. 20. N. Lat. 52. 0.

BILINGUIS, in a general ſenſe, ſignifies one that ſpeaks two languages; but in law, is uſed for a jury that paſſes in any caſe between an Engliſhman and a foreigner, whereof part ought to be Engliſh and part ſtrangers.

BILIOUS, in general, denotes ſomething belonging to, or partaking of, the nature of bile. Hence,

BILIOUS Fevers are thoſe occaſioned by the over-copiouſneſs or bad qualities of the bile.

BILL, in mechanics, an inſtrument made of iron, edged in the form of a creſcent, and adapted to a handle. It is uſed by plumbers, to perform ſeveral parts of their work; by baſket-makers, to cut the largeſt pieces of cheſnut-trees and other wood; and by gardeners, to prune trees. When ſhort, it is called a *hand-bill*; and when long, a *hedge-bill*.

BILL, in law, a declaration in writing, expreſſing either ſome wrong the complainant has ſuffered from the defendant, or a fault committed by the perſon complained of againſt ſome law or ſtatute.—This bill is ſometimes exhibited to juſtices at the general aſſizes, by way of indictment, or referred to others having juriſdiction; but is more generally addreſſed to the lord chancellor. It contains the fact complained of, the damage ſuſtained, and a petition or proceſs againſt the defendant for redreſs; and is uſed both in criminal and civil caſes. In the former, the words *billa vera* are indorſed by the grand jury upon a preſentment, implying that they find the ſame ſounded on probable evidence, and therefore worthy of further conſideration.

In Scots law, every ſummary application in writing, by way of petition to the court of ſeſſion, is called a *bill*.

Bill of Attainder. See Attainder.

Bill of Appeal. See Appeal.

Bill ſignifies alſo a paper, either written or printed, in very large characters, which is poſted up in ſome open and public place, to give notice of the ſale of any merchandize or ſhip, or of the ſailing of any veſſel into foreign parts.

Bill, in trade, both wholeſale and retail, as alſo among workmen, ſignifies an account of merchandizes or goods delivered to a perſon, or of work done for one.

Bill, in commerce, denotes a ſecurity for money under the hand and ſometimes ſeal of the debtor, without any condition or forfeiture in caſe of non-performance; in which it is diſtinguiſhed from a bond or obligation. It has been uſually defined, a writing wherein one man is bound to another to pay a ſum of money, on a day that is future, or preſently on demand, according to the agreement of the parties at the time when it is drawn; on which, in caſe of failure, diligence or execution may be immediately done to force payment. Theſe bills in Britain muſt be on ſtamped paper: if under L. 50, the ſtamp to be 6d.; if for L. 50 or upwards, 1 s.

Bank-Bill is a note or obligation ſigned on behalf of the company of the bank, by one of their caſhiers, for value received. Or it is an obligation to pay on demand either to the bearer or to order; in Scotland, it is underſtood to be to order.

Bill of Entry, an account of the goods entered at the cuſtom-houſe, both inwards and outwards. In this bill muſt be expreſſed, the merchant exporting or importing; the quantity of merchandize, and the divers ſpecies thereof; and whether tranſported, or from whence.

Bill of Exchange, is a ſecurity, originally invented among merchants in different countries, for the more eaſy remittance of money from the one to the other, which has ſince ſpread itſelf into almoſt all pecuniary tranſactions. It is an open letter of requeſt from one man to another, deſiring him to pay a ſum named therein to a third perſon on his account; by which means a man at the moſt diſtant part of the world may have money remitted to him from any trading country. If A lives in Jamaica, and owes B who lives in England L. 1000; now if C be going from England to Jamaica, he may pay B this L. 1000 and take a bill of exchange drawn by B in England upon A in Jamaica, and receive it when he comes thither. Thus does B receive his debt, at any diſtance of place, by transferring it to C; who carries over his money in paper credit, without danger of robbery or loſs. This method is ſaid to have been brought into general uſe by the Jews and Lombards, when baniſhed for their uſury and other vices: in order the more eaſily to draw their effects out of France and England into thoſe countries in which they had choſen to reſide. But the invention of it was a little earlier; for the Jews were baniſhed out of Guienne in 1287, and out of England in 1290, and in 1236 the uſe of paper credit was introduced into the Mogul empire in China.—In common ſpeech, ſuch a bill is frequently called a *draught*; but a bill of exchange is the more legal as well as mercantile expreſſion. The perſon, however, who writes this letter is called, in law, the *drawer*; and he to whom it is written, the *drawee*; and the third perſon or negociator to whom it is payable (whether ſpecially named or the bearer generally) is called the *payee*.

Theſe bills are either foreign or inland; foreign, when drawn by a merchant reſiding abroad upon his correſpondent in England, or *vice verſa*; and inland, when both the drawer and the drawee reſide within the kingdom. Formerly foreign bills of exchange were much more regarded in the eye of the law than inland ones, as being thought of more public concern in the advancement of trade and commerce. But now by two ſtatutes, the one 9 and 10 W. III. c. 17. the other 3 and 4 Ann. c. 9. inland bills of exchange are put upon the ſame footing as foreign ones; what was the law and cuſtom of merchants with regard to the one, and taken notice of merely as ſuch, being by thoſe ſtatutes expreſsly enacted with regard to the other. So that there is now in law no manner of difference between them. In drawing foreign bills of exchange, it is cuſtomary to give two or three of the ſame date and tenor to be ſent by different conveyances, that in caſe of accidents the perſon to whom they are ſent may not be diſappointed; in which caſe it is mentioned in the body of the bill, that it is the 1ſt, 2d, or 3d bill of exchange; ſo that when one is paid it diſcharges all the reſt. Foreign bills for any ſum muſt be on 6d. ſtamped paper.

Bill of Lading, an acknowledgment ſigned by the maſter of a ſhip, and given to a merchant, &c. containing an account of the goods which the maſter has received on board from that merchant, &c. with a promiſe to deliver them at an intended place for a certain ſalary. Each bill of lading muſt be treble, one for the merchant who loads the goods, another to be ſent to the perſon to whom they are conſigned, and the third to remain in the hands of the maſter of the ſhip. It muſt be obſerved, however, that a bill of lading is uſed only when the goods ſent on board the ſhip are but part of the cargo: for when a merchant loads a whole veſſel for his own perſonal account, the deed paſſed between him and the maſter of the ſhip is called *charter-party*. See *Charter-party*.

Bills of Mortality, are accounts of the numbers of births and burials within a certain diſtrict, every week, month, quarter, or year. In this ſenſe, we ſay *weekly bills, monthly bills, quarterly bills, yearly bills*. The London *bills of mortality*, which were the firſt, are compoſed by the company of pariſh-clerks, and expreſs the number of chriſtenings of each ſex, and the number of deaths from each diſeaſe.

Bill of Parcels, an account given by the ſeller to the buyer, containing the particulars of all the ſorts and prices of the goods brought.

Bill of Sale, is when a perſon wanting a ſum of money delivers goods as a ſecurity to the lender, to whom he gives this bill, impowering him to ſell the goods, in caſe the ſum borrowed is not repaid, with intereſt, at the appointed time.

Bill of Store, a licence granted at the cuſtom-houſe to merchants, by which they have liberty to carry, cuſtom-free, all ſuch ſtores and proviſions as they may have occaſion for during their voyage.

Bill of Sufferance, a licence granted to a merchant, at the cuſtom-houſe, ſuffering him to trade from one Engliſh port to another without paying cuſtom.

Lombard Bills, are inſtruments of an uncommon kind and figure, uſed in Italy and Flanders, and of late alſo in France; conſiſting of a piece of parchment, cut to an acute angle about an inch broad at top, and terminating in a point at bottom; chiefly given where private perſons are concerned in the fitting out a ſhip on any long voyage. The manner is thus: The party, who is deſirous to be concerned in the cargo or venture, carries his money to the merchant, who fits out the ſhip, where it is entered down in a regiſter: at the ſame time the merchant writes down on a piece of parchment, upwards of an inch broad, and ſeven or eight inches long, the name of the lender and the ſum lent; which being cut diagonal-wiſe, or from corner to corner, each party retains his half. On the return of the veſſel, the lender brings his moiety to the merchant; which being compared with the other, he receives his dividend accordingly. Much the ſame is practiſed in Holland by thoſe who lend money on pledges: the name of the borrower and the ſum are written on a like ſlip of parchment, which is cut in two, and half given to the borrower, and the other half ſtitched to the pledge; that, upon comparing them together again, the borrower may receive his goods on paying the money ſtipulated.

Bill in Parliament, a paper containing propoſitions, offered to the houſes to be paſſed by them, and then preſented to the king to paſs into a law.

To bring a bill into the houſe, if the relief ſought by it is of a private nature, it is firſt neceſſary to prefer a petition; which muſt be preſented by a member, and uſually ſets forth the grievance deſired to be remedied. This petition (when founded on facts that may be in their nature diſputed) is referred to a committee of members, who examine the matter alleged, and accordingly report it to the houſe; and then (or, otherwiſe, upon the mere petition) leave is given to bring in the bill. In public matters, the bill is brought in upon motion made to the houſe, without any petition at all. Formerly all bills were drawn in the form of petitions, which were entered upon the parliament-rolls, with the king's anſwer thereunto ſubjoined; not in any ſettled form of words, but as the circumſtances of the caſe required: and at the end of each parliament the judges drew them into the form of a ſtatute, which was entered on the ſtatute-rolls. In the reign of Henry V. to prevent miſtakes and abuſes, the ſtatutes were drawn up by the judges before the end of the parliament; and in the reign of Henry VI. bills in the form of acts, according to the modern cuſtom, were firſt introduced.

The perſons directed to bring in the bill, preſent it in a competent time to the houſe, drawn out on paper, with a multitude of blanks, or void ſpaces, where any thing occurs that is dubious, or neceſſary to be ſettled by the parliament itſelf (ſuch eſpecially as the preciſe date of times, the nature and quantity of penalties, or of any ſums of money to be raiſed); being indeed only the ſkeleton of the bill. In the houſe of lords, if the bill begins there, it is (when of a private nature) referred to two of the judges, who examine and report the ſtate of the facts alleged, to ſee that all neceſſary parties conſent, and to ſettle all points of technical propriety. This is read a firſt time, and at a convenient diſtance a ſecond time; and after each reading, the ſpeaker opens to the houſe the ſubſtance of the bill, and puts the queſtion, Whether it ſhall proceed any farther? The introduction of the bill may be originally oppoſed, as the bill itſelf may at either of the readings; and, if the oppoſition ſucceeds, the bill muſt be dropped for that ſeſſion; as it muſt alſo, if oppoſed with ſucceſs in any of the ſubſequent ſtages.

After the ſecond reading, it is committed; that is, referred to a committee: which is either ſelected by the houſe in matters of ſmall importance; or elſe, upon a bill of conſequence, the houſe reſolves itſelf into a committee of the whole houſe. A committee of the whole houſe is compoſed of every member; and, to form it, the ſpeaker quits the chair (another member being appointed chairman), and may ſit and debate as a private member. In theſe committees the bill is debated clauſe by clauſe, amendments made, the blanks filled up, and ſometimes the bill entirely new modelled. After it has gone through the committee, the chairman reports it to the houſe with ſuch amendments as the committee have made; and then the houſe reconſiders the whole bill again, and the queſtion is repeatedly put upon every clauſe and amendment. When the houſe hath agreed or diſagreed to the amendments of the committee, and ſometimes added new amendments of its own, the bill is then ordered to be engroſſed, or written in a ſtrong groſs hand, on one or more long rolls (or preſſes) of parchment ſewed together. When this is finiſhed, it is read a third time, and amendments are ſometimes then made to it; and if a new clauſe be added, it is done by tacking a ſeparate piece of parchment on the bill, which is called a *ryder*. The ſpeaker then again opens the contents; and, holding it up in his hands, puts the queſtion, Whether the bill ſhall paſs? If this is agreed to, the title to it is then ſettled; which uſed to be a general one for all the acts paſſed in the ſeſſion, till in the fifth year of Hen. VIII. diſtinct titles were introduced for each chapter. After this, one of the members are directed to carry it to the lords, and deſire their concurrence; who, attended by ſeveral more, carries it to the bar of the houſe of peers, and there delivers it to the ſpeaker, who comes down from his woolſack to receive it.

It there paſſes through the ſame forms as in the other houſe (except engroſſing, which is already done); and, if rejected, no more notice is taken, but it paſſes *ſub ſilentio*, to prevent unbecoming altercations. But if it is agreed to, the lords ſend a meſſage by two maſters in chancery (or ſometimes two of the judges) that they have agreed to the ſame: and the bill remains with the lords, if they have made no amendment to it. But if any amendments are made, ſuch amendments are ſent down with the bill to receive the concurrence of the commons. If the commons diſagree to the amendments, a conference uſually follows between members deputed from each houſe; who for the moſt part ſettle and adjuſt the difference: but if both houſes remain inflexible, the bill is dropped. If the commons agree to the amendments, the bill is ſent back to the lords by one of the members, with a meſſage to acquaint them therewith. The ſame forms are obſerved, *mutatis mutandis*, when the bill begins in the houſe of lords. But when an act of grace or pardon is paſſed, it is firſt ſigned by his majeſty, and then read once only in each of the houſes, without any new engroſſing or amendment. And when both houſes have done with any bill, it always is depoſited in the houſe of peers, to wait the royal aſſent; except in the caſe of a bill of ſupply, which after receiving the concurrence of the lords is ſent back to the houſe of commons.

The royal aſſent may be given two ways: 1. In perſon; when the king comes to the houſe of peers, in his crown and royal robes, and ſending for the commons to the bar, the titles of all the bills that have paſſed both houſes are read; and the king's anſwer is declared by the clerk of the parliament in Norman-French: a badge, it muſt be owned (now the only one remaining), of conqueſt; and which one could wiſh to ſee fall into total oblivion; unleſs it be reſerved as a ſolemn memento to remind us that our liberties are mortal, having been once deſtroyed by a foreign force. If the king conſents to a public bill, the clerk uſually declares, *Le roy le veut*, "The king wills it ſo to be;" if to a private bill, *Soit fait come il eſt deſire*, "Be it as it is deſired." If the king refuſes his aſſent, it is in the gentle language of *Le roy ſ'aviſera*, "The king will adviſe upon it." When a bill of ſupply is paſſed, it is carried up and preſented to the king by the ſpeaker of the houſe of commons; and the royal aſſent is thus expreſſed, *Le roy remercie ſes loyal ſubjects, accept leur benevolence, et auſſi le veut*; "The king thanks his loyal ſubjects, accept their benevolence, and wills it ſo to be." In caſe of an act of grace, which originally proceeds from the crown and has the royal aſſent in the firſt ſtage of it, the clerk of the parliament thus pronounces the gratitude of the ſubject: *Les prelats, ſeigneurs, et commons, en ce preſent parliament aſſemblees, au nom de touts vous autres ſubjects, remercient tres humblement votre majeſte, et prient a Déu vous donner en ſante bone vie et longue*; "The prelates, lords, and commons, in this preſent parliament aſſembled, in the name of all your other ſubjects, moſt humbly thank your majeſty, and pray to God to grant you in health and wealth long to live." 2. By the ſtatute 33 Hen. VIII. c. 21. the king may give his aſſent by letters patent under his great ſeal, ſigned with his hand, and notified in his abſence to both houſes aſſembled together in the high houſe. And when the bill has received the royal aſſent in either of theſe ways, it is then, and not before, a ſtatute or act of parliament.

This ſtatute or act is placed among the records of the kingdom; there needing no formal promulgation to give it the force of a law, as was neceſſary by the civil law with regard to the emperor's edicts: becauſe every man in Britain is, in judgment of law, party to the making of an edict of parliament, being preſent thereat by his repreſentatives. However, a copy thereof is uſually printed at the king's preſs for the information of the whole land. And formerly, before the invention of printing, it was uſed to be publiſhed by the ſheriff of every county; the king's writ being ſent to him at the end of every ſeſſion, together with a tranſcript of all the acts made at that ſeſſion, commanding him, *ut ſtatuta illa, et omnes articulos in eiſdem contentos, in ſingulis locis ubi expedire viderit, publice proclamari, et firmiter teneri et obſervari faciat*. And the uſage was to proclaim them at his county court, and there to keep them, that whoever would might read or take copies thereof; which cuſtom continued till the reign of Henry VII.

An act of parliament thus made is the exerciſe of the higheſt authority that the kingdom acknowledges upon earth. It hath power to bind every ſubject in the land, and the dominions thereunto belonging; nay, even the king himſelf, if particularly named therein. And it cannot be altered, amended, diſpenſed with, ſuſpended, or repealed, but in the ſame forms and by the ſame authority of parliament: for it is a maxim in law, that it requires the ſame ſtrength to diſſolve as to create an obligation. It is true, it was formerly held, that the king might in many caſes diſpenſe with penal ſtatutes; but now by ſtatute 1 Wil. and M. ſt. 2. c. 2. it is declared, that the ſuſpending or diſpenſing with laws by regal authority, without conſent of parliament, is illegal.

Bill of Rights. See the article LIBERTY.

BILLERICAY, a town of Eſſex in England, ſeated on a hill, in E. Long. 0. 25. N. Lat. 51. 35.

BILLET, in heraldry, a bearing in form of a long ſquare. They are ſuppoſed to repreſent pieces of cloth of gold or ſilver; but Guillem thinks they repreſent a letter ſealed up, and other authors take them for bricks. *Billeté* ſignifies that the eſcutcheon is all over ſtrewed with billets, the number not aſcertained.

Billet-Wood, ſmall wood for fuel, cut three feet and four inches long, and ſeven inches and a half in compaſs; the aſſize of which is to be inquired of by juſtices.

BILLETING, in military affairs, is the quartering of ſoldiers in the houſes of a town or village.—And, among fox-hunters, it ſignifies the ordure and dung of a fox.

BILLIARDS, an ingenious kind of a game, played on a rectangular table, with little ivory balls, which are driven into hazards or holes, according to certain rules of the game.

This game was invented by the French, when it was played in a different manner from what it is at preſent, by having a paſs or iron fixed on the table, through which the balls at particular periods of the game uſed to be played; but now this method is quite laid aſide.

Soon after the French, the Germans, the Dutch, and Italians, brought this game into vogue throughout moſt parts of Europe, at which they became great proficients; and in a few years afterwards it became a favourite diverſion in many parts of England, particularly with perſons of the firſt rank. Since that time, indeed, it has been in a great meaſure proſtituted by the deſigning and vulgar ſort of people: notwithſtanding, it will never be out of faſhion, being of itſelf very entertaining, and attended with that kind of moderate exerciſe which renders it more agreeable.

The table on which the game is played is generally about twelve feet long and ſix feet wide, or rather in the exact form of an oblong, it is covered with fine green cloth, and ſurrounded with cuſhions to prevent the balls rolling off, and to make them rebound.

There are ſix holes, nets, or pockets: theſe are fixed at the four corners, and in the middle, oppoſite to each other, to receive the balls, which when put into theſe holes or pockets are called hazards. The making of a hazard, that is, putting the adverſary's ball in, at the uſual game reckons for two in favour of the player.

The game is played with ſticks called *maces*, or with cues; the firſt conſiſts of a long ſtraight ſtick, with a head at the end, and are the moſt powerful inſtruments of the two: the cue is a thick ſtick diminiſhing gradually to a point of about half an inch diameter; this inſtrument is played over the left hand, and ſupported by the fore-finger and thumb. It is the only inſtrument in vogue abroad, and is played with amazing addreſs by the Italians and ſome of the Dutch; but in England the mace is the prevailing inſtrument, which the foreigners hold in contempt, as it requires not near ſo much addreſs to play the game with, as when the cue is made uſe of; but the mace is preferred for its peculiar advantage, which ſome profeſſed players have artfully introduced, under the name of *trailing*, that is following the ball with the mace to ſuch a convenient diſtance from the other ball as to make it an eaſy hazard. The degrees of trailing are various, and undergo different denominations amongſt the connoiſſeurs at this game; namely, the ſhove, the ſweep, the long ſtroke, the trail, and the dead trail or turn up, all which ſecure an advantage to a good player according to their various gradations: even the butt end of the cue becomes very powerful, when it is made uſe of by a good trailer.

Rules generally obſerved at the common or uſual game.—1. For the lead, the balls muſt be put at one end, and the player muſt ſtrike them againſt the farthermoſt cuſhion, in order to ſee which will be neareſt the cuſhion that is next to them. 2. The neareſt to the cuſhion is to lead and chooſe the ball if he pleaſes. 3. The leader is to place his ball at the nail, and not to paſs the middle pocket; and if he holes himſelf in leading, he loſes the lead. 4. He who follows the leader muſt ſtand within the corner of the table, and not place his ball beyond the nail. 5. He who plays upon the running ball loſes one. 6. He who touches the ball twice, and moves it, loſes one. But theſe two rules are ſeldom or never enforced, eſpecially in England. 7. He who does not hit his adverſary's ball, loſes one. 8. He who touches both balls at the ſame time, makes a foul ſtroke, in which caſe if he ſhould hole his adverſary, nothing is gained by the ſtroke; but if he ſhould put himſelf in, he loſes two. 9. He who holes both balls loſes two. 10. He who ſtrikes upon his adverſary's ball, and holes himſelf, loſes two. 11. He who plays at the ball without ſtriking it, and holes himſelf, loſes three. 12. He who ſtrikes both balls over the table, loſes two. 13. He who ſtrikes his ball over the table, and does not hit his adverſary's ball, loſes three. 14. He who retains the end of his adverſary's ſtick when playing, or endeavours to baulk his ſtroke, loſes one. 15. He who plays another's ball or ſtroke without leave, loſes one. 16. He who takes up his ball, or his adverſary's without leave, loſes one. 17. He who ſtops either ball when running loſes one, and being near the hole loſes two. 18. He who blows upon the ball when running looſes one, and if near the hole loſes two. 19. He who ſhakes the table when the ball is running, loſes one. 20. He who ſtrikes the table with the ſtick, or plays before his turn, loſes one. 21. He who throws the ſtick upon the table, and hits the ball, loſes one. 22. If the ball ſtands upon the edge of the hole, and after being challenged it falls in, it is nothing, but it muſt be put up where it was before. 23. If any perſon, not being one of the players, ſtops a ball, the ball muſt ſtand in the place where it was ſtopped. 24. He who plays without a foot upon the floor and holes his adverſary's ball, gets nothing for it, but loſes the lead. 25. He who leaves the game before it is ended, loſes it. 26. Any perſon may change his ſtick in the play. 27. If any difference ariſe between players, he who marks the game, or the majority of the company muſt decide it. 28. Thoſe who do not play muſt ſtand from the table, and make room for the players. 29. If any perſon lays any wager, and does not play, he ſhall not give advice to the players upon the game.

Different kinds of games played at billiards.—Beſides the common winning game, which is twelve up, there are ſeveral other kinds of games, viz. the loſing-game, the winning and loſing, choice of balls, bricole, carambole, Ruſſian carambole, the bar-hole, the one-hole, the four-game and hazards.

The *loſing-game*, is the common game nearly reverſed; that is to ſay, except hitting the balls, which is abſolutely neceſſary, the player gains by loſing. By putting himſelf in, he wins two; by putting his adverſary in, he loſes two; but if he pockets both balls, he gets four. This game depends greatly upon particular ſtrengths, and is therefore very neceſſary to be known to play the winning game well.

The *winning and loſing game* is a combination of both games; that is to ſay, all balls that are put in by ſtriking firſt the adverſary's ball, reckon towards game; and holing both balls reckons four. At this game and the loſing, knocking over or forcing the balls over the cuſhion, goes for nothing, the ſtriker only loſes the lead.

Choice of balls, is chooſing each time which ball the player pleaſes, which is doubtleſs a great advantage, and is generally played againſt loſing and winning.

Bricole, is being obliged to hit a cuſhion, and make the ball rebound or return to hit the adverſary's ball, otherwiſe the player loſes a point. This is a great diſadvantage, and is reckoned between even players to be equal to receiving about eight or nine points.

Carambole, is a game newly introduced from France. It is played with three balls, one being red, which is neutral, and is placed upon a ſpot on a line with the ſtringing nail (*i. e.* that part of the table from whence the player ſtrikes his ball at firſt ſetting off, and which is generally marked with two braſs nails). Each antagoniſt at the firſt ſtroke of a hazard, plays from a mark which is upon a line with it at the other end of the table. The chief object at this game is, for the player to hit with his own ball the other two balls, which is called a *carambole*, and by which the player wins two. If he puts in the red ball he gets three, and when he holes his adverſary's ball he gets two; ſo that ſeven may be made at one ſtroke, by caramboling and putting in both balls. This game reſembles the loſing, depending chiefly upon particular ſtrengths, and is generally played with the cue. The game is ſixteen up; nevertheleſs it is reckoned to be ſooner over than the common game. The next object of this game, after making what we have diſtinguiſhed by the *carambole*, is the *baulk*; that is, making the white ball, and bringing the player's own ball and the red one below the ſtringing nail, from whence the adverſaries begin. By this means the opponent is obliged to play bricole from the oppoſite cuſhion, and it often happens that the game is determined by this ſituation.

The *Ruſſian carambole*, is a game that has ſtill more lately been introuced from abroad, and is played in the following manner; The red ball is placed as uſual on the ſpot made for that purpoſe; but the player when he begins, or after having been holed, never places his ball on any particular place or ſpot; he being at liberty to put it where he pleaſes. When he begins to play, inſtead of ſtriking at the red ball, he leads his own gently behind it, and his antagoniſt is to play at which he thinks proper; if he plays at the red ball and holes it, he ſcores three as uſual towards the game, which is twenty-four inſtead of ſixteen points; and the red ball is put upon the ſpot again, at which he may ſtrike again or take his choice which of the two balls to puſh at, always following his ſtroke till both balls are off the table. He is intitled to two points each time that he caramboles, the ſame as at the other game; but if he caramboles and puts his own ball into any hole, he loſes as many as he might have got had he not holed himſelf: for example, if he ſtrikes at the red ball, which he holes, at the ſame time caramboles and holes himſelf, he loſes five points; and if he holes both balls when he caramboles, and likewiſe his own, he loſes ſeven, which he would have got if he had not holed his own ball. In other reſpects it is played like the common carambole game.

The *bar-hole*, is ſo called from the hole being barred which the ball ſhould be played for, and the player ſtriking for another hole; when this game is played againſt the common game, the advantage for the latter, between equal players, is reckoned to be about ſix.

The player at the *one-hole*, though it ſeems to thoſe who are not judges of the game to be a great diſadvantage, has in fact the beſt of it; for as all balls that go into the one hole reckon, the player endeavours to lay his ball conſtantly before that hole, and his antagoniſt frequently finds it very difficult to keep one or other ball out, particularly on the leads, when the one-hole player lays his ball (which he does as often as he can) on the brink of the hole; leading for that purpoſe from the oppoſite end, which in reality he has no right to do; for the lead ſhould be given from the end of the table at which the hazard is made: but when a perſon happens to be a novice, this advantage is often taken.

The *four-game*, conſiſts of two partners on each ſide, at the common winning game; who play by ſucceſſion after each hazard, or two points loſt. The game is fifteen up; ſo that the point or hazard is an odd number, which makes a miſs at this game of more conſequence than it is at another; being as much at four, ſix, or eight, as it is at five, ſeven, or nine, at the ſingle game.

Hazards, are ſo called becauſe they depend entirely upon the making of hazards, there being no account kept of any game. . Any number of perſons may play, by having balls that are numbered; but the number ſeldom exceeds ſix, to avoid confuſion. The perſon whoſe ball is put in, pays ſo much to the player according to what is agreed to be played for each hazard; and the perſon who miſſes, pays half the price of a hazard to him whoſe ball he played at. The only general rule is not to lay any ball a hazard for the next player, which may be in a great meaſure avoided, by always playing upon the next player, and either bringing him cloſe to the cuſhion or putting him at a diſtance from the reſt of the balls. The table, when hazards are played, is always paid for by the hour.

BILLINGHAM, a town of Northumberland, in England, ſeated in W. Long. 1. 35. N. Lat. 55. 20.

BILLON, in the hiſtory of coins, a compoſition of precious and baſe metals, where the latter predominate. Wherefore gold under twelve carats fine, is called *billon of gold*; and ſilver under ſix penny-weight, *billon of ſilver*. So little attention was paid formerly to the purity of gold and ſiver, that the term *billon of gold* was applied only to that which was under twenty-one carats, and *billon of ſilver* to that which was lower than ten penny-weight.

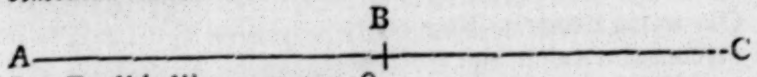
BILLON, a town of Auvergne in France, ſituated in E. Long. 3. 30. N. Lat. 45. 36.

BILSDON, a ſmall town of Leiceſterſhire in England, ſituated in W. Long. 0. 15. N. Lat. 52. 40.

BILSEN, a town of Germany, in the circle of Weſtphalia, and biſhopric of Liege, ſeated on the river Demer, in E. Long. 5. 42. N. Lat. 50. 48.

BILSON (Thomas), biſhop of Wincheſter, in which city he was born and educated. In 1565, he was admitted perpetual fellow of New college, and in 1570 completed his degrees in arts. He was made bachelor of divinity in 1579, and doctor the year following. His firſt preferment was that of maſter of Wincheſter ſchool; he was next made prebendary, and afterwards warden, of Wincheſter college. In 1596 he was conſecrated biſhop of Worceſter; and about a year after, tranſlated to the ſee of Wincheſter, and ſworn of queen Elizabeth's privy council. He was one of the principal managers of the Hampton-court conference in 1604; and the Engliſh tranſlation of the Bible in the reign of king James I. was finally corrected by this prelate, and Dr Miles Smith biſhop of Glouceſter. He died in the year 1616; and was buried in Weſtminſter abbey, near the entrance of St Edmund's chapel, on the ſouth ſide of the monument of king Richard II. The ſeveral authors who have mentioned biſhop Bilſon, agree in giving him the character of a learned divine, an able civilian, and an upright man. His ſtyle is in general much more eaſy and harmonious than that of cotemporary eccleſiaſtics. His works are, 1. *Several Latin poems and orations*. Manuſcript, in Ant. Wood's library. 2. *The true difference between Chriſtian ſubjection and unchriſtian rebellion*. Oxf. 1585, 4to. Lond. 1586, 4to. 3. *The perpetual government of Chriſt's church*. Lond. 1593, 4to, Black Letter. 4. *The effect of certain ſermons touching the full redemption of mankind by the death and blood of Chriſt*, &c. Lond. 1599, 4to. 5. *The ſurvey of Chriſt's ſuffering for man's redemption, and of his deſcent to Hades or Hell*. Lond. 1604. fol. 6. *A ſermon preached before king James* I. *and his queen at their coronation*. Lond. 1603, 8vo.

BIMEDIAL, in mathematics. If two medial lines, as AB and BC, commenſurable only in power, containing a rational rectangle, are compounded, the whole line AC will be irrational, and is called a *firſt bimedial line.*



See Euclid, lib. x. prop. 38.

BIMINI, one of the Lucaya iſlands in North America, near the channel of Bahama. It is about eight miles in length, and as much in breadth, covered with trees, and inhabited by the native Americans. It is very difficult of acceſs on account of the ſhoals, but is a very pleaſant place. W. Long. 79. 30. N. Lat. 25. 0.

BIMLIPATAN, a ſea-port town of Golconda in the Eaſt-Indies, ſeated on the weſt ſide of the bay of Bengal. Here the Dutch have a very ſmall factory, deſigned for buying up the cloth manufactured by the inhabitants. E. Long. 83. 5. N. Lat. 18. 0.

BINACLE, a wooden caſe or box, which contains the compaſſes, log-glaſſes, watch-glaſſes, and lights to ſhow the compaſs at night. As this is called *bittacle* in all the old ſea-books, even by mariners, it appears evidently to be derived from the French term *habitacle* (a ſmall habitation), which is now uſed for the ſame purpoſe by the ſeamen of that nation. The binacle (Plate XCV. fig. 4.) is furniſhed with three apartments, with ſliding ſhutters: the two ſide ones, *a b*, have always a compaſs in each *d*, to direct the ſhip's way; while the middle diviſion *c*, has a lamp or candle with a pane of glaſs on either ſide to throw a light upon the compaſs in the night, whereby the man who ſteers may obſerve it in the darkeſt weather, as it ſtands immediately before the helm on the quarter deck. There are always two binacles on the deck of a ſhip of war, one being deſigned for the man who ſteers, and the other for the perſon who ſuperintends the ſteerage, whoſe office is called *conning*.

BINAROS, a ſmall town of Spain, in the kingdom of Valentia, remarkable for good wine. It is ſeated near the ſea, in E. Long. 0. 15. N. Lat. 40. 24.

BINARY ARITHMETIC, that wherein unity or 1 and 0 are only uſed. This was the invention of M. Leibnitz, who ſhows it to be very expeditious in diſcovering the properties of numbers, and in conſtructing tables: and Mr Dangecourt, in the hiſtory of the royal academy of ſciences, give a ſpecimen of it concerning arithmetical progreſſionals; where he ſhows, that becauſe in binary arithmetic only two characters are uſed, therefore the laws of progreſſion may be more eaſily diſcovered by it than by common arithmetic. All the characters uſed in binary arithmetic are 0 and 1; and the cypher multiplies every thing by 2, as in the common arithmetic by 10. Thus 1 is one; 10, two; 11, three; 100, four; 101, five; 110, ſix; 111, ſeven; 1000, eight; 1001, nine; 1010, ten; which is built on the ſame principles with common arithmetic. Hence immediately appears the reaſon of the celebrated property of the duplicate geometrical proportion in whole numbers; *viz.* that one number of each degree being had, we may thence compoſe all the other whole numbers above the double of the higheſt degree. It being here, v. gr. as if one ſhould ſay, 111 is the ſum of 4, 2, and 1, which property may ſerve eſſayers to weigh all kinds of maſſes with a little weight; and may be uſed in coins, to give ſeveral values with ſmall pieces. This method of expreſſing numbers once eſtabliſhed, all the operations will be eaſy: in multiplication particularly, there will be no need for a table, or getting any thing by heart. The author, however, does not recommend this method for common uſe, becauſe of the great number of figures required to expreſs a number; adding, that if the common progreſſion were from 12 to 12, or from 16 to 16, it would be ſtill more expeditious; but its uſe is in diſcovering the properties of numbers, in conſtructing tables, &c. What makes the binary arithmetic the more remarkable is, that it appears to have been the ſame with that uſed 4000 years ago among the Chineſe, and left in *ænigma* by Fohi, the founder of their empire, as well as of their ſciences.

100	4
10	2
1	1
111	7

BINARY Meaſure, in muſic, is a meaſure which is beaten equally, or where the time of riſing is equal to that of falling. This is uſually called *common time*.

BINARY Number, that compoſed of two units.

BINCH, a ſmall fortified town of the Low Countries, in the county of Hainault, ſubject to the houſe of Auſtria. E. Long. 3. 21. N. Lat. 50. 23.

BIND, a country word for a ſtalk of hops.

BIND of Eels, a quantity, conſiſting of 250, or 10 ſtrikes, each containing 25 eels.

BIND-WEED, in botany. See CONVOLVULUS.

BINDBROKE, a town of Lincolnſhire in England, ſeated in E. Long. 0. 10. N. Lat 53. 32.

BINDING-JOISTS, in architecture, are thoſe joiſts in a floor, into which the trimmers of ſtair-caſes, or well-holes of the ſtairs, and chimney-ways, are framed: they ought to be ſtronger than common joiſts.

BINDING, in the art of defence, a method of ſecuring or croſſing the adverſary's ſword with a preſſure, accompanied with a ſpring from the wriſt. See BEATING.

Unleſs a man, by ſome kind of croſs, ſecure, as it were, or render his adverſary's ſword incapable to offend him during the time of his performing a leſſon upon him, it is impoſſible for him to be certain but that he may receive from his adverſary, either a fortuitous *contretemps*, or an exchanged thruſt, before the recovery of his body, or going off after a thruſt.— The great objection made by ſome people, particularly thoſe time-catchers, againſt the frequent uſe of binding, is, that when a man, in performing it, cleaves too much to his adverſary's ſword, he is liable to his adverſary's ſlipping of him, and conſequently of receiving either a plain thruſt, or one from a feint.

BINDING is a term in falconry, which implies tiring, or when a hawk ſeizes.

BINDING of Books. See *Book-Binding*.

BING, in the alum-works, denotes a heap of alum thrown together in order to drain.

BINGAZI, a ſea-port town of Africa, in the kingdom of Tripoli. E. Long. 19. 10. N. Lat. 32. 20.

BINGEN, an ancient and handſome town of Germany, in the archbiſhopric of Mentz, ſeated at the place where the river Nave falls into the Rhine. E. Long. 7. 48. N. Lat. 50. 3.

BINGHAM (Joſeph), a learned divine, born at Wakefield in Yorkſhire, in September 1668, educated at Univerſity college in Oxford, and afterwards preſented by John Radcliffe, M. D. to the rectory of Headbournworthy, near Wincheſter. In this country retirement he began his learned and laborious work, *Origines Eccleſiaſticæ*; or, The Antiquities of the Chriſtian church. The firſt volume of which was publiſhed in 1708, and it was completed afterwards in nine volumes more. He publiſhed alſo ſeveral other books. But notwithſtanding his great learning and merit, he had no other preferment than that of Headbournworthy till the year 1712, when he was collated to the rectory of Havant, near Portſmouth, by Sir Jonathan Trelawney biſhop of Wincheſter, to whom he dedicated ſeveral of his books. He died Auguſt 17th 1723, in the 55th year of his age.

BINGHAM, a town of Nottinghamſhire in England, ſeated in the vale of Belvoir, in W. Long. 1. 10. N. Lat. 50. 3.

BINGIUM, (anc. geog.), a village or town of the Vangiones in Gallicia Belgica, ſeated at the confluence of the Nave and Rhine. Now BINGEN, which ſee.

BINGLEY, a town in the weſt riding of Yorkſhire, ſeated on the river Aire, in W. Long. 1. 35. N. Lat. 53. 20.

BINN, *binna*, a ſort of cheſt or cupboard, wherein to lock up bread, meat, or other proviſions. The word is alſo uſed for a place boarded up to cut corn in.

BINN, or **BIN**. The peaſe and oatmeal, uſed at ſea, are apt to ſpoil in caſks. Dr Hales propoſes to prevent this, by putting them into large binns, with falſe bottoms of hair cloths laid on bars, whereby freſh-air may be blown upwards through them, at proper times, with ſmall ventilators.

BINOCULAR TELESCOPE, a kind of dioptic teleſcope fitted with two tubes, joined in ſuch a manner that one may ſee a diſtant object with both eyes at the ſame time. See OPTICS.

BINOMIAL, in algebra, a root conſiſting of two members connected by the ſign + or —. Thus $a+b$, and 8—3, are binomials, conſiſting of the ſums and differences of theſe quantities. See ALGEBRA.

BINTAN, an iſland of Aſia, in the Eaſt Indies, to the ſouth of the peninſula of Malacca, ſituated in E. Long. 103. 50. N. Lat. 1. 0.

BIOGRAPHER, one who writes the lives of particular perſons, as Plutarch, Suetonius, &c. See the next article.

BIOGRAPHY, a ſpecies of hiſtory which records the lives and characters of remarkable perſons. This is at once the moſt entertaining and inſtructive kind of hiſtory. It admits of all the painting and paſſion of romance; but with this capital difference, that our paſſions are more keenly intereſted, becauſe the characters and incidents are not only agreeable to nature, but ſtrictly true. No books are ſo proper to be put into the hands of young people. See the *Preface* to this WORK: and HISTORY, nº 85.

BION, a bucolic poet, native of Smyrna, lived at the ſame time with Ptolemy Philadelphus, whoſe reign reached from the fourth year of the 123d Olympiad to the ſecond year of the 133d. He was an incomparable poet, if we may believe the lamentations of his diſciple Moſchus. His few pieces which are left do not contradict this teſtimony. See MOSCHUS.

BION, ſirnamed *Boryſthenites*, becauſe he was of Boryſthenes, was a philoſopher of a great deal of wit, but of very little religion: He flouriſhed about the 120th Olympiad; but falling ſick, he, like other prophane perſons, became ſuperſtitious.

BIORNBURG, a town of north Finland in Sweden, ſeated on the river Kune, near its mouth in the Gulph of Bothnia. E. Long. 22. 35. N. Lat. 62. 6.

BIOTHANATI (from βια, *violence*; and θανατος, *death*), in ſome medical writers, denotes thoſe who die a violent death. The word is alſo written and with more propriety, *biathanati*, ſometimes *biæothanti*.

In a more particular ſenſe it denotes thoſe who kill themſelves, more properly called *outothanati*. In this ſenſe it is that the word is uſed both by Greek and Latin writers. By the ancient diſcipline of the church, they were puniſhed by denying them burial, and refuſing all commemoration of them in the prayers and offices of the church.

BIOTHANATI (ſuppoſed by ſome to be derived from βιος, *life*, and θανατος, *death*, and alluding to the belief of a future life after death), was alſo a name of reproach given by the Heathens to the primitive Chriſtians, for their conſtancy and forwardneſs to lay down their lives in martyrdom.

BIOTHANATOS is alſo uſed in ſome writers of the barbarous age for wicked, damnable or accurſed.

BIOUAC, **BIVOUAC**, or **BIOVAC**, in the military art, a nightly guard performed by the whole army, when there is an apprehenſion of danger from the enemy. The word is formed by corruption from the German *weywaght*, a *double watch* or *guard*.

BIPENNIS, a two-edged axe, uſed anciently by the Amazons in fight; as alſo by the ſeamen, to cut aſunder the ropes and cordage of the enemy's veſſels. The bipennis was a weapon chiefly of the oriental nations, made like a double axe, or two axes joined back to back, with a ſhort handle. Modern writers uſually compare it to our halbard or partizan: from which it differed in that it had no point, or that its ſhaft or handle was much ſhorter.

BIQUADRATE, or **BIQUADRATIC**, is the next power above the cube, or the ſquare multiplied by itſelf.

BIQUADRATIC EQUATION, in algebra, an equation raiſed to the fourth power, or where the unknown quantity of one of the terms has four dimenſions: Thus $x^4+ax^3+bx^2+cx+d=0$ is a biquadratic equation. See ALGEBRA.

BIQUADRATIC Parabola, in geometry, a curve line of the third order, having two infinite legs tending the ſame way. See PARABOLA.

BIQUADRATIC Power of any number, is the fourth power or ſquared ſquare of that number: Thus 16 is the biquadratic power of 2; for 2×2=4, and 4×4=16.

BIQUADRATIC Root of any number, is the ſquare root of the ſquare root of that number; Thus the biquadratic root of 81 is 3; for the ſquare root of 81 is 9, and the ſquare root of 9 is three.

BIQUALAR, in the cuſtoms of the Algerines, a cook of the divan.—The janizaries whom the Algerines call *oldachis*, after ſerving a certain term as common

mon ſoldiers, are preferred to be biqualars, or cooks of the divan, which is the firſt ſtep towards arriving at higher preferment. Biqualars have the care of furniſhing the officers and commanders of the Algerine ſoldiery with meat and drink in the camp, in garriſon, &c. From biqualars they are made odobachis; that is, corporals of companies, or commanders of ſquadrons.

BIQUINTILE, an aſpect of the planets when they are 144 degrees diſtant from each other. It is thus called, becauſe they are diſtant from one another by twice the fifth part of 360 degrees.

BIR, or Berr, a town of the province of Diarbeck in Turkey in Aſia, with a caſtle where the governor reſides, ſeated on the eaſtern bank of the river Euphrates, near a high mountain in a very pleaſant and fertile country. E. Long. 38. 6. N. Lat. 36. 10.

BIRAGUE (Clement), a Milaneſe engraver, and the inventor of the art of cutting diamonds, flouriſhed about the year 1580.

BIRCH-tree, in botany. See Betula.

Birch-Bark being bituminous, and conſequently warm and emollient, is uſed in fumigations to correct a diſtempered air. The inner ſilken bark was anciently uſed for writing tables before the invention of paper; though Ray rather aſſigns the office of paper to the cuticle, or outer ſkin, which peels off yearly. And with the outward, thicker, and coarſer part, are houſes in Ruſſia, Poland, and other northern tracts, covered, inſtead of ſlates and tyle. The Indians make pinnaces with white cedar, which they cover with large flakes of birch-bark; ſewing them with thread of ſpruce-roots, and pitching them, as the ancient Britons did, with the willow. Pliny ſpeaks of a bitumen actually procured from the birch-tree.

Fungus of Birch, an excreſcence growing on its trunk. It is aſtringent, and good againſt hemorrhagies. When boiled, beaten, and dried in an oven, it makes excellent ſpunk or touchwood.

Birch-Leaves are of uſe in the dropſy, itch, &c. either internally or externally applied.

Birch-Twigs ſerve to make rods and brooms; ſmeered with bird-lime, they are uſed by by fowlers; to ſay nothing of the ancient faſces carried by lictors.

Birch-Wine is made by fermenting the vernal juice. Formerly it was in great repute againſt all nephritic diſorders. But is left out in the modern London practice. The preparation of birch-wine is well and amply deſcribed in a book entitled *Vinetum Britannicum*.

Birch (Dr Thomas), an eminent hiſtorical and biographical writer, was born in London in 1705. His parents were both of them Quakers; and his father, Joſeph Birch, was a coffee-mill maker by trade. Thomas being put to ſchool, was indefatigable in his application, and ſtole many hours from ſleep to increaſe his ſtock of knowledge. By this unremitting diligence, though he had not the happineſs of an univerſity education he ſoon became qualified to take holy orders in the church of England, to the ſurpriſe of his acquaintance. In 1728 he married the daughter of the Rev. Mr Cox, to whom he was curate: but his felicity was of ſhort duration, Mrs Birch dying of a puerperal fever in leſs than 12 months after their marriage; an event which he deplores in a very elegant and pathetic poem, preſerved in Nichols's Collection. In 1732 he was recommended to the friendſhip and favour of the late lord high chancellor Hardwicke, then attorney-general; to which noble peer, and to the preſent Earl of Hardwicke, he was indebted for all his preferments. The firſt proof he experienced of his patron's regard was the living of Ulting in the county of Eſſex, in the gift of the crown to which he was preſented 1732. In 1734 he was appointed one of the domeſtic chaplains to the unfortunate Earl of Kilmarnock, who was beheaded 1746. Mr Birch was choſen a member of the Royal Society, Feb. 20. 1734-5: and of the Society of Antiquaries, Dec. 11. 1735, of which he afterwards became director till his death. Before this the Mariſchal college of Aberdeen had conferred on him, by diploma, the degree of Maſter of Arts. In 1743, by the intereſt of Lord Hardwicke, he was preſented by the crown to the ſinecure rectory of Landewy Welfrey in the county of Pembroke; and in 1743-4 was preferred, in the ſame manner, to the rectory of Sidington St Peter's, in the county and dioceſe of Glouceſter. We find no traces of his having taken poſſeſſion of this living, and indeed it is probable that he quitted it immediately for one more ſuitable to his inclinations and to his literary engagements, which required his almoſt conſtant reſidence in town; for on the 24th of February 1743-4, he was inſtituted to the united rectories of St Michael Woodſtreet and St Mary Staining; and in 1745-6, to the united rectories of St Margaret Pattens and St Gabriel, Frenchurch-ſtreet (by lord channcellor Hardwicke, in whoſe turn the preſentation then was). In January 1752, he was elected one of the ſecretaries of the Royal Society, in the room of Dr Cromwell Mortimer, deceaſed. In January 1753, the Mariſchal college of Aberdeen created him Doctor of Divinity; and in that year the ſame degree was conferred on him by Archbiſhop Herring. He was one of the the truſtees of the Britiſh Muſeum; for which honour he was probably indebted to the preſent Earl of Hardwicke, as he was for his laſt preferment, the rectory of Depden in Eſſex, to which he was inducted Feb. 26. 1761. In the latter part of his life he was chaplain to the princeſs Amelia. In 1765 he reſigned his office of Secretary to the Royal Society, and was ſucceeded by Dr Morton. His health declining about this time, he was ordered to ride for the recovery of it; but being a bad horſeman, and going out Jan. 9. 1766, he was unfortunately thrown from his horſe, on the road betwixt London and Hampſtead, and died on the ſpot, in the 61ſt year of his age, to the great regret of the Doctor's numerous literary friends; and was buried in St Margaret Pattens. Dr Birch had in his lifetime been very generous to his relations; and none that were nearly allied to him being living at his deceaſe, he bequeathed his library of books and manuſcripts, with his picture painted in 1735, and all his other pictures and prints not otherwiſe diſpoſed of by his will, to the Britiſh Muſeum. He likewiſe left the remainder of his fortune, which amounted to not much more than 500l. to be laid out in government ſecurities, for the purpoſe of applying the intereſt to increaſe the ſtipend of the three aſſiſtant librarians: thus manifeſting at his death, as he had done during his whole life, his reſpect for literature, and his deſire to promote uſeful knowledge. To the Royal Society he bequeathed his picture painted by Wills in 1737, being the original of the mezzotinto print done by Fauber in 1741. His principal publications were, 1. "The General Dictionary, Hiſtorical and Critical;" including a new tranſlation of Mr Bayle, and interſperſed with ſeveral thouſand new lives. Dr Birch's aſſociates in this undertaking were, the Rev. John Peter Bernard, Mr John Lockman, and Mr George Sale. The whole deſign was completed in 10 volumes folio. 2. Dr Cudworth's "Intellectual Syſtem (improved from the Latin edition of Moſheim), his Diſcourſe on the true Notion of the Lord's Supper, and two Sermons, with an Account of his Life and Writings," 2 vols 4to, 1743. 3. "The Life of the Hon. Robert Boyle," 1744; prefixed to an edition of that excellent philoſopher's works, reviſed by Dr Birch. 4. "The Lives of illuſtrious Perſons of Great Britain," annexed to the engravings of Houbraken and Vertue, 1747—1752. 5. "An Inquiry into the Share which King Charles I. had in the Tranſactions of the Earl of Glamorgan," 1747, 8vo. 6. An edition of "Spenſer's Fairy Queen, 1751," 3 vols. 4to. with prints from deſigns by Kent. 7. "The Miſcellaneous Works of Sir Walter Raleigh;" to which was prefixed the Life of that great, unfortunate, injured man, 1751, 2 vols. 8vo. 8. "The Theological, Moral, Dramatic, and Poetical Works of Mrs Catharine Cockburn; with an Account of the Life of that very ingenious Lady," 1751, 2 vols. 8vo. 9. "The Life of the Moſt Reverend Dr John Tillotſon, Lord Archbiſhop of Canterbury. Compiled chiefly from his original Papers and Letters," 1752, 8vo. 10. "Milton's Proſe Works," 1753, 2 vols. 4to; with a new Life of that great poet and writer. 11. "Memoirs of the Reign of Queen Elizabeth, from the year 1581 till her death. In which the ſecret intrigues of her court, and the conduct of her favourite Robert Earl of Eſſex, both at home and abroad, are particularly illuſtrated. From the original papers of his intimate friend Anthony Bacon, Eſq; and other manuſcripts never before publiſhed," 1754, 2 vols. 4to. 12. "The Hiſtory of the Royal Society of London for improving natural knowledge, from its firſt riſe. In which the moſt conſiderable of thoſe papers communicated to the Society, which have hitherto not been publiſhed, are inſerted in their proper order, as a ſupplement to the Philoſophical Tranſactions." 1756 and 1757, 4 vols. 4to. 13. "The Life of Henry Prince of Wales, eldeſt ſon of King James I. Compiled chiefly from his own papers and other manuſcripts never before publiſhed." 1760, 8vo. His numerous communications to the royal ſociety may be ſeen in the Philoſophical Tranſactions; and his poetical talents are evident from the verſes already referred to.

BIRD (William), an eminent muſician and compoſer, was one of the children of the chapel in the reign of Edward VI. and, as it is aſſerted by Wood in the Aſhmolean MS. was bred up under Tallis. It appears, that in 1575 Tallis and Bird were both gentlemen and alſo organiſts of the royal chapel; but the time of their appointment to this latter office cannot now be aſcertained.

The compoſitions of Bird are many and various; thoſe of his younger years were moſtly for the ſervice of the church. He compoſed a work entitled *Sacrarum Cantionum, quinque vocum*, printed in 1589; among which is that noble compoſition *Civitas ſancti tui*, which for many years paſt has been ſung in the church as an anthem to the words "Bow thine ear, O Lord." He was alſo the author of a work entitled *Cradualia, ac Cantiones ſacræ, quinis, quaternis, triniſque vocibus concinnatæ. lib. primus.* Of this there are two editions, the later publiſhed in 1610. Although it appears by theſe his works that Bird was in the ſtricteſt ſenſe a church muſician, he occaſionally gave to the world compoſitions of a ſecular kind: and he ſeems to be the firſt among Engliſh muſicians that ever made an eſſay in the compoſition of that elegant ſpecies of vocal harmony, the madrigal; the *La Verginella* of Arioſto, which he left in that form for five voices, being the moſt antient muſical compoſition of the kind to be met with in the works of Engliſh authors. Of his compoſitions for private entertainment, there are extant, 'Songs of ſundry natures, ſome of gravitie, and others of myrth, fit for all companies and voyces, printed in 1589;' and two other collections of the ſame kind, the laſt of them printed in 1611. But the moſt permanent memorials of Bird's excellencies are his motets and anthems; to which may be added, a fine ſervice in the key of D with a minor third, the firſt compoſition in Dr Boyce's Cathedral Muſic, vol. III. and that well-known canon of his, *Non Nobis Domine*.

Beſids his ſalaries and other emoluments of his profeſſion, it is to be ſuppoſed that Bird derived ſome advantages from the patent granted by Queen Elizabeth to Tallis and him, for the ſole printing of muſic and muſic-paper: Dr Ward ſpeaks of a book which he had ſeen with the letters T. E. for Thomas Eaſt, Eſt, or Eſte, who printed muſic under that patent. Tallis dying in 1585, the patent, by the terms of it, ſurvived to Bird, who, no doubt, for a valuable conſideration permitted Eaſt to exerciſe the right of printing under the protection of it; and he in the title-page of moſt of his publications ſtyles himſelf the *aſſignee of William Byrd*. Bird died in 1623.

BIRD, in zoology. See ZOOLOGY, n° 8; COMPARATIVE-*Anatomy*, chap. ii; and ORNITHOLOGY.

Beam-BIRD, or *Petty-chaps*. See MOTACILLA.

Black-BIRD.	See	TURDUS.
Blue-BIRD.		MOTACLLA.
Call-BIRD.		BIRD-*Catching*, infra.
Canary-BIRD.		FRINGILLA.
Dung-BIRD.		UPUPA.
Humming-BIRD.		TROCHILLUS.
Mocking-BIRD.		TURDUS.
BIRD *of Paradiſe*.		PARADISEA.

BIRD-*Call*, a little ſtick cleft at one end, in which is put a leaf of ſome plant, wherewith to counterfeit the cryer's call of ſeveral birds, and bring them to the net, or ſnare, or lime-twig, to be taken. A laurel-leaf fitted on the bird-call counterfeits the voice of lapwings; a leek that of nightingales, &c.

BIRD-*Catching*, the art of taking birds or wild-fowl, whether for food, for the pleaſure of their ſong, or for their deſtruction, as pernicious to the huſbandman, &c. The methods are by bird-lime, nets, decoys, &c. See BIRD-*Lime*, infra; and Decoy.

In the ſuburbs of London (and particularly about Shoreditch) are ſeveral weavers and other tradeſmen, *Britiſh Zoology*, Vol. II. Append. n° iv. By the Honourable Daines Barrington.

who, during the months of October and March, get their livelihood by an ingenious, and, we may ſay, a ſcientific, method of *bird-catching*, which is totally unknown in other parts of Great Britain. The reaſon of this trade being confined to ſo ſmall a compaſs, ariſes from their being no conſiderable ſale for ſinging-birds except in the metropolis: as the apparatus for this purpoſe is alſo heavy, and at the ſame time muſt be carried on a man's back, it prevents the bird-catchers going to above three or four miles diſtance.

This method of bird-catching muſt have been long practiſed, as it is brought to a moſt ſyſtematical perfection, and it is attended with a very conſiderable expence.

The nets are a moſt ingenious piece of mechaniſm; are generally twelve yards and a half long, and two yards and a half wide; and no one, on bare inſpection, would imagine that a bird (who is ſo very quick in all its motions) could be catched by the nets flapping over each other, till he becomes eye-witneſs of the pullers ſeldom failing.

The wild birds *fly* (as the bird-catchers term it) chiefly during the month of October, and part of September and November; as the flight in March is much leſs conſiderable than that of Michaelmas. It is to be noted alſo, that the ſeveral ſpecies of birds of *flight* do not make their appearance preciſely at the ſame time, during the months of September, October, and November. The pippet (A), for example, begins to fly about Michaelmas; and then the woodlark, linnet, goldfinch, chaffinch, greenfinch, and other birds of flight ſucceed; all of which are not eaſily to be caught, or in any numbers, at any other time, and more particularly the pippet and the woodlark.

Theſe birds, during the Michaelmas and March flights, are chiefly on the wing from day-break to noon, though there is afterwards a ſmall flight from two till night; but this however is ſo inconſiderable, that the bird-catchers always take up their nets at noon.

It may well deſerve the attention of the naturaliſt whence theſe periodical flights of certain birds can ariſe. As the ground, however, is ploughed during the months of October and March for ſowing the winter and lent corn, it ſhould ſeem that they are thus ſupplied with a great profuſion both of ſeeds and inſects, which they cannot ſo eaſily procure at any other ſeaſon.

It may not be improper to mention another circumſtance, to be obſerved during their flitting, *viz.* that they fly always againſt the wind: hence there is great contention amongſt the bird-catchers who ſhall gain that point; if (for example) it is weſterly, the bird-catcher who lays his nets moſt to the eaſt, is ſure almoſt of catching every thing, provided his call-birds are good: a gentle wind to the ſouth-weſt generally produces the beſt ſport.

The bird-catcher, who is a ſubſtantial man, and hath a proper apparatus for this purpoſe, generally carries with him five or ſix linnets, (of which more are caught than any ſinging bird), two gold-finches, two green-finches, one wood-lark, one red-poll, a yellow-hammer, tit-lark, and aberdavine, and perhaps a bull-finch; theſe are placed at ſmall diſtances from the nets in little cages. He hath, beſides, what are called *flur-birds*, which are placed within the nets, are raiſed upon the flur (B) and gently let down at the time the wild bird approaches them. Theſe generally conſiſt of the linnet, the gold-finch, and the green-finch, which are ſecured to the flur by what is called a *brace* (C); a contrivance that ſecures the birds without doing any injury to their plumage.

It having been found that there is a ſuperiority between bird and bird, from the one being more in ſong than the other; the bird-catchers contrive that their call-birds ſhould moult before the uſual time. They therefore, in June or July, put them into a cloſe box under two or three folds of blankets, and leave their dung in the cage to raiſe a greater heat; in which ſtate they continue, being perhaps examined but once a-week to have freſh water. As for food, the air is ſo putrid, that they eat little during the whole ſtate of confinement, which laſts about a month. The birds frequently die under the operation; and hence the value of a ſtopped bird riſes greatly. When the bird hath thus prematurely moulted, he is in ſong whilſt the wild birds are out of ſong, and his note is louder and more piercing than that of a wild one; but it is not only in his note he receives an alteration, the plumage is equally improved. The black and yellow in the wings of the gold-finch, for example, become deeper and more vivid, together with a moſt beautiful gloſs, which is not to be ſeen in the wild bird. The bill, which in the latter is likewiſe black at the end, in the ſtopped-bird becomes white and more taper, as do its legs: in ſhort, there is as much difference between a wild and a ſtopped-bird, as there is between a horſe which is kept in body-clothes and one at graſs.

When the bird-catcher hath laid his nets, he diſpoſes of his call-birds at proper intervals. It muſt be owned, that there is a moſt malicious joy in theſe call-birds to bring the wild ones into the ſame ſtate of captivity; which may likewiſe be obſerved with regard to the decoy-ducks. See DECOY.

Their ſight and hearing infinitely excells that of the bird-catcher. The inſtant that the (D) wild birds are perceived, notice is given by one to the reſt of the call-birds, (as it is by the firſt hound that hits on the ſcent to the reſt of the pack); after which, follows the ſame ſort of tumultuous ecſtacy and joy. The call-birds, while

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(A) A ſmall ſpecies of lark, but which is inferior to the other birds of that genus in point of ſong.

(B) A moveable perch to which the bird is tied, and which the bird-catcher can raiſe at pleaſure by means of a long ſtring faſtened to it.

(C) A ſort of bandage, formed of a ſlender ſilken ſtring that is faſtened round the bird's body, and under the wings, in ſo artful a manner as to hinder the bird from being hurt, let it flutter ever ſo much in the raiſing.

(D) It may be alſo obſerved, that the moment they ſee a hawk, they communicate the alarm to each other by a plantive note; nor will they then jerk or call though the wild birds are near.

while the bird is at a diſtance, do not ſing as a bird does in a chamber; they invite the wild ones by what the bird-catchers call *ſhort-jerks*, which, when the birds are good, may be heard at a great diſtance. The aſcendency by this call or invitation is ſo great, that the wild bird is ſtopped in its courſe of flight; and, if not already acquainted with the nets (E), lights boldly within 20 yards of perhaps three or four bird-catchers, on a ſpot which otherwiſe it would not have taken the leaſt notice of. Nay, it frequently happens, that if half a flock only are caught, the remaining half will immediately afterwards light in the nets, and ſhare the ſame fate; and ſhould only one bird eſcape, that bird will ſuffer itſelf to be pulled at till it is caught; ſuch a faſcinating power have the call-birds.

While we are on this ſubject of the jerking of birds we cannot omit mentioning, that the bird-catchers frequently lay conſiderable wagers whoſe call-bird can jerk the longeſt, as that determines the ſuperiority. They place them oppoſite to each other, by an inch of candle; and the bird who jerks the ofteneſt, before the candle is burnt out, wins the wager. We have been informed, that there have been inſtances of a bird's giving 170 jerks in a quarter of an hour; and we have known a linnet, in ſuch a trial, perſevere in its emulation till it ſwooned from the perch: thus, as Pliny ſays of the nightingale, *victa morte finit ſæpe vitam, ſpiritu prius deficiente quam cantu*†. It may be here obſerved, that birds when near each other, and in ſight, ſeldom jerk or ſing. They either fight, or uſe ſhort and wheedling calls; the jerking of theſe call-birds, therefore, face to face, is a moſt extraordinary inſtance of contention for ſuperiority in ſong.

† *Lib.* x. c. 29.

To theſe we may add a few particulars that fell within our notice during our inquiries among the bird-catchers; ſuch as, that they immediately kill the hens of every ſpecies of birds they take, being incapable of ſinging, as alſo being inferior in plumage; the pippets likewiſe are indiſcriminately deſtroyed, as the cock does not ſing well: they ſell the dead birds for threepence or fourpence a dozen. Theſe ſmall birds are ſo good, that we are ſurpriſed the luxury of the age neglects ſo delicate an acquiſition to the table. The modern Italians are fond of ſmall birds, which they eat under the common name of *beccaficos*: and the dear rate a Roman tragedian paid for one diſh of ſinging birds is well known; (ſee the article ÆSOP).

Another particular we learned, in converſation with a London bird-catcher, was the vaſt price that is ſometimes given for a ſingle ſong-bird, which had not learned to whiſtle tunes. The greateſt ſum we heard of, was five guines for a chaffinch, that had a particular and uncommon note, under which it was intended to train others: and we alſo heard of five pounds ten ſhillings being given for a call-bird linnet.

A third ſingular circumſtance, which confirms an obſervation of Linnæus, is, that the male chaffinches fly by themſelves, and in the flight precede the females; but this is not peculiar to the chaffinches. When the tit-larks are caught in the beginning of the ſeaſon, it frequently happens, that forty are taken and not one female among them: and probably the ſame would be obſerved with regard to other birds (as has been done with relation to the wheat-ear), if they were attended to. An experienced and intelligent bird-catcher informed us, that ſuch birds as breed twice a year, generally have in their firſt brood a majority of males, and in their ſecond, of females, which may in part account for the above obſervation.

We muſt not omit mention of the bullfinch, though it does not properly come under the title of a ſinging-bird, or a bird of flight, as it does not often move farther than from hedge to hedge; yet as the bird ſells well on account of its learning to whiſtle tunes, and ſometimes flies over the fields where the nets are laid, the bird-catchers have often a call-bird to enſnare it, though moſt of them can imitate the call with their mouths. It is remarkable with regard to this bird, that the female anſwers the purpoſe of a call-bird as well as the male, which is not experienced in any other bird taken by the London bird-catchers.

The nightingale is not a bird of flight, in the ſenſe the bird-catchers uſe this term. Like the robin, wren, and many other ſinging birds, it only moves from hedge to hedge, and does not take the periodical flights in October and March. The perſons who catch theſe birds, make uſe of ſmall trap-nets, without call-birds; and are conſidered as inferior in dignity to other bird-catchers who will not rank with them. The arrival of the nightingale is expected by the trappers in the neighbourhood of London, the firſt week in April: at the beginning, none but cocks are taken; but in a few days the hens make their appearance, generally by themſelves, though ſometimes a few males come along with them. The latter are diſtinguiſhed from the females not only by their ſuperior ſize, but by a great ſwelling of their vent, which commences on the firſt arrival of the hens. They are caught in a net-trap, the bottom of which is ſurrounded with an iron ring; the net itſelf is rather larger than a cabbage net. When the trappers hear or ſee them, they ſtrew ſome freſh mould under the place, and beat the trap with a meal-worm from the baker's ſhop. Ten or a dozen nightingales have been thus caught in a day.

The common way of taking larks, of which ſo many are uſed at the tables (ſee ALAUDA), is in the night, with thoſe nets which are called *trammels*. Theſe are uſually made of 36 yards in length, and about ſix yards over, with ſix ribs of pack-thread, which at the ends are put upon two poles of about 16 feet long, and made leſſer at each end. Theſe are to be drawn over the ground by two men, and every five or ſix ſteps the net is made to touch the ground, otherwiſe it will paſs over the birds without touching them, and they will eſcape. When they are felt to fly up againſt the net, it is clapped down, and then all are ſafe that are under it. The darkeſt nights are propereſt for this ſport; and the net will not only take larks, but all other birds that rooſt on the ground; among which are woodcocks, ſnipes, partridge, quails, field-fares, and ſeveral others. In the depth of winter people ſometimes take great numbers of larks by nooſes of horſe-hair. The method

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(E) A bird, acquainted with the nets, is by the bird-catchers termed a *ſharper*; which they endeavour to drive away, as they can have no ſport whilſt it continues near them.

is this: Take 100 or 200 yards of packthread; faſten at every ſix inches a nooſe made of double horſe-hair; at every 20 yards the line is to be pegged down to the ground, and ſo left ready to take them. The time to uſe this is when the ground is covered with ſnow, and the larks are to be allured to it by ſome white oats ſcattered all the way among the nooſes. They muſt be taken away as ſoon as three or four are hung, otherwiſe the reſt will be frighted; but though the others are ſcared away juſt where the ſportſman comes, they will be feeding at the other end of the line, and the ſport may be thus continued for a long time—Thoſe caught in the day are taken in clap-nets of fifteen yards length, and two and a half in breadth; and are enticed within their reach by means of bits of looking-glaſs, fixed in a piece of wood, and placed in the middle of the nets, which are put in a quick whirling motion by a ſtring the larker commands; he alſo makes uſe of a decoy lark. Theſe nets are uſed only till the 14th November: for the larks will not *dare*, or frolic in the air, except in fine ſunny weather; and of courſe cannot be inveigled into the ſnare. When the weather grows gloomy, the larker changes his engine, and makes uſe of a trammel net, twenty ſeven or twenty-eight feet long, and five broad; which is put on two poles, eighteen feet long, and carried by men under each arm, who paſs over the fields and quarter the ground as a ſetting dog: when they hear or feel a lark hit the net, they drop it down, and ſo the birds are taken.

Multitudes of the inhabitants of each cluſter of the Orkney Iſles feed during the ſeaſon on the eggs of the birds of the cliffs. The method of taking them is ſo very hazardous, as to ſatisfy one of the extremity to which the poor people are driven for want of food. Copinſha, Hunda, Hoy, Foula, and Noſs-head, are the moſt celebrated rocks; and the neighbouring natives the moſt expert climbers and adventurers after the game of the precipice. The height of ſome is above fifty fathoms; their faces roughened with ſhelves or ledges ſufficient only for the birds to reſt and lay their eggs. To theſe the dauntleſs fowlers will aſcend, paſs intrepidly from the one to the other, collect the eggs and birds, and deſcend with the ſame indifference. In moſt places the attempt is made from above: they are lowered from the ſlope contiguous to the brink, by a rope, ſometimes made of ſtraw, ſometimes of the briſtles of the hog: they prefer the laſt even to ropes of hemp, as it is not liable to be cut by the ſharpneſs of the rocks; the former is apt to untwiſt. They truſt themſelves to a ſingle aſſiſtant, who lets his companion down, and holds the rope, depending on his ſtrength alone; which often fails, and the adventurer is ſure to be daſhed to pieces, or drowned in the ſubjacent ſea. The rope is often ſhifted from place to place, with the impending weight of the fowler and his booty. The perſon above receives ſignals for the purpoſe, his aſſociate being far out of ſight; who, during the operation, by help of a ſtaff, ſprings from the face of the rocks, to avoid injury from the projecting parts.

But the moſt ſingular ſpecies of bird-catching is on the holm of Noſs, a vaſt rock ſevered from the iſle of Noſs by ſome unknown convulſion, and only about ſixteen fathoms diſtant. It is of the ſame ſtupendous height as the oppoſite precipice, with a raging ſea between; ſo that the intervening chaſm is of matchleſs horror. Some adventurous climber has reached the rock in a boat, gained the height, and faſtened ſeveral ſtakes on the ſmall portion of earth which is to be found on the top; correſpondent ſtakes are placed on the edge of the correſpondent cliffs. A rope is fixed to the ſtakes on both ſides, along which a machine, called a craddle, is contrived to ſlide; and, by the help of a ſmall parallel chord faſtened in like manner, the adventurer wafts himſelf over, and returns with his booty.

The manner of bird-catching (ſee Pl. XCVII. fig. 7.) in the Feroe iſlands is ſo very ſtrange and hazardous, that the deſcription ſhould by no means be omitted. Neceſſity compels mankind to wonderful attempts. The cliffs which contain the objects of their ſearch are often two hundred fathoms in height, and are attempted from above and below. In the firſt caſe, the fowlers provide themſelves with a rope 80 or 100 fathoms in length. The fowler faſtens one end about his waiſt and between his legs, recommends himſelf to the protection of the Almighty, and is lowered down by ſix others, who place a piece of timber on the margin of the rock, to preſerve the rope from wearing againſt the ſharp edge. They have beſides a ſmall line faſtened to the body of the adventurer, by which he gives ſignals that they may lower or raiſe him, or ſhift him from place to place. The laſt operation is attended with great danger, by the looſening of the ſtones, which often fall on his head, and would infallibly deſtroy him, was it not protected by a ſtrong thick cap; but even that is found unequal to ſave him againſt the weight of the larger fragments of rock. The dexterity of the fowlers is amazing; they will place their feet againſt the front of the precipice, and dart themſelves ſome fathoms from it, with a cool eye ſurvey the places where the birds neſtle, and again ſhoot into their haunts. In ſome places the birds lodge in deep receſſes. The fowler will alight there, diſengage himſelf from the rope, fix it to a ſtone, and at his leiſure collect the booty, faſten it to his girdle, and reſume his pendulous ſeat. At times he will again ſpring from the rock, and in that attitude, with a fowling-net placed at the end of a ſtaff, catch the old birds which are flying to and from their retreats. When he hath finiſhed his dreadful employ, he gives a ſignal to his friends above, who pull him up, and ſhare the hard-earned profit. The feathers are preſerved for exportation: the fleſh is partly eaten freſh, but the greater portion dried for winter's proviſion.

The fowling from below has its ſhare of danger. The party goes on the expedition in a boat; and when it has attained the baſe of the precipice, one of the moſt daring, having faſtened a rope about his waiſt, and furniſhed himſelf with a long pole with an iron hook at one end, either climbs or is thruſt up by his companions, who place a pole under his breech, to the next footing ſpot he can reach. He, by means of the rope, brings up one of the boat's crew: the reſt are drawn up in the ſame manner, and each is furniſhed with his rope and fowling-ſtaff. They can continue their progreſs upwards in the ſame manner, till they arrive at the region of birds; and wander about the face of the cliff in ſearch of them. They then act in pairs;

one faſtens himſelf to the end of his aſſociate's rope, and, in places where birds have neſtled beneath his footing, he permits himſelf to be lowered down, depending for his ſecurity on the ſtrength of his companion, who has to haul him up again; but it ſometimes happens that the perſon above is overpowered by the weight, and both inevitably periſh. They fling the fowl into the boat, which attends their motions, and receives the booty. They often paſs ſeven or eight days in this tremendous employ, and lodge in the crannies which they find in the face of the precipice.

Pl. XCVII. fig. 8.

In ſome remote parts of Ruſſia there is practiſed a ſingular invention for taking great quantities of gelinottes or grous. They chooſe the moſt open places in the birch woods; and there they plant long forks in the earth oppoſite the larger trees. On theſe forks is laid a horizontal ſtick, gallows-wiſe, to which are tied ſmall bundles of ears of corn. At a ſmall diſtance from this part of the contrivance, is a kind of large funnel or inverted cone, made with long birch twigs, thin and flexible, the lower extremities of which are ſtuck in the earth, very near to one another; but by ſpreading towards the top, forms there an opening of above a yard in diameter. In this opening is placed a wheel made of two circles that interſect each other, and are ſurrounded with ſtraw and ears of corn. This wheel turns on an axis faſtened to the ſides of the funnel in ſuch a manner, that there is room enough between the ſticks of the cone and the circles to admit of the wheel's turning freely about. The birds firſt perch upon the tranſverſe ſtick near the tree; and when they have a mind to fall upon the corn tied to the wheel, they muſt neceſſarily ſtand upon one of the projecting parts of the circles of which it is compoſed. At that inſtant the wheel turns, and the gelinotte falls, head foremoſt, to the bottom of the trap, which is there ſo contracted that he cannot get out. They ſometimes find the machine half full of gelinottes.

The following method of netting or catching of wild pigeons is eagerly purſued as a diverſion in different parts of Italy, particularly by the inhabitants of Cava in the Hither Principato, and is thus deſcribed by Mr Swinburne. The people "aſſemble in parties; and if any ſtranger chances to ſtray to their rendezvous, give him a moſt cordial welcome. I am not in the leaſt ſurpriſed (ſays Mr Swinburne) at their paſſionate fondneſs for this ſport, as I found it extremely bewitching, keeping the attention conſtantly alive, and the ſprings of the mind pleaſingly agitated by expectation; the ſituations where the toils are ſpread are incomparably beautiful, the air is pure and balſamic, and every thing around breaths health and ſatisfaction. When the periodical flights of ſtock-doves return from the northern and weſtern parts of Europe to gain warmer regions for their winter abode, the fowler repairs to the mountain and ſpreads his nets acroſs the intermediate hollows, the paſſes through which the birds direct their courſe, to avoid unneceſſary elevation in their flight. Theſe nets are hung upon a row of large trees planted for the purpoſe. The branches being very thick and cloſe at top, and the bole lofty and bare, a great opening is left below for the toils, which reach to the ground; and by means of pulleys, fall in a heap with the leaſt effort. Sometimes they are extended upon poles that exceed the height of the trees. At a ſmall diſtance is a lofty circular turret, like a column with a little capital or cap, upon which a man is ſtationed to watch the approach of the game. As he commands a free view over all the country, and practice has made his ſight as acute as that of the lynx, he deſcries the birds at a wonderful diſtance. The doves advance with great velocity; but the alert watchman is prepared for them; and juſt as they approach his poſt, hurls a ſtone above them with a ſling: upon this the whole flock, whoſe fears have birds of prey for their great object, ſuppoſing the ſtone to be an enemy of that kind ready to pounce them, dart down like lightning to avoid the blow by paſſing under the trees; but there they ruſh into the jaws of death, by daſhing againſt the net, which inſtantly drops and ſo entangles them that not one of them can eſcape the active hands of the fowler. Theſe birds are ſometimes taken by dozens at one fall, and are accounted fine eating. The dexterity with which the ſlingers manage their weapon is very remarkable; they throw the ſtone to a great height without any violent effort, and even without whirling the ſling round before they diſcharge the pellet. In the Pyrenean mountains, where the ſame diverſion is followed, the watchmen uſe a bow and arrow, trimmed with the feathers of a hawk."

The following ſimple but ingenious method of catching aquatic birds is uſed in Mexico by the natives. The lakes of the Mexican vale, as well as others of the kingdom, are frequented by a prodigious multitude of ducks, geeſe, and other water-birds. The Mexicans leave ſome empty gourds to float upon the water, where thoſe birds reſort, that they may be accuſtomed to ſee and approach them without fear. The bird-catcher goes into the water ſo deep as to hide his body, and covers his head with a gourd: the ducks come to peck at it; and then he pulls them by the feet under water, and in this manner ſecures as many as he pleaſes.

Bird-Lime, a viſcid ſubſtance, prepared after different ways. The moſt common bird-lime is made from holly-bark, boiled ten or twelve hours; when the green coat being ſeparated from the other, it is covered up a fortnight in a moiſt place; then pounded into a tough paſte, ſo that no fibres of the wood are diſcernible, and waſhed in a running ſtream till no motes appear; put up to ferment four or five days, ſkimmed as often as any thing ariſes, and laid up for uſe. To uſe it, a third part of nut-oil, or thin greaſe, muſt be incorporated with it over the fire.

The juice of holly-bark is a very peculiar ſubſtance. But if trials were made, it ſeems probable, that many other juices would be found to have the ſame clammy nature. The miſletoe affords a juice, even ſuperior to that of the holly; and if a young ſhoot of the common alder be cut through, there will a ſtringy juice draw out in threads, and follow the knife like bird-lime or the juice of the holly. It ſeems in this tree to be lodged, not in the bark, but in certain veins juſt within the circle of the wood. The roots of all the hyacinths alſo afford a tough and ſtringy juice of the ſame kind; and ſo does the aſphodel, the narciſſus, and the black bryony root, in a ſurpriſing quantity.

When twigs, &c. ſmeared with bird-lime, are to be put in places ſubject to wet, the common bird-lime is apt to have its force ſoon taken away. It is neceſſary, therefore, to have recourſe to a particular ſort, which from its property of bearing water unhurt, is called *water bird-lime;* and is prepared thus: Take a pound of ſtrong and good bird-lime; waſh it thoroughly in ſpring-water, till the hardneſs is all removed; and then beat it well, that the water may be clean ſeparated, ſo as not a drop remains; then dry it well, and put it into an earthen pot; add to it as much capon's greaſe as will make it run. Then add two ſpoonfuls of ſtrong vinegar, one ſpoonful of oil, and a ſmall quantity of Venice turpentine. Let the whole boil for ſome minutes over a moderate fire, ſtirring it all the time. Then take it off; and when there is occaſion to uſe it, warm it, and cover the ſticks well with it. This is the beſt ſort of bird-lime for ſnipes and other birds that love wet places.

The moſt ſucceſsful method of uſing the common bird-lime is this: Cut down the main branch or bough of any buſhy tree whoſe twigs are thick, ſtraight, long, and ſmooth, and have neither knots nor prickles. The willow and the birch-tree afford the beſt of this kind. Let all the ſuperfluous ſhoots be trimmed off, and the twigs all made neat and clean; they muſt all be well covered with the bird-lime, within four inches of the bottom; but the main bough from which they grow, muſt not be touched with the lime. No part of the bark, where the lime ſhould come, muſt be left bare: but it is a nice matter to lay it on properly; for if it be too thick it will give the birds a diſtaſte, and they will not come near it; and if there be too little of it, it will not hold them when they are there. When the buſh is thus prepared, it muſt be ſet up in ſome dead hedge, or among ſome growing buſhes near the outſkirts of a town, a farmer's back-yard, or the like, if it be in the ſpring; for theſe places are the reſort of the ſmall birds at that time. If it be uſed in ſummer, the buſh muſt be placed in the midſt of a quick-ſet hedge, or in groves, buſhes, or white-thorn trees, near fields of corn, hemp, flax, and the like; and in the winter, the proper places are about ſtacks of corn, hovels, barns, and the like. When the lime-buſh is thus planted, the ſportſman muſt ſtand as near it as he can, without being diſcovered; and with the mouth, or otherwiſe, make ſuch ſort of notes as the birds do when they attack or call to one another. There are bird-calls to be bought for this uſe; but the moſt expert method is to learn the notes of call of the ſeveral birds, and imitate them by a ſort of whiſtling. When one bird is thus enticed to the buſh, and hung faſt, the buſineſs of the ſportſman is not to run up to take it, but to be patient: for it will hang itſelf more faſt, by its ſtruggling to get away; and its fluttering will bring more to the buſh, ſo that ſeveral may be taken together. The time of the day for this ſport is from ſun-riſe to ten o'clock, and from one to ſun-ſet. Another very good method of bringing the birds together, is by a ſtale: a bat makes a very good ſtale: but it muſt be faſtened, ſo as to be in ſight at a diſtance. An owl is a ſtill better ſtale; for this bird never goes abroad but it is followed by all the ſmall birds in the neighbourhood. They will gather together in great numbers about it; and having no convenient place to ſit on but the lime-buſh, will be taken in great numbers. If a living owl or bat is not to be had, the ſkin ſtuffed will ſerve the purpoſe, and will laſt twenty years. Some have uſed the image of an owl carved in wood, and painted in the natural colours; and it has been found to ſucceed very well.

Divination by BIRDS.	See	AUGURY.
Migration of BIRDS.		MIGRATION.
Nidification of BIRDS.		ORNITHOLOGY.

Singing BIRDS are, the nightingale, blackbird, ſtarling, thruſh, linnet, lark, throſtle, Canary-bird, bulfinch, goldfinch, &c. See ſome very curious experiments and obſervations on the ſinging of birds, Phil. Tranſ. vol. lxiii. part ii. N° 31. Their firſt ſound is called *chirp*, which is a ſingle ſound repeated at ſhort intervals; the next *call*, which is a repetition of one and the ſame note; and the third ſound is called *recording*, which a young bird continues to do for ten or eleven months, till he is able to execute every part of his ſong; and when he is perfect in his leſſon, he is ſaid to *ſing his ſong round*. Their notes are no more innate than language in man; they all ſing in the ſame key. The honourable author Daines Barrington has there attempted to reduce their comparative merits to a ſcale: and to explain how they firſt came to have particular notes. See SONG *of Birds*.

Methods of preſerving BIRDS *from putrefaction, and ſo as to retain their natural form and poſition, as well as the beauty of their colours and plumage*—A good antiſeptic for animal ſubſtances has been much inquired after; as for want of it, many curious animals, and birds particularly, come to our hands in a very imperfect ſtate; ſome from foreign parts entirely miſcarry, and others of the fineſt plumage are devoured by inſects. Various methods of preſervation, therefore, have been of late deſcribed*; but the following improved methods by Dr Lettſom† ſeem to be the leaſt troubleſome and the moſt complete.

"After opening the bird by a longitudinal inciſion from the breaſt to the vent; diſſecting the fleſhy parts from the bones; and removing the entrails, eyes, brains (F), and tongue: the cavities and inſide of the ſkin are to be ſprinkled with the powders mentioned below: the eyes (G) are then to be inſerted, and the head ſtuffed with cotton or tow: in the next place, a wire is to be paſſed down the throat through one of the noſtrils, and fixed into the breaſt-bone: wires are alſo to be introduced through the feet, up the legs and things, and inſerted into the ſame bone: next, fill the body with cotton to its natural ſize, and ſew the ſkin over it: the attitude is laſtly to be attended to; and in whatever poſition the ſubject is placed to dry, that ſame poſition will be retained afterwards.

* See *Phil. Tranſ.* for 1770, p. 185, 302.

† *Naturaliſt's and Traveller's Companion.* p. 12. et ſeq.

(F) In large birds, the brains may be extracted by the eyes; the beſt inſtrument for this purpoſe is a director uſed by ſurgeons, which may be had of an inſtrument-maker at a trifling expence.

(G) Wax (uſed by ſome) is not a proper ſubſtance for eyes; there are perſons in London, whoſe buſineſs is to make glaſs-eyes of any ſize or colour, at a penny or two-pence a pair.

"The drying compound is as follows:

Corroſive ſublimate, - -	$\frac{1}{4}$ lb.
Saltpetre prepared or burnt, -	$\frac{1}{2}$ lb.
Alum burnt, - -	$\frac{1}{4}$ lb.
Flower of ſulphur, - -	$\frac{1}{2}$ lb.
Camphor, - - -	$\frac{1}{4}$ lb.
Black pepper, - -	1 lb.
Tobacco ground coarſe, -	1 lb.

Mix the whole together, and keep it in a glaſs veſſel ſtopped cloſe.

"Small birds may be preſerved in brandy, rum, arrack, or firſt runnings; though in this manner the colour of the plumage is liable to be extracted by the ſpirit.

"Large ſea-fowl have thick ſtrong ſkins, and ſuch may be ſkinned; the tail, claws, head, and feet, are carefully to be preſerved, and the plumage ſtained as little as poſſible with blood. The inſide of the ſkin may be ſtuffed as recommended above.

"Kuckahn obſerves†, that 'baking is not only 'uſeful in freſh preſervations, but will alſo be of very 'great ſervice to old ones, deſtroying the eggs of in'ſects; and it ſhould be a conſtant practice once in 'two or three years to bake them over again, and to 'have the caſes freſh waſhed with camphorated ſpirit, 'or the ſublimate ſolution, which would not only pre'ſerve collections from decay much longer, but alſo 'keep them ſweet.'

† Phil. Tranſ. Vol. LX. p. 319.

"One of the beſt preſervatives, is to procure cloſe boxes, well glazed: with ſuch a precaution I have kept them in a dry room many years without the leaſt appearance of injury.—Baking is apt to crimp and injure the plumage, unleſs great care be uſed; and therefore the proper degree of heat ſhould be aſcertained by means of a feather, before ſuch ſubjects are baked.

"When the ſubject is to be kept for ſometime in a hot climate, it ſhould be ſecured in a box filled with tow, oakum, or tobacco, well ſprinkled with the ſublimate ſolution."

In Guiana, the number and variety of beautiful birds is ſo great, that ſeveral perſons in the colony advantageouſly employ themſelves, with their ſlaves and dependants, in killing and preſerving theſe animals for the cabinets of naturaliſts in different parts of Europe. The method of doing this, as related by Mr Bancroft*, is, "to put the bird which is to be preſerved in a proper veſſel, and cover him with high wines, or the firſt running of the diſtillation of rum. In this ſpirit he is ſuffered to remain for 25 or 48 hours, or longer, according to his ſize, till it has penetrated through every part of his body. When this is done, the bird is taken out; and his feathers, which are no ways changed by this immerſion, are placed ſmooth and regular. It is then put into a machine, made for the purpoſe, among a number of others, and its head, feet, wings, tail, &c. are placed exactly agreeable to life. In this poſition they are all placed in an oven, very moderately heated, where they are ſlowly dried; and will ever after retain their natural poſition, without danger of putrefaction."

* Natural Hiſtory of Guiana.

Mr Edwards's Recipe for making Pictures of BIRDS, *with their natural feathers*†. Firſt, take a thin board, or pannel of deal, or wainſcot well-ſeaſoned, that it may not ſhrink; then ſmoothly paſte on it white paper, and let it dry; and if the wood caſts its colour through, you may paſte on a ſecond paper, and it will be whiter: let the ſecond paper dry; then get ready any bird that you would repreſent, and draw it as exactly as may be on your papered pannel, of its natural ſize (middle-ſized birds are beſt for this work): then paint what ground-work, or tree, or other thing, you deſign to ſet your bird on, together with the bill and legs of the bird in water colours, leaving the bird to be covered with its own natural feathers. You muſt firſt prepare the part to be feathered, by laying on pretty thick gum Arabic, diſſolved in water, with a large hair-pencil: then lay the pannel flat, and let it dry hard, and when dry, cover it with your gum-water a ſecond time, and let it dry; and then a third, in caſe you do not find it lie with a good body on the paper; the thickneſs of a ſhilling, when dried hard, is ſufficient. When your piece is thus prepared, take the feathers off from your bird as you uſe them; beginning always at the tail and points of the wing, and working upwards to the head; obſerving to cover that part of your draught with the feather that you take from the ſame part in your bird, letting them fall one over another in their natural order; you muſt prepare your feathers by cutting off the downy part that is about their bottoms; and the larger feathers muſt have the inſides of their ſhafts ſhaved off with a knife to make them lie flat; the quills of the wings muſt have their inner webs clipped off, that in laying them the gum may hold them by their ſhafts. When you begin to lay them, take a pair of ſteel pliers to hold the feathers in; and have ſome gum-water, not too thin, and a large pencil, ready to moiſten the gummed ground-work by little and little as you work it: then lay your feathers on the moiſtened parts; which muſt not be wateriſh, but ſomething tacky or clammy to hold the feathers. You ſhould prepare a parcel of ſmall leaden weights, in the form of ſugar-loaves; which you may caſt in ſand, by firſt making holes in its ſurface with a pointed ſtick: theſe weights will be neceſſary to ſet on the feathers you have newly laid on, to hold them to the gum till they are dry and fixed: but you muſt be cautious leſt the gum come through the feathers; for it not only ſmears them, but dries to the bottoms of the weights, and you will be apt to pull off the feathers with the weights, which will diſorder your work: when you have wholly covered your bird with feathers, you muſt with a little thick gum ſtick on a piece of paper cut round, of the bigneſs and in the place of the eye, which you muſt colour like the eye of the bird. When the whole is dry, dreſs the feathers round the outline that may chance to ſtare a little, and rectify what may be mended in any other part: then lay a ſheet of clean paper on it; and on that a heavy book, or ſome ſuch thing, to preſs it: after which it may be preſerved in a frame covered with a glaſs.

† Nat. Hiſt. of Birds, Vol. II. p. 119, &c.

BIRDS, in heraldy, according to their ſeveral kinds, repreſent either the contemplative or active life. They are the emblems of liberty, expedition, readineſs, ſwiftneſs, and fear. They are more honourable bearings than fiſhes, becauſe they participate more of air and fire, the two nobleſt and higheſt elements, than of earth and water.—Birds muſt be borne in coat-armour, as is beſt fitting the propriety of their natural actions of going, ſitting, ſtanding, flying, &c. Birds that are either whole-footed, or have their feet divided, and yet have no talons, are ſaid to be *membered*; but the cock, and all birds of prey with ſharp and hooked beak and talons for encounter or defence, are termed *armed*. In the blazoning of birds, if their wings be not diſplayed, they are ſaid to be borne cloſe; as, *he beareth an eagle*, &c. cloſe.

Birds-Neſts, in cookery, the neſt of a ſmall Indian ſwallow‡, very delicately taſted, and frequently mixed among ſoups. On the ſea-coaſts of China, at certain ſeaſons of the year, there are ſeen vaſt numbers of theſe birds; they leave the inland country at their breeding time, and come to build in the rocks, and faſhion their neſts out of a matter which they find on the ſhore, waſhed thither by the waves. The nature of this ſubſtance is ſcarcely yet aſcertained. According to Kempfer, it is molluſcæ or ſea-worms; according to M. le Poivre, fiſh-ſpawn; according to Dalrymple, ſea-weed; and according to Linnæus, it is the animal ſubſtance frequently found on the beach, which fiſhermen call *blubbers* or *jellies*. The neſts are of a hemiſpheric figure, and of the ſize of a gooſe's egg, and in ſubſtance much reſemble the ichthyocolla or *iſinglaſs*. The Chineſe gather theſe neſts, and ſell them to all parts of the world; they diſſolve in broths, &c. and make a kind of jelly of a very delicious flavour.

Theſe neſts (Mr Marſden informs us) are found in great abundance in the iſland of Sumatra, particularly about Croe, near the ſouth end of the iſland. Four miles up the river of that name is a large cave, where the birds build in vaſt numbers. The neſts are diſtinguiſhed into white and black; of which the firſt are by far the more ſcarce and valuable, being found in the proportion of one only to twenty-five. "The white ſort (ſays Mr Marſden) ſells in China at the rate of 1000 to 1500 Spaniſh dollars the pecul; the black is uſually diſpoſed of at Batavia for about 20 dollars the ſame weight, where it is chiefly converted into glue, of which it makes a very ſuperior kind. The difference between the two has by ſome been ſuppoſed to be owing to the mixture of the feathers of the birds with the viſcous ſubſtance of which the neſts are formed; and this they deduce from the experiment of ſteeping the black neſts for a ſhort time in hot water, when they are ſaid to become in a great degree white. Among the natives I have heard a few aſſert that they are the work of a different ſpecies of bird. It was ſuggeſted to me, that the white might probably be the recent neſts in which they were taken; and the black, ſuch as had been uſed for a number of years ſucceſſively. This opinion appearing plauſible, I was particular in my inquiries as to that point, and learned what ſeemed much to corroborate it. When the natives prepare to take the neſts, they enter the caves with torches, and forming ladders according to the uſual mode, of a ſingle bamboo notched, they aſcend and pull down the neſts, which adhere in numbers together, from the ſide and top of the rock. They informed me, that the more frequently and regularly the cave is ſtripped, the greater proportion of white neſts they are ſure to find, and that on this experience they often make a practice of beating down and deſtroying the old neſts in larger quantities than they trouble themſelves to carry away, in order that they may find white neſts the next ſeaſon in their room. The birds, during the building time, are ſeen in large flocks on the beach, collecting in their bills the foam which is thrown up by the ſurf, of which there is little doubt but they conſtruct their neſts, after it has undergone perhaps a preparation, from a commixture with their ſaliva, or other ſecretion with which nature has provided them for that purpoſe."

‡ See *Hirundo*.

BIREMIS, in Roman antiquity, a veſſel with two rows of oars; concerning the diſpoſition of which authors are not agreed.

BIRETUM, or BIRRETUM, a ſort of black bonnet, or covering of the head, in form of a pyramid, much uſed in Italy and France, about 500 or 600 years ago, as a badge of victory, honour, or ſacerdotal preferment.

BIRKENHEAD, or BERKENHEAD (Sir John), a famous poetical author, born about the year 1615. Being recommended to Dr William Laud archbiſhop of Canterbury, he became his Secretary; in which office he ſhowed ſuch capacity and diligence, that the archbiſhop, by his diploma, created him maſter of arts in 1639; and in the year following, by letter commendatory from the ſame prelate, he was choſen probationer fellow of All-Soul's College. This obliged him to reſide conſtantly at Oxford; and on King Charles I.'s making that city his head-quarters during the civil war, our author was made choice of to write a kind of journal in defence of the royal cauſe, by which he gained great reputation. By his majeſty's recommendation, he was choſen reader in moral philoſophy; which employment he enjoyed till 1648, when he was expelled by the parliament viſitors. He retired afterwards to London, where he wrote ſeveral poetical pieces; and having adhered ſteadily to his principles, he acquired the title of the *loyal poet*, and ſuffered ſeveral impriſonments. He publiſhed, while he thus lived in obſcurity, ſome very ſatirical compoſitions, moſtly levelled againſt the republican grandees, and written with great poignancy. Upon the reſtoration of King Charles II. our author was rewarded for his loyalty. He was created, April 6. 1661, on the king's letters ſent for that purpoſe, doctor of the civil law by the univerſity of Oxford; and in that quality, as an eminent civilian, was conſulted by the convocation on the queſtion, Whether biſhops ought to be preſent in capital caſes? He was about the ſame time elected to ſerve in parliament for Wilton in the county of Wilts. He was knighted November 14. 1662; and upon Sir Richard Fanſhaw's going in a public character to the court of Madrid, he was appointed to ſucced him as maſter of requeſts. He lived afterwards in credit and eſteem, and received various favours from the court, which, however, drew upon him ſome very ſevere attacks from thoſe who oppoſed the court. Mr Wood has treated him with great ſeverity; but his memory has been tranſmitted with honour to poſterity by others, particularly by Dryden, Langbaine, and Winſtanly. He died in Weſtminſter December 4. 1679; and was interred in St Martin's in the Fields.

BERKENFIELD, a town of Germany, capital of a county of the ſame name in the circle of the Upper Rhine. It is ſeated near the river Nave, in E. Long. 7. 9. N. Lat. 49. 35.

BIRMINGHAM, a very large town of Warwickſhire in England, ſituated in W. Long. 1. 35. N. Lat. 52. 30. It is no corporation, being only governed by two conſtables and two bailiffs; and it is therefore free for any perſon to come and ſettle there; which has contributed greatly not only to the increaſe of the buildings, but alſo of the trade, which is the moſt flouriſhing of any in England for all ſorts of iron work, beſides many other curious manufactures. The town ſtands on the ſide of a hill, nearly in the form of a half-moon. The lower part is filled with the workſhops and warehouſes of the manufacturers, and conſiſts chiefly of old buildings. The upper part of the town contains a number of new and regular ſtreets, and a handſome ſquare elegantly built. It has ſeveral churches; particularly one in the lower part of the town, which is an ancient building with a very tall ſpire; and another, which is a very grand modern ſtructure, having a ſquare ſtone tower with a cupola and turret above it. The houſes in this town amount to between 7000 and 8000, and their number is continually increaſing.

BIRON (Armand de Gontault, Lord of), Marſhal of France, and a celebrated general in the 16th century, ſignalized himſelf by his valour and conduct in ſeveral ſieges and battles. He was made grand maſter of the artillery in 1569, and no body dared to aſſault him at the maſſacre of St Bartholomew. He was the firſt who declared for Henry IV. He brought a part of Normandy under his ſubjection, and diſſuaded him from retiring to England or Rochelle. But he was killed by a cannon-ball, at the ſiege of Epernay, on the 26th of July 1592. He was a very univerſal ſcholar: and uſed to carry a pocket-book, in which he wrote down every thing that appeared remarkable; which gave riſe to a proverb very much uſed at court: When a perſon happened to ſay any thing uncommon, they told him, *You have ſound that in Biron's pocket-book.*

BIROTA, or Birotum, in Roman antiquity, a kind of vehicle, ſo denominated from its moving upon two wheels. It carried about 200 pound weight, and was drawn by three mules.

BIRRUS, in Roman antiquity, a cloak made of woollen cloth, worn by the ſoldiers. Alſo a robe anciently worn by the prieſts or biſhops.

BIRTH, in midwifery, ſignifies the ſame with delivery. See Midwifery.

Birth is alſo uſed for a perſon's deſcent; and is ſaid to be high or low according to the circumſtances of his anceſtry.

There is ſcarce any truth (Mr Knox obſerves in his Eſſays) of which the world has been more frequently reminded by the moraliſts, than the unreaſonableneſs of that veneration which is paid to birth. They have been told, that virtue alone is true nobility; but though they have acknowledged the aſſertion to be founded in reaſon, they have continued, with uniform perſeverance, in the ſame error. The luminous glory of an illuſtrious anceſtor, ſeems to have diffuſed a brilliancy over a long line of deſcendants, too opaque of themſelves to emit any original irradiations.

"Gratitude (continues our elegant author), which firſt raiſes a benefactor to a diſtinguiſhed rank in civil honours, is willing to continue its kindneſs to his immediate offspring. The diſtinction is rendered hereditary. This predilection for an anceſtor ſoon leads to the accumulation of honours and poſſeſſions in his ſucceſſors; and the incenſe originally offered, becauſe it was deſerved, is at laſt laviſhed at the ſhrine of opulence, independently of merit.

"Subordination is, indeed, eſſential to ſociety. The order of nobles, as hereditary guardians of the laws, is found an uſeful political eſtabliſhment; and none ſeem ſo well adapted to ſupply it, as they who have been raiſed to eminence by their anceſtors, and who poſſeſs a territorial patrimony in the land which they are to protect. All that is contended for is, that the recommendation of birth may not ſet aſide or depreciate real merit, the praiſe of learning, and the intrinſic value of virtuous exertions.

"It is a remarkable circumſtance in the hiſtory of mankind, that ſome of the beſt books have been written, and ſome of the greateſt atchievements performed by thoſe whoſe origin was truly plebeian. The politeſt and genteeleſt books, whether the ſentiments or the ſtyle be conſidered, have been produced by ſlaves, or the deſcendants of ſlaves. Horace, Phœdrus, and Terence, wrote in a ſtyle which muſt have been the ſtandard of a court, to an intercourſe with which they were by no means intitled by their extraction. The founders of the moſt diſtinguiſhed families emerged from the middle and the lower claſſes, by the ſuperior vigour of their natural abilities, or by extraordinary efforts, aſſiſted by fortune: and unleſs the adventitious circumſtances of wealth and civil honours can effect a change in the conſtituent principles of the mind and body, there is certainly no real ſuperiority to be derived in a boaſted pedigree of Tudors and Plantagenets. And yet there have appeared flatterers who have indirectly ſuggeſted, that the minds of the nobility ſeem to be caſt in a finer mould, and to have an elegance inherent in their original conſtitution. According to this hypotheſis, we muſt go on to ſuppoſe, that the mind of a commoner exalted to the higher order of ſenators, catches this elegance by the contagion of inviſible effluvia. On his creation he undergoes a kind of new birth, and puts off the exuviæ which encumbered and degraded him in the lower regions. Thus are all the occult perfections of noble blood to be infuſed by the mandate of a monarch. 'But no,' ſaid Maximilian to a man who aſked to be ennobled by him, 'though I can give you riches and a title, I cannot make you noble.'

"In truth, there is many a nobleman, according to the genuine idea of nobility, even at the loom, at the plough, and in the ſhop; and many more in the middle ranks of mixed ſociety. This genuine idea contains in it generoſity, courage, ſpirit, and benevolence, the qualities of a warm and open heart, totally unconnected with the accidental advantages of riches and honour; and many an Engliſh ſailor has poſſeſſed more of the real hero, than a lord of the admiralty.

"If indeed there is any ſubſtantial difference in the quality of their blood, the advantage is probably on the ſide of the inferior claſſes. Their indigence and their manual employments require temperance and exerciſe, the beſt purifiers of the animal juices. But the indolence which wealth excites, and the pleaſures which faſhionable life admits without reſtraint, have a natural tendency to vitiate and enfeeble the body as well as the mind: and among the many privileges inherited by him who boaſts nobility in his veins, he commonly receives the ſeeds of the moſt painful and the impureſt diſeaſes. He diſplays indeed a coronet on his coat of arms, and he has a long pedigree to peruſe with ſecret ſatisfaction; but he has often a gout or a ſcrophula, which make him wiſh to exchange every drop derived from his Norman anceſtors, for the pure tide that warms a peaſant's boſom.

"The ſpirit of freedom, moral, mental, and political, which prevails in Britain, precludes that unreaſonable attachment to birth, which, in the countries of deſpotiſm, tends to elevate the noble to a rank ſuperior to humanity. In our neighbour's land, the region of external elegance united with real meanneſs, the implicit veneration paid to birth adds to the weight of legal oppreſſion. A Frenchman of the plebeian order attends to a Count or a Marquis with all the ſilent ſubmiſſion of idolatry: on the contrary, there is no doubt but that an Engliſh gondolier would box with the beſt lord in the land, if he were affronted by him, without the leaſt regard for his ſtar and ribbon. It would indeed be an additional pleaſure to the natural delight of conqueſt, to have bruiſed a puny lord. Even the more refined and poliſhed do not idoliſe illuſtrious birth. In truth, wealth appears to be the object of more univerſal veneration. Noble blood and noble titles, without an eſtate to ſupport them, meet with great compaſſion indeed, but with little reſpect; nor is the man who has raiſed himſelf to eminence, and who behaves well in it, neglected and deſpiſed becauſe he derives no luſtre from his forefathers. In a commercial country, where gain is the general object, they who have been moſt ſucceſsful in its purſuit will be revered by many, whatever was their origin. In France, where honour is purſued from the monarch to the cleanſer of a jakes, the diſtinction of birth, even with extreme poverty is enviable. The brother of a Marquis would rather ſtarve on a beggarly penſion, than pollute himſelf with a trade by which he might acquire the revenues of a German kingdom. In our land of good ſenſe this folly is loſing ground; and the younger brothers of noble houſes, often think it no diſgrace to rival the heir in a princely fortune acquired by honourable merchandiſe.

"As the world becomes more enlightened, the exorbitant value which has been placed on things not really valuable will decreaſe. Of all the effects of man's capricious admiration, there are few leſs rational than the preference of illuſtrious deſcent to perſonal merit, of diſeaſed and degenerate nobility to health, to courage, to learning, and to virtue. Of all the objects of purſuit which are not in our own power, the want of diſtinguiſhed birth may moſt eaſily be diſpenſed with, by thoſe who poſſeſs a ſolid judgment of that which makes and keeps us happy. There may be ſome reaſon to repine at the want of wealth and fame; but he who has derived from his parent health, vigour, and all the powers of perception, need not lament that he is unnoticed at the herald's office.

"It has been obſerved, that virtue appears more amiable when accompanied with beauty; it may be added, that it is more uſeful when recommended to the notice of mankind by the diſtinction of an honourable anceſtry. It is then greatly to be wiſhed, that the nobly born would endeavour to deſerve the reſpect which the world pays them with alacrity, by employing their influences to benevolent purpoſes; to thoſe purpoſes which can at all times be accompliſhed, even when the patriotic exertions of the field and cabinet are precluded." Since writing the above, however, a very remarkable revolution appears to be taking place. See the Article FRANCE.

BIRTH, or *Berth*, the ſtation in which a ſhip rides at anchor either alone or in a fleet, or the diſtance between the ſhip and any adjacent object, comprehending the extent of the ſpace in which ſhe ranges at the length of her cables: as, *ſhe lies in a good birth*, i. e. in a convenient ſituation, or at a proper diſtance from the ſhore and other veſſels; and where there is good anchoring ground, and ſhelter from the violence of the wind and ſea.

BIRTH alſo ſignifies the room or apartment where any particular number of the officers and ſhip's company uſually meſs and reſide. In a ſhip of war there is commonly one of theſe between every two guns.

BIRTH-Day, the anniverſary return of the day whereon a perſon was born. The ancients placed a good deal of religion in the celebration of birth-days, and took omens from thence of the felicity of the coming year. The manner of celebrating birth-days was by a ſplendid dreſs: wearing a ſort of rings peculiar to that day: offering ſacrifices; the men to their genius, of wine, frankincenſe; the women to Juno: giving ſuppers, and treating their friends and clients: who in return made them preſents, wrote and ſung their panegyrics, and offered vows and good wiſhes for the frequent happy returns of the ſame day. The birth-days of emperors were alſo celebrated with public ſports, feaſts, vows, and medals ſtruck on the occaſion.—But the ancients, it is to be obſerved, had other ſorts of birth-days beſides the days on which they were born. The day of their adoption was always reputed as a birth-day, and celebrated accordingly. The emperor Adrian, we are told, obſerved three birth-days; *viz.* the day of his nativity, of his adoption, and of his inauguration. In thoſe times it was held, that men were not born only on thoſe days when they firſt came into the world, but on thoſe alſo when they arrived at the chief honours and commands in the commonwealth, *e. gr.* the conſulate. Hence that of Cicero in his oration *ad Quirites*, after his return from exile; *A parentibus, id quod neceſſe erat, parvus ſum procreatus; a vobis natus ſum conſularis.*

BIRTHWORT, in botany. See ARISTOLOCHIA.

BIRVIESCA, a town of Old Caſtile in Spain, and capital of a ſmall territory called *Bureva.* W. Long. 2. 15. N. Lat. 56. 35.

BIRZA, a town of Poland in the province of Samogitia. E. Long. 25. 5. N. Lat. 56. 35.

BISA, or **BIZA**, a coin of Pegu, which is current there for half a ducat. It is alſo a weight uſed in that kingdom.

BISACCIA, a ſmall handſome town of Italy, in the Ulterior Principato, and in the kingdom of Naples, with a biſhop's ſee. E. Long. 15. 35. N. Lat. 41. 3.

BISACUTA, in middle-age writers, an axe with two edges, or which cuts either way; or a miſſive weapon pointed at both ends. Walſingham repreſents the *ſecuris biſacuta* as peculiar to the Scottiſh nation. See *BATTLE-Axe*.

BISBÆA, a feaſt celebrated by the Meſſapii after the pruning of their vines, to obtain of the gods that they might grow again the better. The word is formed from βισϛη, uſed by ſome for a vine.

BISCARA, a town of Africa in the kingdom of Algiers, ſeated in the eaſtern or Levantine government, in E. Long. 5. 50. N. Lat. 35. 10. This city belonged to the province of Zeb in Numidia, which lies ſouth of the kingdom of Labez; but the Algerines, in their annual inroads to carry off ſlaves, made themſelves maſters of Biſcara, in order to facilitate their entrance into the ſouthern provinces. It retains ſtill ſome remains of the ancient city that gave name to this territory; and hath a garriſon to keep the inhabitants in awe, and who uſually bring lions, tigers, and other wild beaſts for ſale to ſtrangers. The city of Algiers is never without a great number of Biſcarans, who are employed in the hardeſt and loweſt offices, as cleanſing of ſtreets, emptying of vaults, ſweeping chimneys, &c.; and when they have got about 10 or 12 crowns by this drudgery, they return to their country, where they are reſpected as worthy men on account of their money, the inhabtants of this province being almoſt entirely deſtitute of coin, and reckoned the moſt miſerable of all the Arabian tribes.

BISCAY, a province of Spain, bounded on the north by the ſea called the *Bay of Biſcay*, on the ſouth by Old Caſtile, on the weſt by Aſturias of Santilana, and on the eaſt by the territories of Alava and Guipuſcoa. It is in length about ſeventy-four miles; but the breadth is much leſs, and very unequal. This country in general is mountainous and barren; but in ſome places it produces corn, and every where a great quantity of apples, oranges, and citrons. They make cyder with the apples, which is their common drink. Beſides this, they have wine called *chacolino*, which is pleaſant, but will not keep long, and therefore is uſed inſtead of ſmall beer. Their valleys produce a little flax, and their hills a great deal of timber for ſhips. The ſea affords them excellent fiſh of all ſorts. The wool that is exported here comes from Old Caſtile; but their greateſt riches are produced by their mines of iron; which metal is extremely good, and is tranſported to all parts. They have likewiſe artificers that work in iron; and are in particular famous for working ſwords and knives. Biſcay is the country of the ancient Cantabri, ſo imperfectly ſubdued by Auguſtus, and ſo ſlightly annexed to the Roman empire. Their mountains have in all ages afforded them temptations and opportunities of withdrawing themſelves from every yoke that has been attempted to be impoſed upon them. Their language is accounted aboriginal, and unmixed with either Latin, French, or Spaniſh. It is ſo totally different from the Caſtilian, that we ſeldom meet with any of the peaſants that underſtand one word of Spaniſh. The Biſcayners are ſtout, brave, and choleric to a proverb. The beſt ſailors in Spain belong to the ports of Biſcay, and its mountains produce a very valuable race of ſoldiers. their privileges are very extenſive, and they watch over them with a jealous eye. They have no biſhops in the province, and ſtyle the king only *Lord of Biſcay*. The men are well-built and active, like all mountaineers. The moſt ſingular thing in their dreſs is the covering of their legs: they wrap a piece of coarſe grey or black woollen cloth round them, and faſten it on with many turns of tape. The women are beautiful, tall, light, and merry; their garb is neat and paſtoral; their hair falls in long plaits down their backs; and a veil or handkerchief, twiſted round in a coquetiſh manner, ſerves them for a very becoming head-dreſs. On Sundays they generally wear white, tied with roſe-coloured knots. The chief towns in it are Bilboa, Ordunna, Durango, Fontarabia, St Sebaſtian, Toloſa, and Victoria.

Biscay (New), a province of North America, in the audience of Guadalajara. It has New Mexico on the north, Culiacan on the weſt, Zacateeas on the ſouth, and Panuca with Florida on the eaſt. It is about 300 miles from eaſt to weſt, and 360 from north to ſouth. In general it is well watered, fruitful, moderately temperate, and abounds in all ſorts of proviſions, except the mountains of Topia, which are barren. The original inhabitants are not all brought under ſubjection, they having four large towns in the moraſſes, that are of difficult acceſs; for this reaſon the Spaniards have built three ſmall fortified towns, which are well inhabited, for the defence of their ſilver mines. The latitude is from 25 to 28 degrees.

BISCHOPISHEIM, a town of Germany, in the archbiſhopric of Mentz, and circle of the Lower Rhine, ſeated on the River Tauber, near the frontiers of Franconia, E. Long. 9. 37. N. Lat. 49. 40.

BISCHOFF-zell, a town of Switzerland, belonging to the biſhop of Conſtance. There is a caſtle wherein the biſhop's bailiff reſides, who receives half the fines; but he has nothing to do with the town, nor is there any appeal from the council of the town. It is ſeated on the Thur, at the place where the Sitter falls into this river almoſt half way between Conſtance and St Gall. E. Long. 9. 23. N. Lat. 47. 33.

BISCHOP, or Biskop, (John de), an excellent artiſt, born at the Hague in 1646. He is ſpoken of with great commendation as a painter, and his drawings from the great maſters are held in the higheſt eſtimation by the curious. In theſe he has ſucceeded ſo happily, as to preſerve with the greateſt exactneſs the ſtyle of the painter whoſe pictures he copied. But as an engraver, he is moſt generally known; and his works are numerous. They are chiefly etchings, harmonized with the graver; and though ſlight, yet free, ſpirited, and pleaſing. He gives a richneſs to the colour, and a roundneſs to the figures, far beyond what is uſually done with the point, ſo little aſſiſted by the graver. His figures in general are well drawn; but in a mannered rather than a correct, ſtyle. The extremities indeed are not always well marked, or his heads equally expreſſive or beautiful. It is ſaid of him, that he owed his excellency to his own genius alone, having never ſtudied under any maſter by whoſe inſtruction he might have been benefited. He worked chiefly at Amſterdam, where he died in 1686, aged 40 years.

Bischop (Cornelius), portrait and hiſtory painter, was born at Antwerp in 1630, and was the diſciple of Ferdinand Bol. His pencil, his tint of colouring, his ſtyle and manner, had a ſtrong reſemblance of his maſter; and by many competent judges he is eſteemed not inferior to him in hiſtorical ſubjects as well as in portrait, having been always aſſiduous to ſtudy after nature. A painting by this maſter, conſiſting of a few figures by candle light, was ſo much admired by Louis XIV. that he purchaſed it at an high price, and it is placed in the royal collection; and the king of Denmark admitted his works among thoſe of the beſt maſters. However, notwithſtanding the encomiums beſtowed on this maſter by the Flemiſh writers, an impartial judge would perhaps think his compoſitions but heavy and without expreſſion, and his works in general not worthy of all that commendation which is laviſhed upon them. He died in 1674.

BISCHOP (Abraham), ſon of Cornelius Biſchop, was inſtructed by his father to deſign hiſtorical ſubjects and portraits; but preferred the painting of fowl, particularly thoſe of the domeſtic kind, to any other ſubjects which were recommended to him. He deſigned every object after nature, and uſually painted in a large ſize, ſuch as ornamental furniture for grand halls; and every ſpecies of fowl was ſo exactly like nature in its attitude, character, and plumage, that his works were beheld with univerſal approbation.

BISCHWELLER, a fortreſs of Alſace, ſeated in E. Long. 7. 0. N. Lat. 48 40.

BISCHROMA, in muſic, the ſame as our triple quaver. See CHROMA.

BISCUTELLA, BUCKLER-MUSTARD, or *Baſtard Mithridate-muſtard*: A genus of the tetradynamia order, belonging to the ſiliculoſa claſs of plants; and in the natural method ranking under the 39th order, *Siliquoſæ*: The ſilicula is flat-compreſſed, rounded, above and below two-lobed, and the leaves of the calyx are gibbous at the baſe.

Of this there are three ſpecies: the auriculata, with ſmall pods joined to the ſtyle; the didyma, with a double orbicular pod diverging from the ſtyle; and the apula, with flowers growing in ſpikes, and a ſhorter ſtyle. They are natives of France, Italy and Germany.

BISEGLIA, a populous town of Italy in the kingdom of Naples and Terra de Bari, with a Biſhop's ſee, ſeated near the Gulph of Venice, in E. Long. 16. 49. N. Lat. 41. 18.

BISERRULA: a genus of the decandria order, belonging to the diadelphia claſs of plants; and in the natural method ranking under the 32d order, *Papilionaceæ*: The legumen is bilocular and flat: and the partition contrary. Of this genus there is only one ſpecies known; *viz.* the pelecinus, an annual plant with purple flowers, growing in Italy, Sicily, Spain, and the ſouth of France.

BISERTA, a town of the kingdom of Tunis in Africa, ſeated on a gulf of the ſame name, in E. Long. 10. 40. N. Lat. 37 20. The gulf is a very large one, and the *Sinus Hipponenſis* of the ancients. It is formed by the capes Blanco and Ziebed; and has a beautiful ſandy inlet near four leagues wide, which once admitted the largeſt veſſels, but through the negligence of the Turks can now admit only thoſe of the ſmalleſt ſize, and is in danger in a ſhort time of being totally choaked up. Some remains of the great pier of Hippo are ſtill extant; by which it appears to have run out into the ſea ſo as to break the north-eaſt wind, and to make this one of the ſafeſt and moſt beautiful havens in theſe parts On the ſouth, this gulf hath a communication with a lake of the ſame name, ſo as to form a kind of canal between it and the Mediterranean Sea. Through this canal a conſtant ſtream is obſerved alternately diſcharging itſelf from the ſea to the lake, and from the lake to the ſea, in the ſame manner as the Atlantic Ocean is obſerved to do in the Mediterranean, and back again; ſo that what the lake loſes by exhalations is ſoon recruited by the ſea, which in hot ſeaſons runs into it with a very briſk current to keep up the equilibrium. The millets of this lake are the beſt in Barbary: great quantities of their roes dried and made into BOTARGO, are ſent from hence into the Levant, where they are accounted a great dainty. The town was formerly very conſiderable; and, though not above a mile in circuit, is ſaid to have contained 6000 houſes; whereas both it and the villages under it now ſcarce contain that number of inhabitants. It has ſtill, however, ſome ſtrong caſtles and batteries to defend it, eſpecially towards the ſea. There are alſo two very capacious priſons for ſlaves, a large magazine or warehouſe for merchandize, and two towers with ſome other outworks to defend the entrance of the haven. The city, though ſo near the ſea is well ſupplied with freſh water from ſprings that ſurround it on every ſide towards the land. It is likewiſe well furniſhed with variety of fiſh from the adjacent lake. Moſt of the inhabitants of Biſerta, as well as of the adjacent country on both ſides of the canal, are employed in the fiſhing trade, which begins about the end of October, and ends in the beginning of May; for the rains then ſweetening the waters, make the fiſh come into it in vaſt quantities during that ſeaſon; but afterwaads they either diſappear or grow lean, dry and unfit to eat. The people here are extremely poor, yet very proud, ill-natured, and faithleſs; inſomuch that Muley Haſſan Bey, one of their ſovereigns, uſed to ſay, that none of his ſubjects deſerved his reſentment ſo much as they, ſince neither fear nor love could keep them faithful.—Biſerta hath about eight villages under its government; a large plain called *Matter or Mater*; and the territory of Choros, the *Clypea* or *Corobis* of the ancients. This is a tract of great extent, and would be very fertile were it not for the frequent incurſions of the Arabs. The people are very poor, live meanly, and go worſe clad. Their choiceſt dainty is their couſcou, a kind of cake made of flour, eggs, and ſalt, which they dry and keep all the year round. Their dreſs is nothing elſe than a piece of coarſe cloth wrapped round their bodies, and another round their heads by way of a turban; and moſt of them go barefooted and barelegged. The poorer ſort have nothing but a few ſkins laid on the floor to ſleep upon; but the rich have narrow couches fixed againſt the wall, about five or ſix feet high, to which they mount by a ladder. They are very expert horſemen, as moſt in theſe countries are, and ride without ſaddle or bridle; nor do they ever ſhoe their hoſes. They are ſtill more miſerable from the neighbourhood of the Arabs, who living altogether by plunder, robbery, and murder, oppreſs the poor inhabitants with their frequent inroads and cruel exactions. The Biſertines, both of the city and country, are the moſt ſuperſtitious people in Barbary, ſcarce going any where without hanging a quantity of amulets about their own, or if they ride, their horſes necks alſo. Theſe amulets are only ſcraps of parchment or paper, with ſome ſtrange characters written upon them, which they ſew up in a piece of leather, ſilk, &c. and imagine when worn about them to be a preſervative againſt all accidents.

BISET (Charles Emanuel), a painter of conſiderable eminence, was born at Mechlin in 1633; and even in his early productions ſhowed a lively and ready invention. He was remarkable for introducing a multitude of figures into his deſigns, with an extraordinary variety of drapery peculiar to every nation. His general ſubjects were converſations, balls, concerts, and aſſemblies of gay and genteel perſons, which were correctly deſigned and well coloured; though their actions and attitudes were ſometimes very indelicate. His pictures had a ſtrong effect at a diſtance; yet when they were more nearly inſpected, they ſhowed a neatneſs of pencil, a ſpirited touch, and a good expreſſion.

BISHOP, a prelate or perſon conſecrated for the ſpiritual government and direction of a dioceſe. The word comes from the Saxon *biſchop*, and that from the Greek επισκοπος, an *overſeer* or *inſpector*: which was a title the Athenians gave to thoſe whom they ſent into the provinces ſubject to them, to ſee whether every thing were kept in order; and the Romans gave the ſame title to thoſe who were inſpectors and viſitors of the bread and proviſion. It appears from a letter of Cicero, that he himſelf had a biſhopric; being *epiſcopus Oræ & Campaniæ*.

A biſhop differs from an archbiſhop in the following particulars: That an archbiſhop with biſhops conſecrate a biſhop, as a biſhop with prieſts ordain a prieſt; that the archbiſhop viſits a province as the biſhop a dioceſe; that the archbiſhop convocates a provincial ſynod as the biſhop a dioceſan one: and that the archbiſhop has a canonical authority over all the biſhops of his province as the biſhop over the prieſts in his dioceſe. It is a long time ſince biſhops have been diſtinguiſhed from mere prieſts or preſbyters; but whether that diſtinction be of divine or human right, whether it was ſettled in the apoſtolical age or introduced ſince, is much controverted. But whether the apoſtles ſettled any thing of this kind themſelves, or whether they left the ſpiritual œconomy in the hands of the preſbyters, or of thoſe together with the people, it appears that in a little time the functions of the prieſthood were divided, and the prieſts diſtinguiſhed into degrees; the political part of religion being, according to ſome, aſſigned principally to biſhops, and the evangelical to the prieſts, &c. Or, according to others, the functions of teaching and preaching were reſerved to the biſhop, and that of ordination ſuperadded; which was their principal diſtinction, and the mark of their ſovereignty in their dioceſe.

By the ancient diſcipline, biſhops were to be married once, and not put away their wives on pretence of religion; but a ſecond marriage was a diſqualification for this order. If they lived chaſte, they were ranked as confeſſors. Some biſhops, in the middle age, on account of their *regalia* or temporalities, were obliged to a military ſervice called *hoſtis*, by which they were to lead their vaſſals into the field, and attend the king in his military expeditions. This Charlemagne excuſed, and even forbid: but the prohibition was little regarded; ſince we find the thing often practiſed afterwards.

The election of biſhops was anciently placed in the clergy, and the people of the pariſh, province, or dioceſe; but afterwards, princes and magiſtrates, patriarchs and popes, uſurped the power. The election was to be within three months after the vacancy of the ſee; and the perſon to be choſen out of the clergy of that church. Formerly the biſhop claimed a ſhare in the election of an archbiſhop; but this was ſet aſide by the popes.

In England, during the Saxon times, all eccleſiaſtical dignities were conferred by the king in parliament. At length, however, after ſeveral conteſts, eſpecially between archbiſhop Anſelm and Henry I. in conſequence of a grant of King John, recognized in Magna Charta, and eſtabliſhed by 25 Edward III. ſtat. 6. § 3. biſhops were elected by the chapters of monks or canons, ſome ſhadow of which ſtill remain in the preſent method of diſpoſing of biſhoprics; but by ſtat. 25. Hen. VIII. cap. 20. the right of nomination was reſtored to the crown.

Ordinarily at leaſt three biſhops are required in the ceremony of conſecrating a biſhop; but in ſome caſes a ſingle one might ſuffice. The Engliſh ſucceſſion of Proteſtant biſhops ſtands on this laſt ground. In England, the king being certified of the death of a biſhop by the dean and chapter, and his leave requeſted to elect another, the *conge d'elire* is ſent to them with a letter miſſive, nominating the perſon whom he would have choſen. The election is to be within twelve days after the receipt of it, otherwiſe the king by letters patent appoints whom he pleaſes; and the chapter, in caſe of refuſing the perſon named by the king, incurs a *præmunire*. After election, and its being accepted of by the biſhop, the king grants a mandate under the great ſeal for confirmation; which the biſhop conſigns to his vicar-general; conſiſting moſtly in a ſolemn citation of ſuch as have any objections to the biſhop elect, a declaration of their contumacy in not appearing, and an adminiſtration of the oaths of allegiance and ſupremacy, of ſimony, and canonical obedience. Sentence being read by the vicar-general, the biſhop is inſtalled in the province of Canterbury by the arch-deacon; the fact is recorded by a public notary; and the biſhop is inveſted with full powers to exerciſe all ſpiritual juriſdictions, though he cannot ſue for his temporalities till after conſecration. Then follows the conſecration by the archbiſhop or ſome other biſhop appointed by lawful commiſſions, and two aſſiſtant biſhops: the ceremony of which is much the ſame as in the Romiſh church, ſave that having put on the epiſcopal robes, the archbiſhop and biſhops lay their hands on the new prelate's head, and conſecrate him with a certain form of words. The proceſs of the tranſlation of a biſhop to another biſhopric only differs in this, that there is no conſecration. The age of a biſhop is to be at leaſt thirty years; and by the ancient diſcipline, none were to be choſen but thoſe who had paſſed through all the inferior orders; but in ſome caſes of neceſſity this was diſpenſed with, and deacons, nay laymen, were raiſed *per ſaltum* to the epiſcopal dignity.

The form of conſecrating a biſhop is different in different churches. In the Greek church, the biſhop elect, being by the aſſiſtant biſhops preſented for conſecration, and the inſtrument of election put in his hand; after ſeveral prayers (the firſt called *diaconicum*) demanding conſecration, makes profeſſion of his faith;

after which he receives a benediction. He is then interrogated as to the belief of the Trinity ; to which he anſwers by a *long profeſſion of faith*, and receives a ſecond benediction. Laſtly, he is aſked what he thinks of the *incarnation* ; to which he anſwers in a *third profeſſion of faith* ; which is followed by a third benediction : after which the conſecrator gives him the paſtoral ſtaff: then he is led up to the altar ; where, after certain prayers, and three croſſes on his head, he receives the *pallium*, if he be an archbiſhop or patriarch ; he then receives the kiſs of peace of his conſecrator and two aſſiſtants ; and ſitting down, reads, prays, and gives the communion to his conſecrator and others.

In the Romiſh church, the biſhop elect being preſented by the elder aſſiſtant to the conſecrator, takes the oath : he is then examined as to his faith ; and after ſeveral prayers, the New Teſtament is drawn over his head, and he receives the chriſm or unction on his head. The paſtoral ſtaff, ring, and Goſpel, are then given him ; and after communion, the mitre is put on his head : each ceremony being accompained with proper prayers, &c. the conſecration ends with Te Deum. Theſe laſt mentioned ceremonies are laid aſide in the conſecration of Engliſh biſhops. Nevertheleſs, the book of conſecration ſet forth in the time of Edward VI. and confirmed by act of parliament, in which ſome of them are enjoined, is declared to be the ſtandard for this purpoſe by the thirty-ſixth article.

The function of a biſhop in England may be conſidered as two-fold ; *viz.* what belongs to his order, and what belongs to his juriſdiction. To the epiſcopal order belong the ceremonies of dedication, confirmation, and ordination ; to the epiſcopal juriſdiction, by the ſtatute law, belong the licenſing of phyſicians, chirurgeons, and ſchoolmaſters, the uniting ſmall pariſhes (though this laſt privilege is now peculiar to the biſhop of Norwich), aſſiſting the civil magiſtrate in the execution of ſtatutes relating to eccleſiaſtical matters, and compelling the payment of tenths and ſubſidies due from the clergy. By the common law, the biſhop is to certify the judges, touching legitimate and illegitimate births and marriages ; and by that and the eccleſiaſtical law, he is to take care of the probate of wills and granting adminiſtrations ; to collate to benefices, grant inſtitutions on the preſentation of other patrons, command induction, order the collecting and preſerving the profits of vacant benefices for the uſe of the ſucceſſors, defend the liberties of the church, and viſit his dioceſe once in three years. To the biſhop alſo belong ſuſpenſion, deprivation, depoſition, degradation, and excommunication.

All biſhops of England are peers of the realm, except the biſhop of Man ; and as ſuch, ſit and vote in the Houſe of Lords: they are barons in a threefold manner, viz. feudal, in regard to the temporalities annexed to their biſhoprics ; by writ, as being ſummoned by writ of parliament ; and laſtly, by patent and creation : accordingly they have the precedence of all other barons, and vote as barons and biſhops ; and claim all the privileges enjoyed by the temporal lords, excepting that they cannot be tried by their peers, becauſe, in caſes of blood, they themſelves cannot paſs upon the trial, for they are prohibited by the canons of the church (as already obſerved) to be judges of life and death. They have the title of *Lords and Right Reverend Fathers in God.* Beſides two archbiſhops, there are 24 biſhops in England ; excluſive of the biſhop of Sodor and Man, who has no ſeat in the Houſe of Peers : The biſhops of London, Durham, and Wincheſter, take place from the other biſhops, who are to rank after them according to their ſeniority of conſecration. —There is now alſo a biſhop in the ſettlement of Nova Scotia.—In Scotland, before the Preſbyterian eſtabliſhment, there were two archbiſhoprics and 12 biſhoprics.

Bishop's Court, an eccleſiaſtical court, held in the cathedral of each dioceſe, the judge whereof is the biſhop's chancellor, who judges by the civil and canon law ; and if the dioceſe be large, he has his commiſſaries in remote parts, who hold what they call *conſiſtory courts*, for matters limited to them by their commiſſion.

Bishop and his Clerks, ſome little iſlands and rocks on the coaſt of Pembrokeſhire near St David's in Wales, which are very dangerous to mariners.

Bishop's-Aukland. See Aukland.

Bishop's Caſtle, a town of Shropſhire in England, ſeated near the river Clun. It is a corporation, ſends two members to parliament, and its market is much frequented by the Welch. W. Long. 2. 55. N. Lat. 52. 30.

Bishop's-Stortford, a town of Hertfordſhire in England, ſeated on the ſide of a hill, in E. Long. 0. 25. N. Lat. 51. 50. It has ſeveral good inns, but the ſtreets are not paved. It has a large church, one Preſbyterian, and one Quaker meeting. Here was formerly a caſtle called *Weymore caſtle*, wherein a garriſon was kept, but no remains of it are now left.

BISHOPING, a term among horſe-dealers, to denote the ſophiſtications uſed to make an old horſe appear young, a bad one good, &c.

BISHOPRIC, the diſtrict over which a biſhop's juriſdiction extends, otherwiſe called a dioceſe.

In England there are 24 biſhoprics beſides that of Sodor and Man ; in Scotland, none at all ; in Ireland 18.

BISI (Bonaventura), a celebrated miniature painter, was born at Bologna, and was a diſciple of Lucio Maſſari. But his ſole delight was in miniature painting, and in that way he arrived at great excellence. Inſtead of working from his own invention, or original deſign, he employed himſelf to imitate, in ſmall ſize, the pictures of Guido, Correggio, Titian, and other great maſters, and thoſe he finiſhed with aſtoniſhing grace, neatneſs, and beauty. A great number of the works of this maſter are in the Duke's gallery at Modena, and are highly valued. He died in 1662, his age unknown.

BISIGNANO, a town of Italy, in the kingdom of Naples, and in the Hither Calabria. It hath a ſtrong fort, a biſhop's ſee, and the title of a principality. It is ſeated on a mountain near the river Boccona, in E. Long. 16. 40. N. Lat. 39. 37.

BISK, or Bisque, in cookery, a rich ſort of broth or ſoup, made of pigeons, chickens, force-meat, mutton-gravy, and other ingredients. The word is French, formed, as ſome think, from *biſcotta* ; becauſe the biſque, conſiſting of a diverſity of ingredients, needs ſeveral repeated coctions to bring it to perfection. There is alſo a *demi-biſque*, made at a low expence, in which only half the ingredients are uſed ; and a biſque of fiſh, made of carps, minced with their roes, and lobſters.

BISKET, a kind of bread prepared by the confectioners of fine flour, eggs, and ſugar, and roſe or orange water; or of flour, eggs, and ſugar, with aniſeeds and citron-peel, baked again and again in the oven, in tin or paper moulds. There are divers ſorts of biſkets; as ſeed-biſket, fruit-biſket, long-biſket, round-biſket, Naples-biſket, ſponge-biſket, &c.

Sea Biſket, is a ſort of bread much dried by paſſing the oven twice, to make it keep for ſea-ſervice. For long voyages they bake it four times, and prepare it ſix months before the embarkation. It will hold good a whole year.

To preſerve ſea-biſket from inſects, Mr Hales adviſes to make the fumes of burning brimſtone paſs through the caſks full of bread. Biſket may be likewiſe preſerved a long time, by keeping it in caſks well calked, and lined with tin.

The ancients had their biſket prepared after the like manner, and for the like uſe, as the moderns. The Greeks called it αρτον διπυρον, *q. d.* bread put twice to the fire. The Romans gave it the name of *panis nauticus*, or *capta*. Pliny denominates it *vetus aut nauticus panis tuſus atque iterum coctus*. By which it appears, that, after the firſt baking, they ground or pounded it down again for a ſecond. In ſome middle-age writers, it is called *paximas*, *paximus*, and *panis paximatus*. Among the Romans, we alſo meet with a kind of land-biſket for the camp-ſervice, called *buccellatum*, ſometimes *expeditionalis annona*, which was baked much, both to make it lighter for carriage, and leſs liable to corrupt, the coction being continued till the bread was reduced one-fourth of its former weight.

BISKOP, See Bischop.

BISMILLAH, a ſolemn form uſed by the Mahometans at the beginning of all their books and other writings, ſignifying, *In the name of the moſt merciful God.*

Bismillah is alſo uſed among the Arabs as a word of invitation to eat. An Arab prince will frequently ſit down to eat in the ſtreet before his own door, and call to all that paſs, even beggars, in this word, who do not fail to come and ſit down to eat with him; for the Arabs are great levellers, and ſet every body upon a footing with them.

BISMUTH, or Tin-glass, one of the ſemi-metals, of a reddiſh or yellowiſh-white colour and a lamellated texture, and moderately hard and brittle, ſo that it not only breaks into pieces under the ſtrokes of the hammer, but may even be beat into powder. It is the heavieſt of all the ſemi-metals, weighing from 9.600 to 9.700, and is about as fuſible as lead. It is found,

1. *Native.* Biſmuth is found more commonly in a native ſtate than any other metallic ſubſtance. It is uſually cryſtallized in cubes or octagons, or in the form of dendrites or thin laminæ inveſting the ores of other metals, particularly cobalt.

2. *Native Calx of Biſmuth*, in which the metal is mineralized by aerial acid, is either in form of a powder or indurated like mortar. It is frequently of a greeniſh-yellow colour, being mixed with the ores of other metals. The red and yellow part is moſt commonly cobalt ore; though it has often been miſtaken for biſmuth. It is frequently found in glittering particles interſperſed through ſtones of various kinds. Silver, iron, and other metals, are alſo found in it.

3. *Mineralized by the Vitriolic Acid.* This is ſaid to be of a yellowiſh, reddiſh or variegated colour, and to be found mixed with the calx of biſmuth incruſting other ores.

4. *By Sulphur.* This is found chiefly in Sweden, is of a bluiſh-grey colour, a lamellated texture and teſſelar form like galena, but much heavier; ſometimes preſenting parallel ſtriæ like antimony. It is ſaid to contain cobalt and arſenic as well as biſmuth. It is very fuſible, and the ſulphur it contains may be moſtly ſeparated by ſcorification.

5. *By Sulphur and Iron.* This ore is ſaid to be of a lamellar cuneiform texture, and to be found in Norway. This kind of ore yields a fine radiated regulus; for which reaſon it has been ranked among the antimonial ores by thoſe who have not taken proper care to melt from it a pure regulus, or one deſtitute of ſulphur. In Schneeberg they have what is called *columbine* biſmuth and *plumoſe* biſmuth; the former taking its name from the colour, the latter from its texture. The latter is ſaid to contain a great quantity of cobalt.

6. *With Sulphur and Arſenic.* This ore is generally of a whitiſh-yellow or aſh colour, has a ſhining appearance, and is compoſed of ſmall ſcales or plates intermixed with ſmall yellow flakes. Its texture is hard and ſolid; ſometimes it ſtrikes fire with ſteel. It has a diſagreeable ſmell when rubbed; does not efferveſce with acids, but is partially diſſolved by the nitrous acid. The ſolution, diluted with water, becomes a kind of ſympathetic ink; the words written with it on white paper being inviſible when dry, but aſſuming a yellowiſh colour when heated before the fire. There is alſo a grey biſmuth ore of the arſenicated kind, with a ſtriated form, found at Helſingland in Sweden and at Annaberg in Germany. Another of the ſame kind, with variegated colours of red, blue, and yellowiſh-grey, is likewiſe found at Schneeberg in Saxony. At Miſnia in Germany, and at Gillebeck in Norway, it is alſo found ſtriated with green fibres like an amianthus. At Georgenſtadt in Germany, and at Annaberg in Saxony, it is intermixed with reddiſh-yellow ſhining particles, called by the French *Mines de Biſmuth Tigreas*. The *minera biſmuthi arenacea* mentioned by Wallerius and Bomare belongs alſo to the ſame kind of arſenicated ores.

This ſemi-metal is ſcarcely altered by expoſure to the light. In cloſe veſſels it ſublimes without any alteration; and if permitted to cool ſlowly, it cryſtallizes in Greek volutes. It cryſtallizes alſo more eaſily than any other metallic ſubſtance. Heated with acceſs of air, its ſurface, when melted, ſoon becomes covered with a greeniſh-grey or brown calx. If the metal be heated at once to ignition, it burns with a ſmall blue flame ſcarcely ſenſible, and the calx evaporates in a yellowiſh ſmoke, which condenſes into flowers of the ſame colour. Mr Geoffroy obſerved, that the flowers which riſe laſt are of a beautiful yellow colour like orpiment. By expoſure to the heat of a porcelain furnace, a part of the ſemi-metal flowed out through a crack in the veſſel, and the portion which remained in the veſſel, formed a glaſs of dirty violet colour, while the biſmuth melted in contact with the external air was yellowiſh. By expoſure to the atmoſphere the ſurface of this metal becomes ſomewhat tarniſhed, and its ſurface covered with a whitiſh ruſt. It is not attacked by water, nor does it combine with earths; but its calces give a greeniſh-yellow tinge to glaſſes. It is employed by pewterers to communicate hardneſs to tin; and may be uſed inſtead of lead in the cupellation of metals. It reſembles lead in many reſpects, and is thought to be dangerous when taken internally.

Moſt metallic ſubſtances unite with biſmuth, and are thereby rendered more fuſible than before; hence it is uſed in the making of ſolder, printers tipes, &c. as well as pewter. When native, it is of a yellowiſh-white colour, and ſo fuſible that it melts at the flame of a candle. By calcination it gains about half an ounce in the pound. This calx is ſaid to promote the vitrification of earths, and of the refractory metallic calces more powerfully than lead, and likewiſe to act as a more violent corroſive on crucibles than the glaſs of lead itſelf. Hence it is preferable to lead for the purification of gold and ſilver, deſtroying more effectually the baſer metals with which they have been adulterated. In all operations of this kind, where ſulphur makes one of the heterogeneous matters to be deſtroyed, biſmuth is of the greateſt ſervice, on account of its forming with ſulphur an extremely fuſible compound, while that of lead and ſulphur proves very refractory.

Biſmuth readily amalgamates with mercury, and the compound adheres to iron. On expoſing the iron, thus coated with amalgam, to a conſiderable heat, the mercury exhales, and the greateſt part of the biſmuth adheres to the iron, which thus looks as if it had been ſilvered. If mixtures of biſmuth with ſome other metals, particularly lead, be amalgamated, the lead becomes ſo thin as to paſs through leather along with the mercury; but on ſtanding, the biſmuth is thrown up to the ſurface in form of a dark-coloured powder, the quickſilver and lead remaining united. From this property it is too often uſed for the purpoſe of adulterating quickſilver; as rendering a very conſiderable portion of lead intimately combined with it. One part of this metal with another of biſmuth, may be united with three of quickſilver, without effecting its fluidity. The quickſilver thus adulterated is not only unfit for medicinal uſes, but even for the common mechanical purpoſes of gilding and ſilvering; as the workmen find, in this caſe, that it leaves a leaden hue upon the gold or ſilver, which ſpoils the fine appearance of the work. If the abuſe happens to be diſcovered, the mercury may be purified by diſtillation to a certain degree, though, according to Boerhaave, it is impoſſible ever to free it totally from a mixture of any of the imperfect metals.

This ſemi-metal readily unites by cementation with ſulphur, and melts with a more gentle heat than when alone; but on continuing the fire, a ſeparation takes place, the biſmuth falling to the bottom, and a ſulphureous ſcoria ſwimming on the ſurface. Sulphur is likewiſe very readily abſorbed by the calx of biſmuth. A curious needle-formed maſs is the product of their union, in appearance exactly reſembling antimony, but contracting a reddiſh tinge on the outſide by expoſure to the air. The calx cannot take up up quite half its weight of ſulphur.

Silver melts with the compound of calx of biſmuth, and ſulphur in a very gentle heat into a brittle regulus. With a ſtronger fire gold alſo unites with it, forming a brittle compound, whoſe particles ſomewhat reſemble an ore, with ſome ſtriæ and ſhining ones among them. Copper melts with it in a gentle heat, and the compound retains a remarkable degree of fuſibility: on the addition of lead a new combination takes place; the copper and ſulphur riſe to the top in ſcoria reſembling an ore, whilſt the biſmuth and lead unite into a regulus at the bottom. Zinc and biſmuth will not unite; the former melting and burning on the ſurface as it does by itſelf. Equal parts of lead, tin, and biſmuth, form a blackiſh ſparkling compound reſembling the ſmall dried ores of lead.

The ſpecific gravity of a mixture of biſmuth and copper is exactly the mean betwixt that of the two ingredients unmixed. With iron the compounds are ſpecifically lighter than each of the ingredients; but with gold, ſilver, tin, lead, and regulus of antimony, they turn out heavier than either of the ingredients.

Biſmuth reduced to powder, and applied with the white of eggs to turned wood, makes it look as if it had been ſilvered, after being properly dried and rubbed over with an hard poliſher. Some pretend that the calx of biſmuth, by long reverberation, becomes red like that of lead; but this is found to be a miſtake. In this caſe it ſcarcely even retains the form of a calx; for a part of the biſmuth is ſoon revived into its metallic ſtate by the contact of the flame. None of the deſtructible metallic ſubſtances is capable of being revived ſo eaſily as biſmuth. The calx heated ſtrongly in a cloſe veſſel melts into glaſs.

This ſemi-metal is moſt commonly lodged in cobalt-ores; which, when of a high red, or peach-bloom colour, are called *biſmuth bloom* or *flowers of biſmuth*. It has been ſuppoſed, that biſmuth communicates to glaſs the ſame blue colour with cobalt, becauſe the droſs which remains after the biſmuth has been melted out, and called by the ſmelters *biſmuth-grain*, ſometimes produces that effect. But as no ſuch grains or colouring-matter remains from pure biſmuth, it is plain, that this property muſt depend on ſomething mixed with the ſemi-metal, and which was undoubtedly nothing but ſome cobalt-ore united with the biſmuth.

To the ſame mixture we muſt aſcribe the property which biſmuth-ore has of making ſympathetic ink of the ſame kind with that formed directly by ſolution of regulus of cobalt. For this purpoſe a tincture is to be drawn from the ore with aquafortis, and this afterwards mixed with a ſaturated ſolution of ſea-ſalt, and inſpiſſated, yields a reddiſh ſalt: its watery ſolution is the curious liquor called *Green* SYMPATHETIC *Ink*; though there is an impropriety in calling it *green*, when in fact it is red. If any words are written with this ink on white paper, the characters diſappear as ſoon as dry; but on holding the paper to the fire, they become *green* and legible; on cooling they diſappear again, and this repeatedly any number of times. Bomare informs us, that words written with this ſympathetic ink, may alſo be rendered legible, by wetting them with a ſponge or pencil dipped in an aqueous ſolution of *hepar ſulphuris*. The experiments ſucceed beſt when the tincture drawn from the calcined ore are mixed with a ſolution of one-fourth its weight of ſea-ſalt; this mixture is then evaporated nearly to dryneſs, and the reſiduum diſſolved in water, which is then the ſympathetic ink. If the tincture be mixed with nitre or borax inſtead of ſea-ſalt, the characters will become roſe-coloured when warmed; and by paſſing ſea-ſalt over them they afterwards become blue; but if mixed with as much alkali as is ſufficient to ſaturate the acid, they change by heat to a purple and red colour. See CHEMISTRY-*Index*.

BISNAGAR, formerly a very large and powerful kingdom of Aſia, comprehending the kingdoms of Kanara, Meſſowr, Travankor, Madura, Marava, and Tanjour. It was called *Biſnagar* from its capital city, and took the name of *Narſinga* from one of its rajahs or kings. We know nothing certain concerning this kingdom before the year 1520, when Khriſna Rajah, king of Biſnagar, made war with Adel Khan king of Viſiapur, from whom he reſolved to take the city of Rachol, ſituated in the iſland of Salſette, near Goa, which he ſaid had belonged to his anceſtors. The king of Biſnagar's army conſiſted of 733,000 foot, 35,000 horſe, 586 elephants with towers on their backs, each of which had four men in it; beſides theſe were 12,000 water-carriers, and the army was followed by 20,000 common women. The city, however, reſiſted this formidable army for three months; at the end of which, Adel Khan came to its relief with an army of 120,000 foot, 18,000 horſe, 150 elephants, and many heavy cannon. In the engagement the king of Biſnagar proved victorious, and almoſt entirely deſtroyed the army of Adel Khan, taking from him 4000 horſes, 100 elephants, 400 cannon, &c. Soon after he took the city by aſſault; but conſented to reſtore the booty taken in the former battle, provided Adel Khan conſented to come and kiſs his foot as the ſovereign lord of Kanara. This baſe condition was accepted, but accidentally prevented from being put into execution. From this time we hear of nothing remarkable till the year 1558, when a Portugueſe of the city of *Meliapur* or *St Thomas*, on the coaſt of Coromandel, perſuaded Rama Rajah, then king of Biſnagar, to march againſt that place, telling him the plunder would be worth 2,000,000, and that the deſtruction of Meliapur would be of great ſervice to the images of the Pagods which were thrown down by the Chriſtians. The king ſet out accordingly with an army of 500,000 men; but the inhabitants, inſtead of preparing for their defence, ſent him a preſent of 4000 ducats. This ſomewhat appeaſed him: however, he would not enter the city, but ordered the inhabitants of both ſexes, with all their valuable effects, to be brought into his preſence; which being done, he found that the value of their whole ſubſtance did not exceed 80,000 ducats. On this he ordered the informer to be thrown to the elephants, who tore him in pieces; after which he diſmiſſed the citizens, and reſtored all their goods ſo punctually, that only a ſilver ſpoon happening to be miſſing, it was ſought for, and returned to the owner. In 1565, the happy ſtate of this kingdom excited the envy of the kings of Dekan; who, having raiſed an army of 500,000 foot and 50,000 horſe, defeated and killed the king of Biſnagar, though at the head of an army almoſt twice as numerous, and took the royal city itſelf. They are ſaid to have ſpent five months in plundering it, although the inhabitants had before carried off 1550 elephants loaded with money and jewels to the amount of upwards of 100,000,000 of gold; beſides the royal chair for ſtate days, whoſe price could not be eſtimated. The victors, however, found a diamond of the ſize of an ordinary egg, beſides another of a ſize ſomewhat inferior, and ſeveral other jewels of immenſe value. Afterwards, however, they were forced to abandon the kingdom, as being too large for them to keep in their hands. From this time the kingdom of Biſnagar remained pretty much unmoleſted till about the year 1627, when it was ſubdued by Aurengzebe, ſecond ſon to Shah Jehan, and hath ever ſince remained ſubject to the Great Mogul. In ſome places of this kingdom it is ſaid the roads have great foreſts of bamboos on each ſide, which are ſo thick that it is impoſſible for a man to paſs. Theſe foreſts are full of monkeys; and what is ſingular, thoſe on the one ſide ſeem to be enemies to thoſe on the other: for if a baſket of rice is ſet down on the road with a parcel of ſmall ſticks about it, the monkeys on each ſide will come out, and fall a-fighting with the ſticks, till one of the parties retreats. This, it is ſaid, is often done by travellers for diverſion. They catch the wild elephants here in pitfalls, and then tame them by means of others already tamed: the latter ſeldom fail of beating the wild ones into a good behaviour. The town of Biſnagar is ſituated in E. Long. 78. 0. N. Lat. 13. 20.

BISNOW, or BISCHNOU, a ſect of the Banians in the Eaſt Indies; they call their god Ram-ram, and give him a wife: They adorn his image with golden chains, necklaces of pearls, and all ſorts of precious ſtones. They ſing hymns in honour of their god, mixing their devotion with dances and the ſound of drums, flagelets, brazen baſons, and other inſtruments. This ſect lives wholly upon herbs and pulſe, butter and milk. In this ſect, the wives do not burn themſelves after their huſbands death, as is practiſed by thoſe of the *ſamarath* ſect: but content themſelves with a perpetual widowhood.

BISOMUM, or DISOMUM, in Roman antiquity, a tomb for two dead bodies, or the aſhes of two. The ancients frequently buried two, three, or four bodies in the ſame ſepulchre, diſpoſed aſide of each other; for it was held an impiety to lay one a-top of another. Hence the ſepulchres of the primitive Chriſtians had the words *biſomi*, *triſomi*, *quadriſomi*, &c. inſcribed on them to indicate the number of bodies depoſited in them.

BISON, in zoology, the trivial name of a ſpecies of bos. See BOS.

BISQUET, or BISKET. See BISKET.

BISSAGOS, a cluſter of iſlands on the coaſt of Negroeland in Africa, ſituated between the mouth of the river Gambia and Rio Grande. Their names are, *Bulam*, *Caſſuabac*, *La Gallinci*, *Cazegut*, *Calacha*, and *Oranguana*, with ſome other ſmall iſlands; but the only one which merits a particular deſcription is that of Bulam. Each of theſe iſlands is governed by a king of its own; and as all thoſe petty monarchs are quite independent, they frequently make war with each other, yet they always unite againſt the inhabitants of Biafara, who are their common enemies. They have canoes that carry from 25 to 40 men with their proviſions and arms, which are ſabres, and bows, and arrows. The inhabitants are negroes; who are tall, ſtrong, and healthy, though they live only on fiſh, nuts, and palma-palm-oil; chooſing rather to ſell the rice, mullet, and other grain produced in their country, to the Europeans, than not to gratify their paſſion for trinkets and ornaments. In general, they are idolaters; cruel and ſavage in their diſpoſition, not only to ſtrangers but to one another, when they happen to quarrel, as they frequently do about trifles; and if they happen to be diſappointed of their revenge, they frequently drown or ſtab themſelves.

BISSAO, an iſland on the coaſt of Africa, a few leagues to the ſouth-eaſt of the river Gambia, and ſeparated from the continent only by the channel of the river Geves. In this iſland the French have a factory, and there is alſo a fort belonging to the Portugueſe, at both of which a great trade is carried on. The iſland is about 35 or 40 miles in circumference, having an agreeable proſpect to the ſea, from which it riſes by a gentle aſcent on every ſide to an eminence in the centre of the iſland. There are however a great many hills inferior in height to that in the middle, and ſeparated by beautiful and fertile valleys divided by little rivulets, which at the ſame time augment the richneſs and elegance of the ſcene. So rich is the ſoil of Biſſao, that wheat and maize ſpring up to the ſize of Indian corn, or rather reſemble a field covered over with reeds or bamboos. The cattle alſo are of an extraordinary ſize, and ſeem to keep pace with the extravagant growth of the corn. Milk and wine are in the greateſt abundance; but the iſland affords neither hogs nor horſes. The former are forbid by the natives to be imported; and ſomething in the ſoil or climate renders it unfit for the increaſe of the latter, which never thrive here. The dreſs of the men of all ranks in Biſſao is only a ſkin fixed to the girdle before and behind. The dreſs of the married women conſiſts of a cotton petticoat; but virgins go entirely naked, wearing only bracelets of different kinds on their arms and legs. If they are of high quality, their bodies are marked or painted with a variety of hideous forms of ſnakes and other figures, which, as their colour is jet-black, gives their ſkins ſomewhat the appearance of flowered ſattin. Even the princeſs royal herſelf, the eldeſt daughter of the emperor, is only diſtinguiſhed from other women by the elegance of thoſe paintings and the richneſs of her bracelets. One very extraordinary ornament uſed in this country is a large iron ring with a flat round ſurface on the outſide inſtead of a ſtone, upon which the ring changes with a bit of iron, in ſuch a manner as to converſe with the greateſt facility by means of the different ſounds produced; but this kind of language is uſed only among the polite and the great. All the Biſſaons are idolaters, nor has commerce introduced the ſmalleſt change in their manners, but their ideas of religion are exceedingly confuſed. Their chief idol is a little image called *China*, of which the worſhippers give very abſurd accounts; but, beſides this, every man invents a god for himſelf: trees are held ſacred; and if not adored as gods, are worſhipped as the reſidence of ſome divinity. The government is deſpotic, the will of the emperor being a law to his people. Of this we have an inſtance in Biſſao, not to be matched in any other country whatever. This is no other than a preſent which one ſubject may make of the houſe and eſtate of his neighbour to the emperor: and as it is moſt commonly his majeſty's pleaſure to accept of ſuch preſents, the proprietor dares not reſiſt, but immediately ſets about building another houſe, though even this he cannot do without the prince's leave; and if this ſhould not be readily granted, he muſt live with his family in the open air till permiſſion to build a new houſe can be obtained.

BISSAT (Peter), profeſſor of canon law in the univerſity of Bononia in Italy, was deſcended from the earls of Fife in Scotland, and born in that county in the reign of James V. He was educated at St Andrew's: from thence he removed to Paris; and, having ſpent ſome time in that univerſity, proceeded to Bononia, where he commenced doctor of laws, and was afterwards appointed profeſſor of canon law. He continued in that honourable employment ſeveral years with great reputation, and died in the year 1568. He is ſaid to have been not only a learned civilian, but an excellent poet, orator, and philoſopher. *Patricii Biſſarti opera omnia, viz. poemata, orationes, lectiones feriales, &c. Lib. de irregularitate, &c.* were publiſhed at Venice in 1564, 4to.

BISSENPOUR, a ſmall diſtrict of the kingdom of Bengal, in the Eaſt Indies, which has all along preſerved its independence. It has been governed time immemorial by a Bramin family of the tribe of Rajahputs. Here the purity and equity of the ancient political ſyſtem of the Indians is found unadulterated. This ſingular government, the fineſt and moſt ſtriking monument in the world, has till now been beheld with too much indifference. We have no remains of ancient nations but braſs and marble, which ſpeak only to imagination and conjecture, thoſe uncertain interpreters of manners and cuſtoms that no longer exiſt. Were a philoſopher tranſported to Biſſenpour, he would immediately be a witneſs of the life led by the firſt inhabitants of India many thouſand years ago; he would converſe with them; he would trace the progreſs of this nation, celebrated as it were from its very infancy; he would ſee the riſe of a government which, being founded in happy prejudices, in a ſimplicity and purity of manners, in the mild temper of the people, and the integrity of the chieftains, has ſurvived thoſe innumerable ſyſtems of legiſlation, which have made only a tranſitory appearance in the ſtage of the world with the generations they were deſigned to torment. More ſolid and durable than thoſe political ſtructures, which, raiſed by impoſture and enthuſiaſm, are the ſcourges of human kind, and are doomed to periſh with the fooliſh opinions that gave them birth, the government of Biſſenpour, the offspring of a juſt attention to order and the laws of nature, has been eſtabliſhed and maintained upon unchangeable principles, and has undergone no more alteration than thoſe principles themſelves. The ſingular ſituation of this country has preſerved to the inhabitants their primitive happineſs and the gentleneſs of their character, by ſecuring them from the danger of being conquered, or of imbruing their hands in the blood of their fellow-creatures. Nature has ſurrounded them with water; and they need only open the ſluices of their rivers to overflow the whole country. The armies ſent to ſubdue them have ſo frequently been drowned, that the plan of inſlaving them has been laid aſide; and the projectors of it have thought proper to content themſelves with an appearance of ſubmiſſion.

Liberty and property are ſacred in Biſſenpour. Robbery, either public or private, is never heard of. As ſoon as any ſtranger enters the territory, he comes under the protection of the laws, which provide for his ſecurity. He is furniſhed with guides at free coſt, who conduct him from place to place, and are anſwerable for his perſon and effects. When he changes his conductors, the new ones deliver to thoſe they relieve an atteſtation of their conduct, which is regiſtered and afterwards ſent to the Raja. All the time he remains in the country he is maintained and conveyed with his merchandiſe at the expence of the ſtate, unleſs he deſires leave to ſtay longer than three days in the ſame place. In that caſe he is obliged to defray his own expences; unleſs he is detained by any diſorder, or other unavoidable accident. This beneficence to ſtrangers is the conſequence of the warmth with which the citizens enter into each others intereſts. They are ſo far from being guilty of an injury to each other, that whoever finds a purſe, or other thing of value, hangs it upon the firſt tree he meets with, and informs the neareſt guard, who give notice of it to the public by beat of drum. Theſe maxims of probity are ſo generally received, that they direct even the operations of government. Out of about 350,000l. on an average it annually receives, without any injury to agriculture or trade, what is not wanted to ſupply the unavoidable expences of the ſtate, is laid out in improvements. The Raja is enabled to engage in theſe humane employments, as he pays the Moguls only what tribute and at what times he thinks proper.

BISSEXTILE, in chronology, a year conſiſting of 366 days, being the ſame with our leap-year. See CHRONOLOGY.

BISTI, in commerce, a ſmall coin of Perſia: Some ſay that it is among the current ſilver coins of Perſia, and worth only a little above three farthings of our money; others ſpeak of it again as a money of account.

BISTONIS (anc. geog.), a lake of Thrace near Abdera, on which dwelt the Biſtones; hence *Biſtonius Tyrannus* is by Lucan uſed to denote Diomedes king of Thrace, who fed his horſes with human fleſh; and *Biſtonius turbo*, a wind blowing from Thrace.

BISTORT, or KNOTGRASS, in botany, the trivial name of a ſpecies of polygonum. See POLYGONUM.

BISTOURY, in ſurgery, an inſtrument for making inciſions; of which there are different kinds, ſome being of the form of a lancet, others ſtraight and fixed in the handle like a knife, and others crooked with the ſharp edge on the inſide.

BISTRE, among painters ſignifies the burnt oil extracted from the ſoot of wood.

It is of a brown tranſparent colour, having much the ſame effect in water-painting, where alone it is uſed as a brown pink in oil. Though this colour is extremely ſerviceable in water-colours, and much valued by thoſe who know and can procure it; yet it is not in general uſe, perhaps on account of its not being eaſily procured of a perfect kind; hardly any of it being good, except that imported from France. Perhaps the principal reaſon for this is, that dry beechwood affords the beſt ſoot for making it; and it is not always eaſy to procure ſuch without mixture of the ſoot green wood or other combuſtibles that deprave it for this purpoſe: or it is poſſible that they who have pretended to prepare it have been ignorant of the proper means; there not being any recipe or directions in books that treat of theſe matters, from whence they could learn the proper proceſs.

Biſtre may, however, be prepared with great eaſe in the following manner.—Take any quantity of ſoot of dry wood, but let it be of beech wherever that can be procured. Put it into water in the proportion of two pounds to a gallon; and boil them half an hour: then after the fluid has ſtood ſome little time to ſettle, but while yet hot, pour off the clearer part from the earthy ſediment at the bottom; and if on ſtanding longer it forms another earthy ſediment, repeat the ſame method, but this ſhould be done only while the fluid remains hot; evaporate then the fluid to dryneſs; and what remains will be good biſtre, if the ſoot was of a proper kind.—The goodneſs of biſtre may be perceived by its warm deep brown colour, and tranſparency when moiſtened with water.

BISTRICZ, a handſome ſtrong town of Tranſilvania, ſeated on a river of the ſame name, in E. Lon. 25. 3. N. Lat. 47. 33.

BIT, or BITT, an eſſential part of a bridle. Its kinds are various. 1. The muſrol, ſnaffle, or watering-bit 2. The canon mouth jointed in the middle. 3. The canon with a faſt mouth, all of a piece, only kneed in the middle, to form a liberty or ſpace for the tongue; fit for horſes too ſenſible, or tickliſh, and liable to be continually bearing on the hand. 4. The canon-mouth, with the liberty in form like a pigeon's neck; proper where a horſe has too large a tongue. 5. The canon with a port mouth, with an upſet or mounting liberty; where a horſe has a good mouth, but large tongue. 6. The ſcatch-mouth, with an upſet; ruder but more ſecure than a canon mouth. 7. The canon mouth with a liberty; proper for a horſe with a large tongue and round bars. 8. The maſticadour, or ſlavering bit, &c. The ſeveral parts of a ſnaffle or curb-bit, are the mouth piece, the cheeks and eyes, guard of the cheeks, head of the cheeks, the port, the welts, the campanel or curb and hook, the boſſes, the bolſters and rabbets, the water-chains, the ſide-bolts and rings, kirbles of the bit or curb, trench, top-roll, flap and jieve.

BIT, or *Bitts*, in ſhip-building the name of two great timbers, uſually placed abaft the manger, in the ſhip's loof, through which the croſs-piece goes: The uſe of it is to belay the cable thereto, while the ſhip is at anchor.

BIT is alſo uſed in commerce for a piece of coin, current in Jamaica, and valued at ſeven pence halfpenny ſterling.

BITBURGH, a town of the Netherlands, in the duchy of Luxemburg. E. Long. 6. 43. N. Lat. 50. 0.

BITCH, the female of the dog kind. See CANIS.

BITCHE, a town of Lorrain, capital of a territory of the ſame name, and ſeated at the foot of the mountains near the river Swolbe. E. Long. 7. 44. N. Lat. 49. 5.

BITETO, a town of Italy, in the kingdom of Naples, and in the Terra di Barri. E. Long. 16. 56. N. Lat. 41. 8.

BITHYNIA, an ancient kingdom of Aſia, formerly known by the names of *Myſia*, *Mygdonia*, *Babryicia*, *Mariandynia*,

Mariandynia, and *Bithynia*. It was bounded on the weſt by the Boſphorus Thracius and part of the Propontis, on the ſouth by the river Rhyndacus and mount Olympus, on the north by the Euxine ſea, and on the eaſt by the river Parthenius. The chief cities were *Myrlea*, *Nicomedia*, *Chalcedon*, *Heraclea*, and *Pruſa*.—As to its hiſtory, we find nothing of moment recorded; except the famous conduct of Pruſſias, one of its kings in delivering up to the Romans Hannibal, the great Carthaginian general, who fled to him for protection. His great grandſon Nicomedes IV. bequeathed the kingdom to the Romans. From them it was taken by the Turks, to whom it ſtill remains ſubject, but has no modern name.

BITONTO, an epiſcopal town of Italy, in the kingdom of Naples and Terra di Bari. It is ſeated in a plain eight miles ſouth of the gulph of Venice, in E. Long. 16. 52. N. Lat. 41. 13.

BITTACLE. See BINACLE.

BITTER, an epithet given to all bodies of an oppoſite taſte to ſweetneſs. For the medical virtues of bitters, ſee MATERIA MEDICA.

BITTERS, a ſea-term, ſignifying any turn of the cable about the bits, ſo as that the cable may be let out by little and little. And when a ſhip is ſtopped by a cable, ſhe is ſaid *to be brought up by a bitter*. Alſo that end of the cable which is wound about the bits is called *the bitter end of the cable*.

BITTER-Apple, in botany. See COLCYNTHIS.

BITTER-Salt. See *EPSOM-Salt*,

BITTER-Sweet, in botany. See SOLANUM.

BITTERN, in ornithology. See ARDEA.

BITTERN, in the ſalt-works, the brine remaining after the ſalt is concreted: this they ladle off, that the ſalt may be taken out of the pan, and afterwards put in again; when, being farther boiled, it yields more ſalt. See SALT.

BITUMENS, in natural hiſtory, are oily matters, of a ſtrong ſmell, and of different conſiſtencies, which are found in many places within the earth. See CHEMISTRY-*Index*.

BITUMEN JUDAICUM, See ASPHALTUM.

BITUREX, BITURIGES, or *Bituricæ*, afterwards corrupted to *Bourges*; the name of *Avaricum*, from the cuſtom of the lower age of calling towns from the names of the people. See AVARICUM.

BITURIGES (Cæſar); *Bituriges Cubi* (Strabo, Pliny, Ptolemy): a people in that part of Gallia Celtica afterwards aſſigned to Aquitania. Now called *Berry*.

BITURIGES Vibiſci (Ptolemy), a people of Aquitain.

BIVALVES, a term ſometimes uſed for ſuch ſhells as conſiſt of two pieces.—It is alſo an appellation given by botaniſts to ſuch pods or capſules as conſiſt of two valves incloſing the ſeeds.

BIVENTER, in anatomy, called alſo *digaſtric*, or *two-bellied*, a muſcle of the lower jaw. See ANATOMY, *Table of the Muſcles*.

BIUMBRES, in geography, an appellation given to the inhabitants of the torrid zone, by reaſon, at two different ſeaſons of the year, their ſhadows are projected two different ways. The biumbres are the ſame with thoſe otherwiſe denominated *amphiſcii*.

BIXA, the ROUCOU or *Arnotto-Tree*: A genus of the Monogynia order, belonging to the polyandria claſs of plants; and in the natural method ranking under the 37th order, *Columniferæ*. The corolla is ten-petaled; the calax quinquedented; the capſule hiſped and bivalved. Of this genus there is but one ſpecies known, *viz*. the orellana, a native of the warm parts of America. This riſes with an upright ſtem to the height of eight or ten feet, ſending out many branches at the top forming a regular head, garniſhed with heart-ſhaped leaves ending in a point, and having long footſtalks. The flowers are produced in looſe panicles at the end of the branches; theſe are of a pale peach colour, having large petals, and a great number of briſtly ſtamina of the ſame colour in the centre. After the flower is paſt, the germen becomes a heart-ſhaped, or rather a mitre-ſhaped, veſſel, covered on the outſide with briſtles opening with two valves, and filled with angular ſeeds. Theſe ſeeds are covered with a red waxen pulp or pellicle, from which the colour called ANOTTA is prepared, according to the proceſs deſcribed under that article. Theſe plants, in the countries where they grow, thrive beſt in a cool rich ſoil, and ſhoot moſt luxuriantly near ſprings and rivulets. They are propagated by ſeeds. Theſe, in England, are to be ſown in pots in the ſpring, and plunged in a bed of tanner's bark: the plants muſt afterwards be removed into ſeparate pots, and always kept in the ſtove.

BIZARRE, denoting *capricious*, &c. a term uſed among floriſts, for a particular kind of carnation, which has its flowers ſtriped or variegated with three or four colours.

BIZARRO, in the Italian muſic, denotes a fanciful kind of compoſition, ſometimes faſt, ſlow, ſoft, ſtrong, &c. according to the fancy of the compoſer.

BIZOCAI, or BISOCHI, in church-hiſtory, certain heretical monks, ſaid to have aſſumed the religious habit contrary to the canons, rejected the ſacraments, and maintained other errors.

BLACK, a well known colour, ſuppoſed to be owing to the abſence of light, moſt of the rays falling upon black ſubſtances being not reflected but abſorbed by them. Concerning the peculiar ſtructure of ſuch bodies as fits them for appearing of this or that particular colour, ſee the article COLOUR.

Concerning black colours in general, we have the following remarks by Dr Lewis.

"1. Of black, as of other colours, there are many ſhades or varieties; different bodies, truly and ſimply black, or which have no ſenſible admixture of any of the reſt of the colours, as black velvet, fine black cloth, the feathers of the raven, &c. appearing, when placed together, of teints very ſenſibly different.

Philoſoph. Commerce of Arts, p. 317.

"2. One and the ſame body alſo aſſumes different degrees of blackneſs, according to the diſpoſition of the ſenſible part of its ſurface; and in this reſpect, there is not, perhaps, any other colour which is ſo much affected by an apparent mechaniſm. Thus black velvet, when the pile is raiſed, appears intenſely black, much more ſo than the ſilk it was made from; but on preſſing the pile ſmooth, it looks pale, and in certain poſitions ſhows ſomewhat even of a whitiſh caſt.

"3. This obſervation is agreeable to the phyſical theory, which aſcribes the blackneſs of bodies to the luminous rays, that fall upon them, being in great part abſorbed or ſtifled in their pores. When the ſurface is compoſed of a multitude of looſe filaments, or ſmall points, with the extremities turned towards the eye, much of the light is ſtifled in the interſtices between them, and the body appears dark: when the filaments are preſſed cloſe, or the ſurface ſmoothed and poliſhed, more of the light is reflected from it, and the intenſity of the blackneſs is diminiſhed; though the beauty may be improved by the gloſſineſs which reſults from the ſmoothing.

“ 4. There is one caſe, however, in which a high poliſh may, on the ſame principle, produce blackneſs, in bodies otherwiſe even white. We find that ſpecula of white metal, or of quickſilvered glaſs, which reflect the rays of light to one point or in one direction, look always dark, unleſs when the eye is directly oppoſed to the reflected rays.

“ 5. As the abſorption of the luminous rays, except in the caſe juſt mentioned, makes the phyſical cauſe of blackneſs; it is concluded that black bodies receive heat more freely than others. Black marble or tiles, expoſed to the ſun, become ſenſibly hotter than white ones. Black paper is kindled by a burning glaſs much ſooner than white, and the difference is ſtrongly marked: a burning-glaſs, too weak to have any viſible effect at all upon white paper, ſhall readily kindle the ſame paper rubbed over with ink. Hence black clothes when wetted, are ſaid to dry faſter; black habits, and rooms hung with black, to be warmer; black mould to be a hotter ſoil for vegetables; and garden walls, painted black, to anſwer better for the ripening of wall-fruit than thoſe of lighter colours.

“ 6. It is not, however, to be affirmed that the like differences obtain in the impreſſions made by common fire. Black paper, held to the fire, does not ſeem to be affected ſooner, or in a greater degree, than ſuch as is white. It may be proper to obſerve alſo, that the combuſtibility of the paper may be increaſed, by impregnating it with ſubſtances of themſelves not combuſtible, and which give no colour to it. This is the foundation of one of the *ſympathetic* inks, as they are called, made of a ſtrong ſolution of ſal ammoniac in water, which, though colourleſs when written with on paper, becomes very legible on expoſing the paper to the fire; that is, it occaſions the parts moiſtened with it to ſcorch or burn, before the reſt of the paper is hurt, to a brown or black. All the ſalts I have tried produced this effect in a greater or leſs degree; nitre, alum, tartar, very weakly; ſea-ſalt more ſtrongly; fixed alkaline ſalts ſtill more ſo; ſal ammoniac the moſt ſtrongly of all. Metallic ſolutions, made in acids, and diluted ſo as not to corrode the paper, acted in the ſame manner.

“ 7. Beſides the ſimple blacks, there are a multitude of compound ones, inclining more or leſs to other colours. Thus the painters have blue-blacks, brown-blacks, &c. which may be made by mixing pigments of the reſpective colours with ſimple black ones, in greater or leſs quantity, according to the ſhade required. The dyers alſo have different blacks, and often darken other colours by ſlightly paſſing them through the black dying liquor; but the term *brown-black* is in this buſineſs unknown, brown and black being here looked upon as oppoſite to one another. In effect, the colour called *brown-black* is no other than that which ill-died black clothes change to in wearing: no wonder then that it is excluded from the catalogue of the dyers colours.

“ 8. The true or ſimple blacks, mixed with white, form different ſhades of grey, lighter or darker according as the white or black ingredients prevail in the mixt. The black pigments, ſpread thin upon a white ground, have a like effect.

“ 9. Hence the painter, with one true black pigment, can produce on white paper, or on other white bodies, all the ſhades of grey and black, from the ſlighteſt diſcoloration of the paper up to a full black: and the dyer produces the ſame effect on white wool, ſilk, or cloth, by continuing the ſubjects for a ſhorter or longer time in the black bath, or making the bath itſelf weaker or ſtronger.

“ 10. Hence alſo the dilution of black pigments with white, or the ſpreading of them thin upon a white ground, affords a ready method of judging of the quality or ſpecies of the colour; which if it be a true black, will in this diluted ſtate look of a pure or ſimple grey; but if it has a tendency to any other colour, that colour will now betray itſelf.

“ 11. All the colours in a very deep or concentrated ſtate approach to blackneſs. Thus the red liquor prepared by boiling or infuſing madder-root in water, and the yellow decoction or infuſion of liquorice-root, evaporated in a gentle heat till they become thick, look of a dark black colour, or of a colour approaching to blackneſs; and theſe thick maſſes, drawn out into ſlender ſtrings, or diluted with water or rubbed on paper, exhibit again the red and yellow colours, which the liquors had at firſt. Nature affords many black objects, whoſe blackneſs depends upon the ſame principle, being truly a concentration of ſome of the other colours. Thus in black-berries, currants, elderberries, &c. what ſeems to be black is no other than an opaque deep red: their juice appears black when its ſurface is looked down upon in an opaque veſſel, but red when diluted or ſpread thin. The black flint, as it is called, of the iſland of Aſcenſion, held in thin pieces between the eye and the light, appears greeniſh; and one of the deep black ſtones called *black agate*, viewed in the ſame manner, diſcovers its true colour to be a deep red.”

The moſt remarkable black colours in the mineral kingdom are, *Black* CHALK, *Pit-*COAL, *Black* SANDS, and *Black* LEAD (ſee theſe articles).—The only native vegetable black is the juice of the anacardium orientale, which poſſibly may be the tree that produces the excellent black varniſh of China and Japan (ſee VARNISH).—The juices of moſt aſtringent vegetables produce a black with iron, and for this purpoſe ſome of them are uſed in dyeing and callico-printing (ſee the article DYEING).—There are alſo a number of black colours artificially prepared for the uſe of painters ſuch as lamp-black, ivory-black, German-black, &c. for an account of the preparation and qualities of which, ſee the article *Colour-Making*.

Black-Act; the ſtatute of 9 Geo. I c. 22. is commonly called the *Waltham black act*, becauſe it was occaſioned by the devaſtations committed near Waltham in Eſſex, by perſons in diſguiſe, or with their faces blacked. By this ſtatute it is enacted, that perſons hunting armed and diſguiſed, and killing or ſtealing deer, or robbing

robbing warrens, or ſtealing fiſh out of any river, &c. or any perſons unlawfully hunting in his majeſty's foreſts, &c. or breaking down the head of any fiſh-pond, or killing &c. of cattle, or cutting down trees, or ſetting fire to houſe, barn, or wood, or ſhooting at any perſon, or ſending letters either anonymous or ſigned with a fictitious name demanding money, &c. or reſcuing ſuch offenders, are guilty of felony, without benefit of clergy. This act is made perpetual by 31 Geo. II. c. 42.

BLACK-*Bird*, in orinthology. See TURDUS.

BLACK-*Book of the Exchequer*. See EXCHEQUER.

BLACK-*Books*, a name given to thoſe which treat of necromancy, or, as ſome call it, *negromancy*. The black-book of the Engliſh monaſteries was a detail of the ſcandalous enormities practiſed in religious houſes, compiled by order of the viſitors under king Hen. VIII. to blacken, and thus haſten their diſſolution.

BLACK-*Cap*, in orinthology. See MOTACILLA.

BLACK-*Cock*. See TETRAO.

BLACK-*Eagle*. See FALCO.

BLACK *Eunuchs*, in the cuſtoms of eaſtern nations, are Ethiopeans caſtrated, to whom their princes commonly commit the care of their women. See EUNUCH.

BLACK-*Foreſt*, a foreſt of Germany, in Suabia, running from north to ſouth between Ortnau, Briſgaw, part of the duchy of Wirtemberg, the principality of Fuſtemburg towards the ſource of the Danube, as far as the Rhine above Baſil. It is part of the ancient Hyrcanian foreſt.

BLACK-*Friars*, a name given to the dominican order; called alſo *predicants* and *preaching friars*; in France, *jacobins*.

BLACK-*Jack*, or *Blend*, is a mineral called alſo *falſe galena*, *blinde*, &c. See BLINDE.

BLACK-*Land*, in agriculture, a term by which the huſbandmen denote a particular ſort of clayey ſoil, which, however, they know more by its other properties than by its colour, which is rarely any thing like a true black, and often but a pale grey. This, however pale when dry, always blackens by means of rains, and when ploughed up at theſe ſeaſons it ſticks to the ploughſhares, and the more it is wrought the muddier and duſkier coloured it appears. This ſort of ſoil always contains a large quantity of ſand, and uſually a great number of ſmall white ſtones.

BLACK-*Lead (Plumbago)*. See *Black*-LEAD.

BLACK *Leather*, is that which has paſſed the curriers hands, where, from the ruſſet as it was left by the tanners, it is become black, by having been ſcored and rubbed three times on the grain-ſide with copperas-water. See LEATHER.

BLACK-*Legs*, a name given in Leiceſterſhire to a diſeaſe frequent among calves and ſheep. It is a kind of jelly which ſettles in their legs, and often in the neck, between the ſkin and fleſh.

BLACK-*Mail*, a certain rate of money, corn, cattle, or other matter, anciently paid by the inhabitants of towns in Weſtmoreland, Cumberland, Northumberland, and Durham, to divers perſons inhabiting on or near the borders, being men of name, and allied with others in thoſe parts, known to be great robbers and ſpoil-takers; in order to be by them freed and protected from any pillage. Prohibited by 43 El. c. 13. The origin of this word is much conteſted, yet there is ground to hold the word *black* to be here a corruption of blank or white, and conſequently to ſignify a rent paid in a ſmall copper coin called *blanks*. This may receive ſome light from a phraſe ſtill uſed in Picardy, where ſpeaking of a perſon who has not a ſingle halfpenny, they ſay, *il n' a pas une blanque maille*.

BLACK-*Monks*, a denomination given to the Benedictines, called in Latin *nigri monachi*, or *nigro monachi*; ſometimes *ordo nigrorum*, "the order of blacks."

BLACK-*Oats*. See OATS.

BLACK-*Proceſſion*, in eccleſiaſtical writers, that which is made in black habits, and with black enſigns and ornaments." See PROCESSION. Anciently at Malta there was a black-proceſſion every Friday, where the whole clergy walked with their faces covered with a black veil.

BLACK-*Rents*, the ſame with black-mail, ſuppoſed to be rents formerly paid in proviſions and fleſh, not in ſpecie.

BLACK-*Rod*. See ROD.

BLACK-*Row Grains*, a ſpecies of iron-ſtone, or ore found in the mines about Dudley in Staffordſhire.

BLACK-*Sea*. See EUXINE-*Sea*.

BLACK-*Sheep*, in the Oriental hiſtory, the enſign or ſtandard of a race of Turkmans ſettled in Armenia and Meſopotamia; hence called the *dynaſty of the black ſheep*.

BLACK-*Stones* and *Gems*, according to Dr Woodward, owe their colour to a mixture of tin in their compoſition.

BLACK-*Strakes*, a range of planks immediately above the wales in a ſhip's ſide. They are always covered with a mixture of tar and lamp-black.

BLACK-*Tin*, in mineralogy, a denomination given to to the tin-ore when dreſſed, ſtamped and waſhed ready for the blowing-houſe, or to be melted into metal. It is prepared into this ſtate by means of beating and waſhing; and when it has paſſed through ſeveral buddles or waſhing troughs, it is taken up in form of a black powder, like fine ſand, called *black-tin*.

BLACK-*Wadd*, in mineralogy, a kind of ore of manganeſe, remarkable for its property of taking fire when mixed with linſeed oil in a certain proportion. It is found in Derbyſhire, and is uſed as a drying ingredient in paints; for when ground with a large quantity of oily matter, it loſes the property abovementioned. See MANGANESE.

BLACK-*Water*, the name of two rivers in Ireland; one of which runs through the counties of Cork and Waterford, and falls in Youghal Bay; and the other, after watering the county of Armagh, falls into Lough-Neah.

BLACK-*Whytlof*, in old writers, bread of a middle fineneſs betwixt white and brown, called in ſome parts *ravel-bread*. In religious houſes, it was the bread made for ordinary gueſts, and diſtinguiſhed from their houſehold loaf, or *panis conventualis*, which was pure manchet, or white bread.

BLACK-*Work*, iron wrought by the blackſmith; thus called by way of oppoſition to that wrought by white-ſmiths.

BLACKALL (Dr Offſpring), biſhop of Exeter in the beginning of the 18th century, was born at London 1654, and educated at Catharine-Hall, Cambridge. For two years he refuſed to take the oath of allegiance to King William and Queen Mary, but at laſt ſubmitted to the government, though he ſeemed to condemn the revolution, and all that had been done purſuant to it. He was a man of great piety, had much primitive ſimplicity and integrity, and a conſtant evenneſs of mind. In a ſermon before the houſe of commons, Jan. 30th 1699, he animadverted on Toland's aſſertion in his life of Milton, that Charles I. was not the writer of the *Icon Baſilike*, and for ſome inſinuations againſt the authenticity of the Holy Scriptures; which produced a controverſy between him and that author. In 1700, he preached a courſe of ſermons in St Paul's at Boyle's lecture, which were afterwards publiſhed; and was conſecrated biſhop of Exeter in 1707. He died at Exeter in 1716, and was interred in the cathedral there.

BLACKBANK, a town of Ireland, in the county of Armagh and province of Ulſter, ſeated in W. Long. 6. 55. N. Lat. 54. 12.

BLACKBERRY, in botany. See Rubus.

BLACKBURN, a town of Lancaſhire in England, ſeated near the river Derwent. It takes its name from the brook Blackwater which runs thro' it. W. Long. 2. 15. N. Lat. 53. 40.

BLACKING is ſometimes uſed for a factitious black, as lamp-black, ſhoe-black, &c. A mixture of ivory or lamp-black with lintſeed-oil makes the common oil-blacking. For a ſhining blacking, ſmall beer or water is uſed inſtead of oil, in the proportion of about a a pint to an ounce of the ivory-black, with the addition of half an ounce of brown ſugar, and as much gum arabic. The white of an egg ſubſtituted for the gum makes the black more ſhining; but is ſuppoſed to hurt the leather, and make it apt to crack.

BLACKMORE (Sir Richard), a phyſician, and voluminous writer of theological, poetical, and phyſical works. Having declared himſelf early in favour of the Revolution, King William, in 1697, choſe him one of his phyſicians in ordinary, and conferred the honour of knighthood on him. On Queen Anne's acceſſion, Sir Richard was alſo appointed one of her phyſicians, and continued ſo for ſome time. Dryden and Pope treated the poetical performances of Blackmore with great contempt; and in a note to the mention made of him in the Dunciad, we are informed that his "indefatigable muſe produced no leſs than ſix epic poems: *Prince and King Arthur*, 20 books; *Eliza*, 10; *Alfred*, 12; *The Redeemer*, ſix; beſide *Job*, in folio; the whole book of *Pſalms; the Creation*, ſeven books; *Nature of Man*, three books; and many more." But notwithſtanding Blackmore was much ridiculed by the wits, he is not without merit: and Addiſon has, in the Spectator, beſtowed ſome liberal commendations on his poem on the Creation. It muſt be mentioned too in honour of Sir Richard, that he was a chaſte writer, and a warm advocate for virtue, at a time when an almoſt univerſal degeneracy prevailed. He had been very free in his cenſures on the libertine writers of his age; and it was owing to ſome liberty he had taken of this kind, that he drew upon him the reſentment of Mr Dryden. He had likewiſe given offence to Mr Pope; for having been informed by Mr Curl that he was the author of a traveſtie on the firſt Pſalm, he took occaſion to reprehend him for it in his Eſſay on Polite Learning. Beſides what are above mentioned, Sir Richard wrote ſome theological tracts, and ſeveral treatiſes on the plague, ſmall-pox, conſumptions, the ſpleen, gout, dropſy, &c. and many other poetical pieces. He died October 9. 1729.

BLACKNESS, the quality of a black body; or a colour ariſing from ſuch a texture and ſituation of the ſuperficial parts of the body as does as it were deaden, or rather abſorb, the light falling on it, without reflecting any, or very little of it, to the eye.—In which ſenſe, *blackneſs* ſtands directly oppoſed to *whiteneſs*; which conſiſts in ſuch a texture of parts as indifferently reflects all the rays thrown upon it, of what colour ſoever they be.

Deſcartes, ſays Dr Prieſtly, though miſtaken with reſpect to the nature of light and colours, yet diſtinguiſhes juſtly between black and white; obſerving, that black ſuffocates and extinguiſhes the light that falls upon it, but white reflects them. See Black.

BLACKS, in phyſiology. See Negroes.

Blacks is alſo a name given to an aſſociation of diſorderly and ill-deſigned perſons, formerly herding chiefly about Waltham in Eſſex, who deſtroyed deer, robbed fiſh-ponds, ruined timber, &c. See *Black-Act*.

BLACKSTONE (Sir William), an eminent Engliſh lawyer, was born at London in July 1723. His father, Mr Charles Blackſtone, a ſilk-man, citizen, and bowyer of London, died ſome months before the birth of our author, who was the youngeſt of four children; and their mother died before he was 12 years old. Even from his birth, the care of both his education and fortune was kindly undertaken by his maternal uncle Mr Thomas Bigg, an eminent ſurgeon in London, and afterwards, on the death of his elder brothers, owner of the Chilton eſtate, which is ſtill enjoyed by that family. In 1730 being about ſeven years old, he was put to ſchool at the Charter-houſe; and in 1735 was, by the nomination of Sir Robert Walpole, on the recommendation of Charles Wither of Hall in Hampſhire, Eſq. his couſin by the mother's ſide, admitted upon the foundation there. In this excellent ſeminary he applied himſelf to every branch of youthful education, with the ſame aſſiduity which accompanied his ſtudies through life. His talents and induſtry rendered him the favourite of his maſters, who encouraged and aſſiſted him with the utmoſt attention: ſo that at the age of 15 he was at the head of the ſchool, and although ſo young, was thought well qualified to be removed to the univerſity. He was accordingly entered a commoner at Pembroke college in Oxford, on the 30th of November 1738, and was the next day matriculated. At this time he was elected to one of the Charter-houſe exhibitions by the governors of that foundation, to commence from the Michaelmas preceding; but was permitted to continue a ſcholar there till after the 12th of December, being the anniverſary commemoration of the founder, to give him an opportunity of ſpeaking the cuſtomary oration which he had prepared, and which did him much credit. About this time alſo he obtained Mr Benſon's gold prize-medal of Milton, for verſes on that poet. In the February following, the ſociety of Pembroke college unanimouſly elected him to one of Lady Holford's exhibitions for Charter-houſe ſcholars in that houſe. Here he proſecuted his ſtudies with unremitting ardour; and although the claſſics, and particularly the Greek and Roman poets, were his favourites, they did not entirely engroſs his attention: logic, mathematics, and the other ſciences, were not neglected. At the early age of 20, he compiled a treatiſe entitled *Elements of Architecture*, intended for his own uſe only, and not for publication; but eſteemed by thoſe judges who have peruſed it, in no reſpect unworthy his maturer judgment and more exerciſed pen.

Having determined on his future plan of life, and made choice of the law for his profeſſion, he was entered in the Middle Temple on the 20th of November 1741. He now found it neceſſary to quit the more amuſing purſuits of his youth, for the ſeverer ſtudies to which he had dedicated himſelf; and betook himſelf ſeriouſly to reading law. He expreſſed his diſagreeable ſenſations on this occaſion, in a copy of verſes, ſince publiſhed by Dodſley in vol. 4th of his miſcellanies, intitled *The Lawyer's Farewell to his Muſe*; in which the ſtruggle of his mind is expreſſed ſo ſtrongly, ſo naturally, with ſuch elegance of ſenſe and language, and harmony of verſification, as muſt convince every reader that his paſſion for the muſes was too deeply rooted to be laid aſide without much reluctance; and that, if he had purſued that flowery path, he would perhaps have proved inferior to few of our Engliſh poets. Several little fugitive pieces beſides this, have at times been communicated by him to his friends; and he left, (but not with a view of publication) a ſmall collection of juvenile pieces, both originals and tranſlations, inſcribed with this line from Horace,

Nec luſiſſe pudet, ſed non incidere ludum.

Some notes on Shakeſpeare, which juſt before his death he communicated to Mr Stevens, and which were inſerted by him in his laſt edition of that author, ſhow how well he underſtood the meaning, as well as the beauties, of that his favourite among the Engliſh poets.

In November 1743, he was elected into the ſociety of All-Souls college; and in the November following, he ſpoke the anniverſary ſpeech in commemoration of archbiſhop Chicely the founder, and the other benefactors to that houſe of learning, and was admitted actual fellow. From this period he divided his time between the univerſity and the Temple, where he took chambers in order to attend the courts: in the former he purſued his academical ſtudies, and on the 12th of June 1745 commenced bachelor of civil law; in the latter he applied himſelf cloſely to his profeſſion, both in the hall and in his private ſtudies, and on the 28th of November 1746 he was called to the bar. Though he was little known or diſtinguiſhed in Weſtminſter-hall, he was actively employed, during his occaſional reſidence at the univerſity, in attending to its intereſts, and mingling with and improving its interior concerns. In May 1749, as a ſmall reward for his ſervices, and to give him further opportunities of advancing the intereſts of the college, Mr Blackſtone was appointed ſteward of their manors. And in the ſame year, on the reſignation of his uncle Seymour Richmond, Eſq; he was elected recorder of the borough of Wallingford in Berkſhire, and received the King's approbation on the 30th of May. The 26th of April 1750, he commenced doctor of civil law, and thereby became a member of the convocation, which enabled him to extend his views beyond the narrow circle of his own ſociety, to the general benefit of the univerſity at large. In the ſummer 1753, he took the reſolution of wholly retiring to his fellowſhip and an academical life, ſtill continuing the practice of his profeſſion as a provincial counſel.

His Lectures on the Laws of England appears to have been an early and favourite idea: for in the Michaelmas term, immediately after he quitted Weſtminſter-hall, he entered on the province of reading them at Oxford; and we are told by the author of his life, that even at their commencement, ſuch were the expectations formed from the acknowledged ablities of the lecturer, they were attended by a very crowded claſs of young men of the firſt families, characters, and hopes; but it was not till the year 1758, that the lectures in the form they now bear were read at the univerſity. Mr. Viner having by his will left not only the copyright of his abridgment, but other property to a conſiderable amount, to the univerſity of Oxford, to found a profeſſorſhip, fellowſhips, and ſcholarſhips of common law, he was on the 20th of October 1758 unanimouſly elected Vinerian profeſſor; and on the 25th of the ſame month read his firſt introductory lecture which he publiſhed at the requeſt of the vice-chancellor and heads of houſes, and afterwards perfixed to the firſt volume of his Commentaries. His lectures had now gained ſuch univerſal applauſe, that he was requeſted by a noble perſonage who ſuperintended the education of the preſent ſovereign then prince of Wales, to read them to his Royal Highneſs; but as he was at that time engaged to a numerous claſs of pupils in the univerſity, he thought he could not, conſiſtently with that engagement, comply with this requeſt, and therefore declined it. But he tranſmitted copies of many of them for the peruſal of his royal highneſs; who, far from being offended at an excuſe grounded on ſo honourable a motive, was pleaſed to order a handſome gratuity to be preſented to him. It is doubtful whether the Commentaries were originally intended for the preſs; but many imperfect and incorrect copies having got abroad, and a pirated edition of them being either publiſhed, or preparing for publication in Ireland, the learned lecturer thought proper to print a correct edition himſelf; and in November 1765 publiſhed the firſt volume, under the title of *Commentaries on the Laws of England*; and in the courſe of the four ſucceeding years, the remaining parts of this admirable work. It ought to be remarked, that before this period the reputation his lectures deſervedly acquired him had induced him to reſume his practice in Weſtminſter-hall; and in a courſe ſomewhat inverted from the general progreſs of his profeſſion, he who had quitted the bar for an academic life, was ſent back from the college to the bar, with a conſiderable increaſe of buſineſs. He was likewiſe elected into parliament firſt for Hindon, and afterwards for Weſtbury in Wilts; but in neither of theſe departments did he equal the expectations his writings had raiſed. The part he took in the Middleſex election drew upon him the attack of ſome perſons of ability in the ſenate, and likewiſe a ſevere animadverſion of one of the keeneſt polemical writers * in the paper-war of that day. This circumſtance probably ſtrengthened the averſion he profeſſed to parliamentary attendance; " where, (he ſaid) amidſt the rage of contending parties, a man of moderation muſt expect to meet with no quarter from any ſide:" and when, on the reſignation of Mr Dunning in 1770, he was offered the place of ſolicitor-general, he refuſed that office; but ſhortly afterwards, on the promotion of Sir Joſeph Yates to a ſeat in the court of common-pleas, accepted a ſeat on the bench, and by the death of Sir Joſeph, ſucceeded him there alſo. As a judge, he was not inactive; but, when not occupied in the duties of his ſtation, was generally engaged in ſome ſcheme of public utility. The act for detached houſes for hard labour for convicts, as a ſubſtitute for tranſportation, owed its origin in a great meaſure to him.

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* *Junius.*

It ought not to be omitted, that the laſt augmentation of the judges ſalaries, calculated to make up the deficiencies occaſioned by the heavy taxes they are ſubject to, and thereby render them more independent, was obtained in a great meaſure by his induſtry and attention. This reſpectable and valuable man died on the 14th of February 1780, in the 50th year of his age.

BLACKWALL (Anthony, A. M.), a learned author, after completing his academical education at Emanuel college, Cambridge, was appointed head maſter of the free-ſchool at Derby, and lecturer of All-hallows there, where he firſt diſtinguiſhed himſelf in the literary world by an edition of Theognis, printed at London in 1706, and was afterwards head maſter of the free-ſchool at Market-Boſworth in Leiceſterſhire. The grammar whereby he initiated the youth under his care into Latin, was of his own compoſing, and ſo happily fitted for the purpoſe, that he was prevailed on to make it public, though his modeſty would not permit him to fix his name to it, becauſe he would not be though to preſcribe to other inſtructors of youth. It is intitled, "A New Latin Grammar: being a ſhort, clear, and eaſy Introduction of young Scholars to the Knowledge of the Latin Tongue; containing an exact Account of the two firſt Parts of Grammar." In his "Introduction to the Claſſics," firſt publiſhed in 1718, 12mo, he diſplayed the Beauties of thoſe admirable writers of antiquity, to the underſtanding and imitation even of common capacities; and that in ſo conciſe and clear a manner, as ſeemed peculiar to himſelf. But his greateſt and moſt celebrated work was, "The Sacred Claſſics defended and illuſtrated; or, An Eſſay humbly offered towards preſerving the Purity, Propriety, and True Eloquence of the Writers of the New Teſtament," in 2 vols. Mr Blackwall had the felicity to bring up many excellent ſcholars in his ſeminaries at Derby and Boſworth; among others the celebrated Richard Dawes, author of the *Micellanea Critica*. A gentleman who had been his ſcholar, being patron of the church of Clapham in Surrey, preſented him to that living as a mark of his gratitude and eſteem. This happening late in life, and Blackwall having occaſion to wait upon the biſhop of the dioceſe, he was ſomewhat pertly queſtioned by a young chaplain as to the extent of his learning. "Boy (replied the indignant veteran, I have forgot more than ever you knew!" He died at Market-Boſworth, April 8. 1730.

BLACKWELL (Thomas), an eminent Scottiſh writer, was ſon of a miniſter at Aberdeen, and born there 1701. He had his grammatical learning at a ſchool in Aberdeen, ſtudied Greek and Philoſophy in the Mariſchal college there, and took the degree of M. A. in 1718. Being greatly diſtinguiſhed by uncommon parts, and early proficiency in letters, he was, Dec. 1723, made Greek profeſſor in the college where he had been educated; and continued to teach that language with applauſe even to his death. In 1737, was publiſhed in London, but without his name, "An Enquiry into the Life and Writings of Homer," 8vo.; a ſecond edition of which appeared in 1736; and not long after, "Proofs of the Enquiry into Homer's life and writings," which was a tranſlation of the Greek, Latin, Spaniſh, Italian, and French notes ſubjoined to the original work. In 1748, he publiſhed "Letters concerning Mythology," 8vo.; without his name alſo. The ſame year he was made principal of the Mariſchal college in Aberdeen, and is the only layman who hath been appointed principal of that college, ſince the patronage came to the Crown, by the forfeiture of the Mariſchal family, in 1716; all the other principals having been miniſters of the church of Scotland. March 1752, he took the degree of doctor of laws: and the year following came out the firſt volume of his Memoirs of the Court of Auguſtus, 4to. The ſecond volume appeared in 1755; and the third, which was poſthumous, and left incomplete by the author, was fitted for the preſs by John Mills, Eſq; and publiſhed in 1764. At the ſame time was publiſhed a third edition of the two former volumes: Which is a proof of the good reception the work met with from the public; though it muſt be acknowledged that the parade with which it is written, and the peculiarity of its language, expoſed it to ſome ſeverity of cenſure.

Soon after he became principal of his college, he married a merchant's daughter of Aberdeen, by whom he had no children. Several years before his death, his health began to decline: his diſorder was of the conſumptive kind, and thought to be forwarded by an exceſs of abſtemiouſneſs which he impoſed upon himſelf. His diſeaſe increaſing, he was adviſed to travel, and accordingly ſet out in Feb. 1757; however, he was not able to go farther than Edinburgh, in which city he died the 8th of March following, in his 56th year. He was a very ingenious and very learned man; he had an equable flow of temper, and a truly philoſophic ſpirit, both which he ſeems to have preſerved to the laſt; for on the day of his death he wrote to ſeveral of his friends.

BLACKWELL (Alexander), ſon of a dealer in knit hoſe at Aberdeen, where he received a liberal education, ſtudied phyſic under Boerhaave at Leyden, took the degree of M. D. and acquired a proficiency in the modern languages. On his return home, happening to ſtay ſome time at the Hague, he contracted an intimacy with a Swediſh nobleman. Marrying a gentleman's daughter in the neighbourhood of Aberbeen, he propoſed practiſing his profeſſion in that part of the kingdom; but in two years finding his expectations diſappointed, he went to London, where he met with ſtill leſs encouragement as a phyſician, and commenced corrector of the preſs for Mr Wilkn's a printer. After ſome years ſpent in this employment, he ſet up as a printer himſelf; and carried on ſeveral large works till 1734, when he became bankrupt. In what manner he ſubſiſted from this event till the above-mentioned application we do not learn, unleſs it was by the ingenuity of his wife, who publiſhed "A curious

Herbal containing 500 Cuts of the moſt uſeful Plants which are now uſed in the Practice of Phyſic, engraved in folio Copperplates, after drawings taken from the Life, by Elizabeth Blackwell. To which is added, a ſhort Deſcription of the Plants, and their common Uſes in Phyſic, 1739," 2 vols. folio. In or about the year 1740 he went to Sweden, and renewing his intimacy with the nobleman he knew at the Hague, again aſſumed the medical profeſſion, and was very well received in that capacity: till turning projector, he laid a ſcheme before his Swediſh majeſty for draining the fens and marſhes, which was well received, and many thouſands employed in proſecuting it under the doctor's direction, from which he had ſome ſmall allowance from the king. This ſcheme ſucceeded ſo well, he turned his thoughts to others of greater importance, which in the end proved fatal to him. He was ſuſpected of being concerned in a plot with Count Teſſin, and was tortured; which not producing a confeſſion, he was beheaded Auguſt 9th 1748; and ſoon after this event appeared "A genuine copy of a Letter from a merchant in Stockholm, to his correſpondedt in London; containing an Impartial Account of Doctor Alexander Blackwell, his Plot, Trial, Character, and Behaviour, both under Examination and at the Place of Execution; together with a Copy of a Paper delivered to a Friend upon the Scaffold." He poſſeſſed a good natural genius, but was ſomewhat flighty and a little conceited. His converſation, however, was facetious and agreeable; and he might be conſidered on the whole as a well-bred accompliſhed gentleman.

BLADDER, in anatomy, a thin expanded membranous body, found in ſeveral parts of an animal, ſerving as a receptacle of ſome juice, or of ſome liquid excrement; from which it takes various denominations, as *urine-bladder*, *gall-bladder*, &c.

BLADDER, by way of eminence, is a large veſſel which ſerves as a receptacle of the urine of animals, after its ſecretion from the blood in the kidneys. This is ſometimes alſo called, by way of diſtinction, the *urinary bladder*, *veſica urinaria*. The bladder is ſituated in the pelvis of the abdomen; in men immediately on the rectum: in women on the vagina uteri. See ANATOMY.

Though the urinary bladder be naturally ſingle, yet there have been inſtances of nature's varying from herſelf in this particular. The bladder of the famous Caſaubon, upon diſſecting his body after his death, was found to be double; and in the Philoſophical Tranſactions, we have an account of a tripple bladder found in the body of a gentleman who had long been ill and no one could gueſs the cauſe.

The urinary bladders of brutes are differently contrived from the human bladder, and from each other according to the ſtructure, œconomy, and manners of living of each creature. See *Comparative*-ANATOMY.

Bladders, when below a certain magnitude, are more uſually denominated by the diminutive veſicles, *veſiculæ*. Of theſe we meet with many ſorts both in the animal and vegetable world; ſome natural, as the lungs, eſpecially of frogs, and as ſome alſo imagine, in the muſcles; others morbid or preternatural, as the *hydatidis*, and thoſe obſervable in the itch. Naturaliſts have alſo diſcovered bladders in the thorax and abdomen of birds, as well as others in the belly of fiſhes, called *air-bladders* and *ſwims*.

Vegetable bladders are found every where in the ſtructure of the bark, the fruit, pith, and *parenchyma* or pulp; beſides thoſe morbid ones raiſed on the ſurface of leaves by the puncture of inſects.

Bladder-Nut. See STAPHYLÆA.

Bladder-Senna. See COLUTEA.

BLADE, in commerce, a thin ſlender piece of metal either forged by the hammer or run and caſt in moulds to be afterwards ſharpened to a point, edge, or the like.

Sword-blades are made by the armourers, knife-blades by the cutlers, &c. The Engliſh and Damaſcus blades are moſt eſteemed among the French, thoſe of Vienne in Dauphiny have the preference. The conditions of a good blade of a ſmall ſword are, that it be light and tough, apter to bend than break. When it will ſtand in the bend, it is called *a poor man's blade*.

BLADEN, (Martin), a tranſlator and dramatic author was formerly an officer in the army, bearing the commiſſion of a lieutenant-colonel in Queen Anne's reign, under the great duke of Marlborough, to whom he dedicated a tranſlation of Cæſar's Commentaries, which he had completed, and which is to this day a book held in good eſtimation. In 1714, he was made one of the Lords Commiſſioners of Trade and Plantations; and in 1717 was appointed envoy extraordinary to the court of Spain, in the room of —— Brett, Eſq. but declined it, chooſing rather to keep the poſt he already had, which was worth L.1000 *per annum*, and which he never parted with till his death, which was in May 1746. He was alſo many years member of parliament for the town of Portſmouth. He wrote two dramatic pieces; both of which (for the one is only a maſque introduced in the third act of the other) were printed in the year 1705, without the author's conſent. Their names are, 1. Orpheus and Euridice, a Maſque. 2. Solon, a Tragic Comedy.

BLADUM, in middle-age writers, is taken for all ſort of ſtanding corn in the blade and ear. The word is alſo written *blatum*, *blava*, and *blavium*.

In old charters, the word bladum included the whole product of the ground, fruit, corn, flax, graſs, &c. and whatever was oppoſed to living creatures. It was ſometimes alſo applied to all ſorts of grain or corn threſhed on the floor. But the word was more peculiarly appropriated to bread-corn, or wheat called in French *blé*. Thus the knights Templars are ſaid to have granted to Sir Wido de Meriton's wife *duas ſummas bladi*.

BLEAU (William), a famous printer of Amſterdam, a diſciple and friend of Tycho Brahe's: his Atlas, his Treatiſe of the Globes, Aſtronomical Inſtitutions, &c. and his fine impreſſions, have ſecured his memory. He died in 1638.

BLAFART, in commerce, a ſmall coin, current at Cologn, worth ſomething more than a farthing of our money.

BLAGRAVE (John), the ſecond ſon of John Blagrave, of Bulmarſh-court near Sunning, in Berkſhire, deſcended of an ancient family in that country. From a grammar-ſchool at Reading he was ſent to St John's college in Oxford, where he applied himſelf chiefly to the ſtudy of mathematics, and without taking any degree, afterwards retired to his patrimonial ſeat of Southcole-logde near Reading, where he ſpent the remainder of his life. In this manſion he died in the year 1611; and was buried in the church of St Lawrence, where a ſumptuous monument was erected to his memory. Having never married, he bequeathed to all the poſterity of his three brothers, the ſum of 50l. each payable at the age of 26; and he calculated his donation ſo well, that near fourſcore of his nephews and their deſcendants have reaped the benefit of it. He alſo ſettled certain lands at Swallowfield in the ſame county, as a proviſion for the poor for ever. Among other charities, he left ten pounds to be annually diſpoſed of in the following manner: On good-Friday, the church-wardens of each of the three pariſhes of Reading ſend to the town-hall *one virtuous maid, who has lived five years with her maſter*: there, in the preſence of the magiſtrates, theſe three virtuous maids throw dice for the ten pounds. The two loſers are returned with a freſh one the year following, and again the third year, till each has had three chances. He is ſaid to have been not more remarkable for his mathematical knowledge than for his candour and generoſity to his acquaintance. His works are, 1. *A mathematical jewel*. Lond. 1585, fol. 2. *Of the making and uſe of the familiar ſtaff*. Lond. 1590, 4to. 3. *Aſtrolabium uranicum generale*. Lond. 1566, 4to. 4. *The art of dialing*. Lond. 1609, 4to.

BLAIN, among farriers, a diſtemper incident to beaſts, being a certain bladder growing on the root of the tongue, againſt the wind-pipe, which ſwells to ſuch a pitch as to ſtop the breath. It comes by great chaffing and heating of the ſtomach, and is perceived by the beaſt's gaping and holding out his tongue, and foaming at the mouth. To cure it, caſt the beaſt, take forth his tongue, and then, ſlitting the bladder, waſh it gently with vinegar and a little ſalt.

BLAIR (John), a Scottiſh author, was contemporary with, and the companion, ſome ſay the chaplain, of Sir William Wallace. He attended that great hero in almoſt all his exploits; and, after his death, which left ſo great a ſtain on the character of Edward I. of England, he wrote his memoirs in Latin. The injury of time has deſtroyed this work, which might have thrown the greateſt light on the hiſtory of a very buſy and remarkable period. An inaccurate fragment of it only has deſcended to us, from which little can be learned, and which was publiſhed, with a commentary, by Sir Bobert Sibbald.

Blair (James), an eminent divine, was born and bred in Scotland, where he had at length a benefice in the epiſcopal church; but meeting with ſome diſcouragements, he went to England, in the latter end of the reign of king Charles II. and was ſent by Dr Compton as a miſſionary to Virginia, and was afterwards, by the ſame biſhop, made commiſſary for that colony, the higheſt office in the church there. He diſtinguiſhed himſelf by his exemplary conduct and unwearied labours in the work of the miniſtry; and finding that the want of proper ſeminaries for the advancement of religion and learning was a great damp upon all attempts for the propagation of the goſpel, he formed a deſign of erecting and endowing a college at Williamſburgh, in Virginia, for profeſſors and ſtudents in academical learning. He therefore not only ſet on foot a voluntary ſubſcription; but, in 1693, came to England to ſolicit the affair at court: when queen Mary was ſo well pleaſed with the noble deſign, that ſhe eſpouſed it with particular zeal; and king William readily concurring with her majeſty, a patent was paſſed for erecting and endowing a college by the name of the *William and Mary college*, of which Mr Blair was appointed preſident, and enjoyed that office near 50 years. He was alſo rector of Williamſburgh, and preſident of the council in that colony. He wrote, Our Saviour's divine Sermon on the Mount, explained in ſeveral ſermons, 4 vols, octavo; and died in 1743.

Blair (John), an eminent chronologiſt, was educated at Edinburgh; and going to London was for ſome time uſher of a ſchool in Hedge-Lane. In 1754, he obliged the world with that valuable publication, "The Chronology and Hiſtory of the World, from the Creation to the year of Chriſt 1753. Illuſtrated in LVI. Tables; of which four are introductory and contain the centuries prior to the firſt Olympiad; and each of the remaining LII. contain in one expanded View 50 years, or half a Century." This volume, which is dedicated to lord chancellor Hardwicke, was publiſhed by ſubſcription, on account of the great expence of the plates, for which the author apologized in his preface, where he acknowledged great obligations to the earl of Bath, and announced ſome chronological diſſertations, wherein he propoſed to illuſtrate the diſputed points, to explain the prevailing ſyſtems of chronology, and to eſtabliſh the authorities upon which ſome of the particular æras depend. In January 1755 he was elected a fellow of the Royal Society, and in 1761 of the Society of Antiquaries. In 1756 he publiſhed a ſecond edition of his "Chronological Tables." In Sep. 1757, he was appointed chaplain to the Princeſs Dowager of Wales, and mathematical tutor to the Duke of York; and on Dr Townſhend's promotion to the deanery of Norwich, the ſervices of Dr Blair were rewarded, March 10, 1761, with a prebendal ſtall at Weſtminſter. The vicarage of Hinckley happening to fall vacant ſix days after, by the death of Dr Morres, Dr Blair was preſented to it by the dean and chapter of Weſtminſter; and in Auguſt that year he obtained a diſpenſation to hold with it the rectory of Burton Coggles in Lincolnſhire. In September 1763 he attended his royal pupil the duke of York in a tour to the continent; had the ſatisfaction of viſiting Liſbon, Gibraltar, Minorca, moſt of the principal cities in Italy, and ſeveral parts of France; and returned with the duke in Auguſt 1764. In 1768 he publiſhed an improved edition of his "Chronological Tables," which he dedicated to the Princeſs of Wales, who had expreſſed her early approbation of the former edition. To the new edition were annexed, "Fourteen Maps of Ancient and Modern Geography, for illuſtrating the Tables of Chronology and Hiſtory. To which is prefixed a Diſſertation on the Progreſs of Geography." In March 1771, he was preſented by the dean and chapter of Weſtminſter to the vicarage of St Bride's in the city of London; which made it neceſſary for him to reſign Hinckley, where he had never reſided for any length of time. On the death of Mr Sims, in April 1776, he reſigned St Bride's, and was preſented to the rectory of St John the Evangeliſt in Weſtminſter; and in June that year obtained a diſpenſation to hold the rectory of St John with that of Horton, near Colebrooke, Bucks. His brother captain Blair falling gloriouſly in the ſervice of his country in the memorable ſea-fight of April 12th 1782, the ſhock accelerated the Doctor's death. He had at the ſame time the influenza in a ſevere degree, which put a period to his life, June 24th 1782. His library was ſold by auction December 11-13th, 1781 ; and a courſe of his "Lectures on the Canons of the Old Teſtament" hath ſince been advertiſed as intended for publication by his widow.

Blair of Athol, a caſtle belonging to the duke of Athol, ſeated in the county of Athol in Scotland, 28 miles north-weſt of Perth. W. Long. 3. 30. N. Lat. 56. 46. This caſtle was beſieged by the Highland army in 1746 ; and bravely defended by Sir Andrew Agnew, who was reduced to eat horſe's fleſh, until he was relieved by the Heſſians under the earl of Crawford.

BLAISE, a military order inſtituted by the kings of Armenia, in honour of St Blaiſe, anciently biſhop of Sebaſta in that country, the patron ſaint of that nation.

Juſtinian calls them knights of St Blaiſe and St Mary, and places them not only in Armenia, but in Paleſtine. They made a particular vow to defend the religion of the church of Rome, and followed the rule of St Baſil. The preciſe year of the inſtitution of the knights of St Blaiſe is not known ; but they appear to have commenced about the ſame time with the knights Templars and Hoſpitallers ; to the former of which they bore a near affinity, the regulars being the ſame in both.

BLAISOIS, a province of France, bounded on the north by Beauce, on the eaſt by the Orleannois, on the ſouth by Berry, and on the weſt by Touraine. Blois is the capital town.

BLAKE (Robert), a famous Engliſh admiral, born Auguſt 1589 at Bridgwater in Somerſetſhire, where he was educated at the grammar ſchool. He went from thence to Oxford in 1615, where he was entered at St Alban's Hall. From thence he removed to Wadham college ; and on the 10th of February 1617, he took the degree of bachelor of arts. In 1623, he wrote a copy of verſes on the death of Mr Camden, and ſoon after left the univerſity. He was tinctured pretty early with republican principles, and diſliking that ſeverity with which Dr Laud, then biſhop of Bath and Wells, preſſed uniformity in his dioceſe, he began to fall into the puritanical opinions. His natural bluntneſs cauſing his principles to be well known, the puritan party returned him member for Bridgewater in 1640 ; and he ſerved in the parliament army with great courage during the civil war: but when the king was brought to trial, he highly diſapproved the meaſure as illegal, and was frequently heard to ſay, *he would as freely venture his life to ſave the King, as ever he did to ſerve the parliament*. But this is thought to have been chiefly owing to the humanity of his temper, ſince after the death of the king he fell in wholly with the republican party, and, next to Cromwell, was the ableſt officer the parliament had.

1648-9, he was appointed, in conjunction with Colonel Dean and Colonel Popham, to command the fleet; and ſoon after blocked up Prince Maurice and Prince Rupert in Kinſale harbour. But theſe getting out, Blake followed them from port to port : and at laſt attacked them in that of Malaga, burnt and deſtroyed their whole fleet, two ſhips only excepted, the Reformation in which Prince Rupert himſelf was, and the Swallow commanded by his brother Prince Maurice. In 1652, he was conſtituted ſole admiral ; when he defeated the Dutch fleet commanded by Van Trump, Ruyter, and DeWit, in three ſeveral engagements, in which the Dutch loſt 11 men of war, 30 merchant ſhips, and, according to their own accounts, had 15,000 men ſlain. Soon after Blake and his colleagues, with a grand fleet of 100 ſail, ſtood over to the Dutch coaſt ; and forced their fleet to fly for ſhelter into the Texel, where they were kept for ſome time by Monk and Dean, while Blake ſailed northward. At laſt, however, Trump got out, and drew together a fleet of 120 men of war ; and, on the 3d of June, the generals Dean and Monk came to an engagement with the enemy off the north Foreland with indifferent ſucceſs ; but the next day Blake coming to their aſſiſtance with 18 ſhips, gained a complete victory ; ſo that if the Dutch had not ſaved themſelves on Calais ſands, their whole fleet had been ſunk or taken.

In April 1653, Cromwell turned out the parliament, and ſhortly after aſſumed the ſupreme power. The ſtates hoped great advantages from this ; but were diſappointed. Blake ſaid on this occaſion to his officers, "It is not for us to mind ſtate affairs, but to keep foreigners from fooling us."—In November 1654, Cromwell ſent him with a ſtrong fleet into the Mediterranean, with orders to ſupport the honour of the Engliſh flag, and to procure ſatisfaction for the injuries that might have been done to our merchants. In the beginning of December, Blake came into the road of Cadiz, where he was treated with all imaginable reſpect : a Dutch admiral would not hoiſt his flag while he was there ; and his name was now grown ſo formidable, that a French ſquadron having ſtopped one of his tenders, which had been ſeparated from Blake in a ſtorm, the admiral, as ſoon as he knew to whom it belonged, ſent for the captain on board, and drank Blake's health before him with great ceremony, under a diſcharge of five guns, and then diſmiſſed him. The Algerines were ſo much afraid of him, that, ſtopping the Sallee rovers, they obliged them to deliver up what Engliſh priſoners they had on board, and then ſent them freely to Blake, in order to purchaſe his favour. This, however, did not prevent his coming on the 10th of March before Algiers, and ſending an officer on ſhore to the dey to demand ſatisfaction for the piracies committed on the Engliſh, and the releaſe of all the Engliſh captives. The dey, in anſwer, alledged, that the ſhips and captives belonged to private men, and therefore he could not reſtore them without offending all his ſubjects, but that he might eaſily redeem them : and if he thought good, they would conclude peace with him, and for the future offer no acts of hoſtility to the Engliſh : and having accompanied this anſwer with a large preſent of freſh proviſions, Blake left Algiers, and ſailed on the ſame errand to Tunis ; the dey of which place not only refuſed to comply with his requeſt, but denied him the liberty of taking in freſh water. "Here (ſaid he), are our caſtles of Goletto and Porto Ferino ; do your worſt." Blake, at hearing this, began, as his cuſtom was when highly provoked, to curl his whiſkers; and after a ſhort conſultation with his officers, bore into the bay of Porto Ferino with his great ſhips and their ſeconds; and coming within muſket ſhot of the caſtle and the line, fired on both ſo warmly, that in two hours time the caſtle was rendered defenceleſs, and the guns on the works along the ſhore were diſmounted, though 60 of them played at a time on the Engliſh. Blake found nine ſhips in the road, and ordered every captain to man his long boat with choice men, to enter the harbour and fire the Tuniſeens; which they happily effected, with the loſs of 25 men killed and 48 wounded, while he and his men covered them from the caſtle by playing continually on them with their great guns. This daring action ſpread the terror of his name thro' Africa and Aſia. From Tunis he ſailed to Tripoli, cauſed the Engliſh ſlaves to be ſet at liberty, and concluded a peace with that government. Thence returning to Tunis, the Tuniſeens implored his mercy, and begged him to grant them peace, which he did upon terms highly advantageous to England. He next ſailed to Malta, and obliged the knights to reſtore the effects taken by their privateers from the Engliſh; and by theſe great exploits ſo raiſed the glory of the Engliſh name, that moſt of the princes and ſtates in Italy thought fit to pay their compliments to the Protector, by ſending ſolemn embaſſies to him.

He paſſed the next winter either in lying before Cadiz, or in cruiſing up and down the Straits; and was at his old ſtation, at the mouth of that harbour, when he received information that the Spaniſh plate fleet had put into the bay of Sancta Cruz, in the iſland of Teneriffe: upon this he weighed anchor, with 25 men of war, on the 13th of April 1657; and on the 20th rode with his ſhips off the bay of Sancta Cruz, where he ſaw 16 Spaniſh ſhips lying in the form of a half-moon. Near the mouth of the haven ſtood a caſtle furniſhed with great ordnance; beſides which there were ſeven forts round the bay, with ſix, four, and three guns on each, joined to each other by a line of communication manned with muſketeers. To make all ſafe, Don Diego Diagues, general of the Spaniſh fleet, cauſed all the ſmaller ſhips to be moored cloſe along the ſhore; and the ſix large galleons ſtood farther out at anchor, with their broadſides towards the ſea. Blake having prepared for the fight, a ſquadron of ſhips was drawn out to make the firſt onſet, commanded by Captain Stayner in the Speaker frigate: who no ſooner received orders, than he ſailed into the bay, and fell upon the Spaniſh fleet, without the leaſt regard to the forts, which ſpent their ſhot prodigally upon them. No ſooner were theſe entered into the bay, but Blake, following after, placed ſeveral ſhips to pour broadſides into the caſtle and forts; and theſe played their parts ſo well, that, after ſome time, the Spaniards found their forts too hot to be held. In the mean time, Blake ſtruck in with Stayner, and bravely fought the Spaniſh ſhips, out of which the enemy were beaten by two o'clock in the afternoon; when Blake, finding it impoſſible to carry them away, ordered his men to ſet them on fire; which was done ſo effectually, that they were all reduced to aſhes, except two, which ſunk downright, nothing remaining above the water but part of the maſts. The Engliſh having now obtained a complete victory, were reduced to another difficulty by the wind, which blew ſo ſtrong into the bay, that they deſpaired of getting out. They lay under the fire of the caſtles and of all the forts, which muſt in a little time have torn them to pieces. But the wind ſuddenly ſhifting, carried them out of the bay; where they left the Spaniards in aſtoniſhment at the happy temerity of their audacious victors. This is allowed to have been one of the moſt remarkable actions that ever happened at ſea. "It was ſo miraculous (ſays the Earl of Clarendon), that all men who knew the place wondered that any ſober man, with what courage ſoever endowed, would ever have undertaken it; and they could hardly perſuade themſelves to believe what they had done; whilſt the Spaniards comforted themſelves with the belief, that they were devils and not men who had deſtroyed them in ſuch a manner." This was the laſt and greateſt action of the gallant Blake. He was conſumed with a dropſy and ſcurvy; and haſtened home, that he might yield up his laſt breath in his native country, which he had ſo much adorned by his valour. As he came within ſight of land, he expired.—Never man, ſo zealous for a faction, was ſo much reſpected and eſteemed even by the oppoſite factions. Diſintereſted, generous, liberal; ambitious only of true glory, dreadful only to his avowed enemies; he forms one of the moſt perfect characters of that age, and the leaſt ſtained with thoſe errors and violences which were then ſo predominant. The Protector ordered him a pompous funeral at the public charge: but the tears of his countrymen were the moſt honourable panegyric on his memory. The Lord Clarendon obſerves, "that he was the firſt man who brought ſhips to contemn caſtles on ſhore, which had ever been thought very formidable, and were diſcovered by him to make a noiſe only, and to fright thoſe who could be rarely hurt by them. He was the firſt that infuſed that degree of courage into ſeamen, by making them ſee by experience what mighty things they could do if they were reſolved; and the firſt that taught them to fight in fire as well as in water."

BLAMONT, a town of Lorrain in France, ſeated on a little river called *Veſouze*. E. Long. 6. 51. N. Lat. 48. 35.

BLANC. See BLANK.

BLANC, a town of Berry in France, ſeated on the river Creuſe, by which it is divided into two parts. The land about it is barren, and full of trees, heath, and lakes. E. Long. 1. 13. N. Lat. 46. 38.

Mont-BLANC, a ſtupendous mountain in Savoy, the higheſt of the Alps, and encompaſſed by thoſe wonderful collections of ſnow and ice called the *Glaciers*. See ALPS.

Of theſe glaciers there are five, which extend almoſt to the plain of the vale of Chamouni, and are ſeparated by wild foreſts, corn-fields, and rich meadows; ſo that immenſe tracts of ice are blended with the higheſt cultivation, and perpetually ſucceed to each other in the moſt ſingular and ſtriking viciſſitude. All theſe ſeveral valleys of ice, which lie chiefly in the hollows of the mountains, and are ſome leagues in length, unite together at the foot of Mont-Blanc; the higheſt mountain in Europe, and probably of the ancient world.

The ſummit of this mountain was deemed inacceſſible before Dr Paccard, a phyſician at Chamouni, attempted to reach it in Auguſt 1786, and ſucceeded in the attempt. Soon after, the ſame undertaking was reſolved upon and accompliſhed by M. de Sauſſure, who has publiſhed a narative of the journey.—He arrived at Chamouni, ſituated at the foot of the mountain, in the beginning of July 1787; but bad weather prevented him from aſcending until the firſt of Auguſt, when he began his expedition, accompanied by a ſervant and eighteen guides, who carried his philoſophical and other apparatus. His ſon was left at the Priory in Chamouni, and was employed in making meteorological obſervations, with which thoſe made on the top of the mountain might be compared. Although it is ſcarcely ſix miles and three quarters in a ſtraight line from the Priory of Chamouni to the top of Mount-Blanc, it requires nevertheleſs eighteen hours to gain the ſummit, owing to the bad roads, the windings, and the great perpendicular height of the mountain. That he might be perfectly at liberty to paſs the night on what part of the mountain he pleaſed, he carried a tent with him; and he and his company ſlept in it the firſt night on that eminence which is firſt met with, and which is on the ſouth of the Priory, and about a mile perpendicularly above the village.

Hitherto the journey was free from danger, or even difficulty; the road being either rocky or covered with graſs: but thence upwards it was either wholly covered with ſnow or conſiſted of the moſt ſlippery ice. But the ſecond day's journey was attended with many difficulties. The ice valley on the ſide of the hill muſt be paſſed, in order to gain the foot of that chain of rocks bordering on the perpetual ſnows which cover Mont-Blanc. The paſſage through this valley is extremely dangerous, ſince it is interſected with numerous wide, deep, and irregular chaſms, which can only be croſſed by means of bridges naturally formed of ſnow, and theſe often very ſlender, extended as it were over an abyſs. One of the guides had almoſt periſhed here the evening before, as he with two others went to reconnoitre the road. They had the precaution to tie themſelves together with a long rope, and he in the middle had the misfortune to have the ſnow-bridge, over a wide and deep chaſm, break under him, ſo that he remained ſuſpended between his two comrades. M. de Sauſſure and his retinue paſſed very near the opening through which this man had fallen, and ſhuddered at the danger in which the poor fellow had been involved. The difficulties they had to encounter in this valley, and the winding road they were obliged to take through it, occaſioned their being three hours in croſſing it, although in a ſtraight line its breadth is not above three quarters of a mile.

After having reached the rocks, they mounted in a ſerpentine direction to a valley filled with ſnow, which runs from north to ſouth to the foot of the higheſt pinnacle. The ſurface of the ſnow in this valley has numerous fiſſures, which penetrate ſo deep, that their bottom is no where to be ſeen, although they are of conſiderable breadth. The ſides of theſe fiſſures, where the ſnow is broken perpendicularly, afford an opportunity of obſerving the ſucceſſive horizontal layers of ſnow which are annually formed.

The guides were deſirous of paſſing the night near one of the rocks on the ſide of this valley; but as the loftieſt of them is at leaſt 1400 yards perpendicularly lower than the ſummit of the mountain, M. de Sauſſure was deſirous of aſcending higher; in conſequence of which it would be neceſſary to encamp on the ſnow: but he found it difficult to convince his companions of the practicability of the plan. They imagined that during the night an unſupportable cold prevailed in thoſe heights which were eternally covered with ſnow, and they were ſeriouſly afraid of periſhing. By proper encouragements, however, he induced them to proceed; and at four in the afternoon they arrived at the ſecond of the three plains of ſnow which they had to paſs. Here they encamped at the height of 3100 yards above the Priory of Chamouni, and 4250 yards above the level of the ſea, which is about 200 yards higher than the peak of Teneriffe. They did not proceed to the laſt plain, on account of the day having been far advanced; and they were alſo apprehenſive of expoſing themſelves to the Avalanches which are frequently tumbling from the ſummit of the mountain. They dug a deep hole in the ſnow, ſufficiently wide to contain the whole company, and covered its top with the tent cloth.

In making this encampment, they began to experience the effects of the rarity of the atmoſphere. Robuſt men, to whom ſeven or eight hours walking or rather climbing were an abſolute nothing, had ſcarcely raiſed five or ſix ſhovels full of ſnow before they were under the neceſſity of reſting and relieving each other, almoſt inceſſantly. One of them who had gone back a ſmall diſtance to fill a caſk with ſome water which he had ſeen in one of the crevices of the ſnow, found himſelf ſo much diſordered in his way, that he returned without the water, and paſſed the night in great pain. M. de Sauſſure, who is ſo much accuſtomed to the air of mountains as to ſay, "That in general I feel myſelf better in ſuch air than in that of the plains," was exhauſted with the fatigue of making his meteorological obſervations. The principal inconvenience which the thinneſs of the air produces, is an exceſſive thriſt. They had no means of procuring water but by melting the ſnow; and the little ſtove which they had carried with them, afforded but a feeble ſupply for twenty men.

This region of the mountain preſents to the view nothing but ſnow of the pureſt and moſt dazzling whiteneſs, forming a very ſingular contraſt with the ſky, which appears remarkably black.

"No living creature (ſays M. de Sauſſure) is to be ſeen in theſe deſolate regions, nor is the leaſt trace of vegetation to be diſcovered. It is the habitation of cold and ſilence! When I reflected that Dr Paccard, and his guide Jacques Balmat, who firſt viſited theſe deſerts, arrived here at the decline of the day, without ſhelter, without aſſiſtance, and wholly ignorant where or how they were to paſs the night, without even the certainty that it was poſſible for men to exiſt in the places they had undertaken to viſit; and yet that they were able to purſue their journey with unremitted intrepidity, I could not but admire their ſtrength and courage. My guides were ſo firmly prepoſſeſſed with the fear of cold, that they ſhut up every aperture of the tent with the utmoſt exactneſs; ſo that I ſuffered very conſiderably from the heat and the vitiated air, which had become highly noxious from the breaths of ſo many people in a ſmall room. I was frequently obliged, in the courſe of the night, to go out of the tent, in order to relieve my breathing. The moon ſhone with the brighteſt ſplendor, in the midſt of a ſky as black as ebony. Jupiter rayed like the ſun, aroſe from behind the mountain in the eaſt. The light of theſe luminaries was reflected from the white plain or rather baſon in which we were ſituated; and dazzling eclipſed every ſtar except thoſe of the firſt and ſecond magnitude. At length we compoſed ourſelves to ſleep. We were, however, ſoon awakened by the noiſe of an immenſe maſs of ſnow (*avalanche*), which had fallen down from the top of the mountain, and covered part of the ſlope over which we were to climb the next day."

As they were obliged to melt a great quantity of ſnow, and prepare many neceſſaries for their farther progreſs in their journey, it was late the next morning before they took their departure.

"We began our aſcent (continues M. de Sauſſure) to the third and laſt plain, and then turned to the left, in our way to the higheſt rock, which is on the eaſt part of the ſummit. The aſcent is here very ſteep, being about 39 degrees inclined to the horizon, and bounded on each ſide by precipices. The ſurface of the ſnow was ſo hard and ſlippery, that our pioneers were obliged to hew out their footſteps with hatchets. Thus we were two hours in climbing a hill of about 530 yards high. Having arrived at this laſt rock, we turned to the weſtward, and climbed the laſt aſcent, whoſe height is about 300 yards, and its inclination about 28 or 29 degrees. On this peak the atmoſphere is ſo rare, that a man's ſtrength is exhauſted with the leaſt fatigue. When we came near the top, I could not walk fifteen or ſixteen ſteps without ſtopping to take breath; and frequently perceived myſelf ſo faint, that I was under the neceſſity of ſitting down from time to time; and in proportion as I recovered my breath, I felt my ſtrength renewed. All my guides experienced ſimilar ſenſations, in proportion to their reſpective conſtitutions. We arrived at the ſummit of Mont-Blanc at 11 o'clock in the forenoon.

"I now enjoyed the grand ſpectacle which was under my eyes. A thin vapour, ſuſpended in the inferior regions of the air, deprived me of the diſtinct view of the loweſt and moſt remote objects, ſuch as the plains of France and Lombardy; but I did not ſo much regret this loſs, ſince I ſaw with remarkable clearneſs what I principally wiſhed to ſee, *viz.* the aſſemblage of thoſe high ridges, with the true form and ſituations of which I had long been deſirous of becoming thoroughly acquainted. I could ſcarce believe my eyes. I thought myſelf in a dream when I ſaw below my feet ſo many majeſtic peaks, eſpecially the Needles, the Midi, Argentière, and Géant, whoſe baſes had proved ſo difficult and dangerous of acceſs. I obtained a perfect knowledge of their proportion to, and connection with, each other; of their form and ſtructure; and a ſingle view removed more doubts, and afforded more information, than whole years of ſtudy.

"While I was thus employed, my guides pitched my tent and were fixing the apparatus for the experiments I had propoſed to make on boiling water; but when I came to diſpoſe my inſtruments for that purpoſe, I was obliged, almoſt at every inſtant, to deſiſt from my labours, and turn all my thoughts to the means of reſpiration. When it is conſidered that the mercury in the barometer was no higher than 16 inches and a line (17.145 inches Engliſh), and that this air had conſequently little more than half the denſity of that on the plains, the breathing muſt neceſſarily be increaſed, in order to cauſe, in a given time, the paſſage of a ſufficient quantity of air through the lungs. The frequency of reſpiration increaſed the circulation of the blood, more eſpecially as the arteries on the ſurface of the body had not the preſſure they were uſually accuſtomed to. We were all in a feveriſh ſtate, as will be ſeen in the ſequel.

"While I remained perfectly ſtill, I experienced but little uneaſineſs more than a ſlight oppreſſion about my heart; but, on the ſmalleſt bodily exertion, or when I fixed my attention on any object for ſome moments together, and particularly when I preſſed my cheſt in the act of ſtooping, I was obliged to reſt and pant for two or three minutes. My guides were in a ſimilar condition. We had no appetite; and our proviſions, which were all frozen, were not well calculated to excite it: nor had we any inclination for wine or brandy, which increaſed our indiſpoſition, moſt probably by accelerating the circulation of the blood. Nothing but freſh water relieved us; and much time and trouble were neceſſary to procure this article, as we could have no other than melted ſnow. I remained on the ſummit till half paſt three; and though I did not loſe a ſingle moment, I was not able to make all thoſe experiments in four hours and an half which I have frequently done in leſs than three on the ſea-ſide. However, I made with great exactneſs thoſe which were moſt eſſential.

"We returned much eaſier than I could have expected; ſince, in deſcending, we did not experience any bad effects from the compreſſion of the thorax; our reſpiration was not impeded, and we were not under the neceſſity of reſting, in order to recover our breath and ſtrength. The road down to the firſt plain was nevertheleſs by no means agreeable, on account of the great declivity; and the ſun, ſhining ſo bright on the tops of the precipices below us, made ſo dazzling an appearance, that it required a good head to avoid growing giddy from the proſpect. We pitched our tent again on the ſnow, though we were more than 400 yards below our laſt night's encampment. I was here convinced that it was the rarity of the air, and not the fatigue of the journey, that had incommoded us on the ſummit of the mountain, otherwiſe we ſhould not have found ourſelves ſo well, and ſo able to attack our ſupper with a good appetite. I could now alſo make my meteorological obſervations without any inconvenience. I am perſuaded that the indiſpoſition in conſequence of the rarity of the atmoſphere is different in different people. For my own part, I felt no inconvenience at the height of 4000 yards, or nearly two miles and a quarter; but I began to be much affected when I was higher in the atmoſphere.

"The nex day we found that the ice-valley which we had paſſed on our firſt day's journey had undergone a conſiderable change from the heat of the two preceeding days, and that it was much more difficult to paſs than it had been in our aſcent. We were obliged to go down a declivity of ſnow of no leſs than 50 degrees of inclination, in order to avoid a chaſm which had happened during our expedition. We at length got down as low as the firſt eminence on the ſide, about half after nine, and were perfectly happy to find ourſelves on a foundation which we were ſure would not give way under our feet.

From the narrative we learn, that the ſummit of the mountain is a ridge nearly horizontal, lying eaſt and weſt: the ſlope at each extremity is inclined from 28 to 30 degrees, the ſouth ſide between 15 and 20, and the north about 45 or 50. This ridge is ſo narrow as ſcarcely to allow two people to walk abreaſt, eſpecially at the weſt end, where it reſembles the roof of a houſe. It is wholly covered with ſnow; nor is any bare rock to be ſeen within 150 yards of the top. The ſurface of the ſnow is ſcaly, and in ſome places covered with an icy cruſt, under which the ſnow is duſty and without conſiſtence. The higheſt rocks are all granites; thoſe on the eaſt ſide are mixed with ſteatites: thoſe on the ſouth and the weſt contain a large quantity of ſchoerl, and a little *lapis corneus.* Some of them, eſpecially thoſe on the eaſt, which are about 150 yards below the ſummit, ſeem to have been lately ſhivered with lightning.

M. de Sauſſure ſaw no animals on the mountain except two butterflies, which he ſuppoſes muſt have been driven thither by the wind. Lichens are the only vegetables which are found on the more elevated parts of theſe mountains: the *ſilene acaulis*, which grows in great quantities on the lower parts, diſappears at the height of about two miles above the level of the ſea.

M. de Sauſſure has given us the height of the barometer on the top of Mont-Blanc. Auguſt 3. at noon, 16 inches, 0 lines, and $\frac{144}{166}$ of a line, French meaſure (i. e. 16.181 Engliſh); and Reaumur's thermometer was 2.3 below the freezing point. M. Sennebier, at the ſame time, obſerved at Geneva the barometer 27 2 $\frac{1089}{1600}$ (29.020 inches Engliſh); and the thermometer 22.6 above freezing. From theſe data he makes the height of Mont-Blanc 2218 toiſes, or 14180 Engliſh feet (about 2$\frac{3}{4}$ miles), according to M. de Luc's rule; and 2272 toiſes, or 14525 Engliſh feet, according to M. Trembley's. To theſe heights 13 toiſes, or 83 feet, the height of M. Sennebier's room above the lake of Geneva muſt be added, to give the height of the mountain above the level of the lake 14263 feet, according to M. de Luc, and 14608 feet according to M. Trembley. Sir George Shuckburgh made the height of Mont-Blanc, by trigonometrical meaſurement, 14429 feet above the lake, which is almoſt the mean between the other two. The reſult of the obſervations made at Chamouni, contemporary with thoſe on Mont-Blanc, agrees ſtill nearer with Sir George's meaſurement. The general mean reſult makes the ſummit of Mont-Blanc 2450 toiſes, 15673 Engliſh feet, or three miles nearly, above the level of the ſea.

M. de Sauſſure found by his electrometer, that the electricity of the air on the ſummit of the mountain was poſitive. Water boiled at 68.993 degrees of a thermometer, which riſes to 80 with the barometer 27 French inches high. The wind was north and extremely piercing on the ſummit; but ſouthward of the ridge, the temperature of the air was agreeable. The experiments with lime-water, and with the cauſtic alkali, ſhow that the air was mixed with atmoſpheric acid or fixed air. See ATMOSPHERE, n° 12. 13.

BLANC-Manger, Fr. *q. d.* white food, is a preparation of diſſolved iſinglaſs, milk, ſugar, cinnamon, &c. boiled into a thick conſiſtence, and garniſhed for the table with blanched almonds. It is cooling and ſtrengthening.

BLANCARDS, a name given to certain linen cloth, thus called, becauſe the thread uſed to weave them has been half blanched or bleached before it was uſed. They are manufactured in Normandy, particularly in the places which are in the diſtrict or under the juriſdiction of Point-Audemer, Bernay, and Liſieux.

BLANCH-FERME, or *Blank farm*, a white farm, that is, where the rent was to be paid in ſilver, not in cattle. In ancient times, the crown rents were many times reſerved to be paid in *libris albis*, called *blanch firmes*: in which caſe the buyer was holden *dealbare firmam*, viz. his baſe money or coin, worſe than ſtandard, was melted down in the exchequer, and reduced to the fineneſs of ſtandard ſilver; or inſtead thereof be paid to the king 12 d. in the pound by way of addition.

BLANCH-Holding, in law, a tenure by which the vaſſal is only bound to pay an eluſory yearly duty to his ſuperior merely as an acknowledgment to his right. See LAW, Part III. N° clxv. 3.

BLANCHARD (James), an excellent painter, was born at Paris, and learnt the rudiments of his profeſſion under Nicholas Bolleri his uncle; but left him at 20 years of age, and travelled into Italy. He ſtaid two years at Rome, and from thence went to Venice, where he was ſo charmed with the works of Titian, Tintoret, and Paul Veroneſe, that he reſolved to follow their manner; and in this he ſucceeded ſo far, that at his return to Paris he ſoon became generally eſteemed for the novelty, beauty, and force of his pencil. He painted two galleries at Paris, one belonging to Perault, the firſt preſident, and the other to Bullion, ſuperintendant of the finances; but his capital piece is a picture of the deſcent of the Holy Ghoſt in the church of Notre Dame. He was ſeized, in the flower of his age, with a fever and impoſthume in the lungs, of which he died in 1683. Of all the French painters Blanchard was eſteemed the beſt coloriſt, he having carefully ſtudied this part of painting in the Venetian ſchool.

Carte-BLANCHE. See CARTE.

BLANCHING, the art or manner of making any thing white. See BLEACHING.

BLANCHING of Iron-plates, is performed with aquafortis and tin.

BLANCHING of Woollen Stuffs, is done with ſoap, or white chalk, or with ſulphur or brimſtone.

BLANCHING of Silk, is performed with ſoap and brimſtone.

BLANCHING of Wax, is by expoſing it to the ſun and dew. See WAX.

BLANCHING, in coinage, the operation performed on the planchets, or pieces of ſilver, to give them the requiſite luſture and brightneſs. They alſo blanch pieces of plate, when they would have them continue white, or have only ſome parts of them burniſhed.—Blanching, as it is now practiſed, is performed by heating the pieces on a kind of peel with a wood fire, in the manner of a reverbatory; ſo that the flame paſſes over the peel. The pieces being ſufficiently heated and cooled again, are put ſucceſſively to boil in two pans, which are of copper: in theſe they put water, common ſalt, and tartar of Montpelier. When they have been well drained of this water in a copper ſieve, they throw ſand and freſh water over them; and when dry, they are well rubbed with towels.

Blanching, among gardeners, an operation whereby certain ſallets, roots, &c. are rendered whiter than they would otherwiſe be.—It is thus: After pruning off the tops and roots of the plants to be blanched, they plant them in trenches about ten inches wide, and as many deep, more or leſs as is judged neceſſary; as they grow up, care is taken to cover them with earth, within four or five inches of their tops: this is repeated from time to time, for five or ſix weeks; in which time they will be fit for uſe, and of a whitiſh colour where covered by the earth.

Blanching alſo denotes the operation of covering iron plates with a thin coat or cruſt of tin. See Latten.

BLANCO, a cape or promontory of Africa, in the Atlantic ocean. W. Long. 18. 30. N. Lat. 20. 0.

Blanco, a promontory of Peru in South America, in the South Sea. W. Long. 81. 10. N. Lat. 11. 50.

BLANDA (anc. geog.), a Roman city in the territory of Barcino in Hiſpania Citerior: Now *Blanes*, a ſea-port town of Catalonia, ſituated near the river Tordara. E. Long. 3. 40. N. Lat. 41. 30.

BLANDFORD, a town of Dorſetſhire in England. It is pleaſantly ſeated on the river Store near the Downs, but has been ſubject to ſeveral dreadful fires, particularly in 1731, when almoſt the whole town was burnt down; but it has ſince been rebuilt finer than before. It has the title of a marquiſate, and lies in W. Long. 2. 15. N. Lat. 50. 50.

BLANDONONA (anc. geog.), a ſmall city of Liguria in Italy: Now *Bron*, or *Broni*. See that article.

BLANES. See Blanda.

BLANK, or Blanc, in a general ſenſe, ſignifies white; and *blancus*, or *blanca*, is more particularly uſed for a kind of white or ſilver money, of baſe alloy, coined by Henry V. in thoſe parts of France then ſubject to England, valued at 8d. Sterling. They were forbidden by his ſucceſſor to be current in England. In ſome ancient charters they were called *ſolida blanci, white ſhillings*.

Blank alſo denotes a ſmall copper coin, formerly current in France, at the rate of five deniers Tournois. They had alſo great blanks, or pieces of three blanks, and others of ſix, in reſpect whereof the ſingle ſort were called little blanks; but of late they are all become only monies of account.

Blank, or *Blank-Ticket*, in lotteries, that to which no prize is allotted. The French have a game, under the denomination *blanque*, anſwering to our lottery.

Blank, in coinage, a plate or piece of gold or ſilver, cut and ſhaped for a coin, but not yet ſtamped.

Blank-Bar, in law, is uſed for the ſame with what we call a *common bar*, and is the name of a *plea in bar*, which in an action of treſpaſs is put in to oblige the plaintiff to aſſign the certain place where the treſpaſs was committed.

Blanks, in judicial proceedings, certain void ſpaces ſometimes left by miſtake. A blank (if ſomething material be omitted) in a declaration, abates the ſame: and ſuch a blank is a good cauſe of demurrer.

Blank-Verſe, in the modern poetry, that compoſed of a certain number of ſyllables, without the aſſiſtance of rhime. See Poetry, Part iii.

Point-Blank. See *Point-Blank*.

BLANKENBERG, a town of Germany, in the circle of Weſtphalia and duchy of Berg. E. Long. 7. 18. N. Lat. 50. 54.

BLANKENBURG, a town of Germany, in the circle of Lower Saxony, and capital of the county of the ſame name, ſubject to the Duke of Brunſwic-Wolfembuttle. The caſtle or palace is a modern building, and is the reſidence of the princeſs dowager. E. Long 11. 20. N. Lat. 51. 50.

BANKENHEIM, a ſmall territory of Germany with the title of a county, which is part of that of Eyffel, near the archbiſhopric of Cologn and duchy of Juliers.

BLANKET, in commerce, a warm woolly ſort of ſtuff, light and looſe woven, chiefly uſed in bedding. The manufacture of blankets in England is chiefly confined to Witney in Oxfordſhire, where it is advanced to that height, that no other place comes near it. Some attribute a great part of the excellency of the Witney blankets to the abſterſive nitrous water of the river Windruſh, wherewith they are ſcoured; others rather think they owe it to a peculiar way of looſe ſpinning which the people have thereabouts. Be this as it will, the place has engroſſed almoſt the whole trade of England for this commodity; inſomuch that the wool fit for it centres here from the farthermoſt parts of the kingdom. Blankets are made of felt-wool, *i. e.* wool from off ſheep-ſkins, which they divide into ſeveral ſorts. Of the head wool and bay wool they make blankets of twelve, eleven, and ten quarters broad; of the ordinary and middle ſort blankets of eight and ſeven quarters broad; of the beſt tail wool blankets of ſix quarters broad, commonly called *cuts*, ſerving for ſeamens hammocks. See Hykes.

Toſſing in a Blanket, a ludicrous kind of puniſhment, of which we find mention in the ancients under the denomination *ſagatio*. Martial deſcribes it graphically enough. *Ibis ad excuſſo, miſſus ad aſtra, ſago*. A late writer repreſents it as one of Otho's imperial delights. But this is turning the tables: that emperor's diverſion, as related by Suetonius, was not to be the ſubject, but the agent, in the affair; it being his practice to ſtroll out in dark nights, and where he met with a helpleſs or drunken man to give him the diſcipline of the blanket.

BLANKOF (John Teuniſz), a painter of great abilities, was born at Alkmaar in 1628, and received his earlieſt inſtruction from Arent Tierling: but afterwards he was ſucceſſively the diſciple of Peter Scheynburg and Cæſar Van Everdingen. When he had ſpent ſome years with thoſe maſters, he went to Rome, where, during his continuance in that city, he was ſtudiouſly diligent in copying the works of the beſt maſters, and was admitted into the ſociety of Flemiſh painters called *Bentvogels*, who gave him the name of *Jan Maat* (which in Dutch ſignifies mate or companion), and by that name he is moſt generally known. His ſubjects were landſcapes, with views of rivers or ſea-ſhores, havens or ports, which he executed with a light free pencil; and in the repreſentation of ſtorms and calms (as nature was always his model) he deſcribed thoſe ſubjects with great truth, exactneſs, and neatneſs of handling. The pictures of this maſter which are moſt commended are the Italian ſea-ports, with veſſels lying before them. He poſſeſſed a lively imagination; nor was his hand leſs expeditious than his thoughts; and the connoiſſeurs agreed in opinion, that if he had beſtowed more labour on his pictures than he uſually did, or if he had finiſhed them more highly, he would certainly have deſtroyed a great deal of their ſpirit, force, and effect. His moſt capital performance is a view of the ſea-ſhore, with the waves retiring at ebb tide; which is deſcribed by Houbraken as being wonderfully beautiful and natural. He died in 1670.

BLANQUILLE, in commere, a ſmall ſilver coin current in the kingdom of Morocco, and all that part of the coaſt of Barbary; it is worth about three-halfpence Sterling.

BLARE, in commerce, a ſmall copper coin of Bern, nearly of the ſame value with the ratz.

BLAREGNIES, a town of the Auſtrian Netherlands, in the province of Hainault, ſeated in E. Long. 3. 35. N. Lat. 50. 30. Near this place the Engliſh and their allies under the Duke of Malborough obtained a very bloody victory over the French in 1709. This is moſt commonly called the *battle of Malplaquet*. See MALPLAQUET.

BLASE, biſhop of Sebaſta in Cappadocia, in the ſecond and third centuries, ſuffered death under Diocleſian by decapitation, after being whipped and having his fleſh torn with iron combs. He is a perſon of great note among the vulgar, who in their proceſſions relative to the woollen trade, always carry a repreſentation of him as the inventor or patron of the art of wool-combing; though that art muſt have been known long before his time. It is difficult to ſay how the invention came to be attributed to him; but it had probably no better origin than the circumſtance of his being tortured by inſtruments uſed in combing of wool.

BLASIA, LEATHER-CUP; A genus of the order of algæ, belonging to the cryptogamia claſs of plants; and in the natural method ranking under the 57th order, *Algæ*. The male calyx is cylindric, replete with grains; the female calyx is naked; the fruit roundiſh, immerſed in the leaves, and many-ſeeded.—Of this genus there is but one ſpecies known, the puſilla, which grows naturally on the banks of ditches and rivulets, in a gravelly or ſandy ſoil, both in England and Scotland. It grows flat upon the ground in a circle or patch, compoſed of numerous thin, green, pellucid, leaves, marked with a few whitiſh veins near the baſe, divided and ſubdivided into obtuſe ſegments obſcurely crenated on the edges. The margins of the leaves are a little elevated, but the interior parts adhere cloſe to the ground by a fine down which anſwers the purpoſe of roots. The ſeeds are ſo ſmall as to be almoſt imperceptible.

BLASPHEMY (*blaſphemia*, or *blaſphemium*), in middle-age writers, denotes ſimply the blaming or condemning of a perſon or thing. The word is Greek, βλασφημια, from βλαπτω, *lædo*. Among the Greeks to blaſpheme was to uſe words of evil omen, or that portended ſomething ill, which the ancients were careful to avoid, ſubſtituting in lieu of them other words of ſofter and gentler import, ſometimes the very reverſe of the proper ones.

BLASPHEMY is more peculiarly reſtrained to evil or reproachful words ſpoken of the Deity. Auguſtin ſays, *Jam vulgo blaſphemia non accipitur niſi mala verba de Deo dicere*.

According to Linwood, blaſphemy is an injury offered to God, by denying that which is due and belonging to him; or attributing to him what is not agreeable to his nature. By the Moſaic law, blaſphemy was puniſhed with death; Levit. chap. xxiv. ver. 13—16. As alſo by the civil law; Novel. 77. In Spain, Naples, France, and Italy, the pains of death are not now inflicted. In the Empire, either amputation or death is made the puniſhment of this crime.

By the canon law, blaſphemy was puniſhed only by a ſolemn penance; and by cuſtom either by a pecuniary or corporal puniſhment. By the Engliſh laws, blaſphemies of God, as denying his being or providence, and all contumelious reproaches of Jeſus Chriſt, &c. are offences by the common law, and puniſhable by fine, impriſonment, and pillory. And, by the ſtatute law, he that denies one of the perſons in the Trinity, or aſſerts there are more than one, or denies Chriſtianity to be true, for the firſt offence is rendered incapable of any office; for the ſecond, adjudged incapable of ſuing, being executor or guardian, receiving any gift or legacy, and to be impriſoned for three years.

According to the law of Scotland, the puniſhment of blaſphemy is death. The firſt ſpecies thereof conſiſts in railing at or curſing God; and here the ſingle act conſtitutes the crime. The ſecond conſiſts in denying the exiſtence of the Supreme Being, or any of the perſons of the Trinity; and therein obſtinately perſevering to the laſt. For reiterated denial does not fully conſtitute the crime, becauſe the ſtat. of Charles II. 1661, admits of repentance before conviction, as a complete expiation.

This ſtatute of 1661 is ratified by a ſtatute of king William, whereby the calling in queſtion the exiſtence of God, or of any of the perſons of the Trinity, or the authority of Scripture, or the Divine Providence, is made penal: For the firſt offence, impriſonment till ſatisfaction given by public repentance in ſack-cloth; for the ſecond, a fine of a year's valued rent of the real eſtate, and twentieth part of the perſonal eſtate; and the trial in both theſe caſes is competent to inferior judges. The trial of the third offence is death, to be tried only by the juſtices.

BLASPHEMY againſt the Holy Ghoſt. Divines are not agreed with reſpect to the nature of the crime thus denominated (Mat. chap. xii. ver. 31.), and the grounds of the extreme guilt aſcribed to it. Dr Tillotſon maintains, that it conſiſted in maliciouſly attributing the miraculous operations which Chriſt performed by the power of the Holy Ghoſt to the devil. Dr Whitby refers it to the diſpenſation of the Holy Ghoſt, which commenced after our Lords reſurrection and aſcenſion; and thoſe were guilty of the crime who perſiſted in their unbelief and blaſphemed the Holy Ghoſt, repreſenting him as an evil ſpirit. The crime was unpardonable, becauſe it implied a wilful oppoſition to the laſt and moſt powerful evidence which God would vouchſafe to mankind, and precluded the poſſibility of a recovery to faith and repentance.

BLAST, *flatus*, in the military art, a ſudden compreſſion of the air, cauſed by the diſcharge of the bullet out of a great gun. The blaſt ſometimes throws down part of the embraſures of the wall.

Blast is alſo applied in a more general ſenſe to any forcible ſtream of wind or air, excited by the mouth, of bellows, or the like.

Blast is alſo uſed in agriculture and gardening, for what is otherwiſe called a *blight*.

Blaſts or blaſtings are by ſome ſuppoſed owing to cold; by others to the want of a due ſupply of ſap; by others to aſcending fumes of the earth; by others to ſharp winds and froſts, immediately ſucceeding rains. That ſpecies called *uredines* or *fire-blaſts*, is ſuppoſed by Mr Hales owing to the ſolar rays reflected from or condenſed in the clouds, or even collected by the denſe ſteams in hop gardens and other places. The effect of them is to wither, ſhrivel, ſcorch, turn black, and as it were burn up the leaves, bloſſoms, and fruits of trees, ſhrubs, herbs, graſs, corn, even for whole tracts of ground.

Phyſicians alſo ſpeak of a kind of blaſts affecting human bodies, and cauſing eryſipelas, palſies, &c.

Blasts, among miners. See Damps.

BLASTED, ſomething ſtruck with a blaſt. Among the Romans, places blaſted with lightning were to be conſecrated to Jupiter, under the name of *bidentalia* and *putealia*. It was alſo a ceremonial of religion to burn blaſted bodies in the fire.

BLASTING, among miners, a term for the tearing up rocks, which they find in their way, by gunpowder. The method of doing which is this: they make a long hole like the hollow of a large gun-barrel in the rock they would ſplit; this they fill with gunpowder; then they firmly ſtop up the mouth of the hole with clay, except a touch-hole, at which they leave a match to fire it. A ſmall quantity of powder does great things this way.

BLATOBULGIUM (anc. geog.), Antonine; a place of the Brigantes in Britain, having a camp of exploratores or ſcouts near Solway Frith and promontory; now called *Bulneſs*, (Camden).

BLATTA, or Cockroach, a genus of inſects belonging to the order of hemiptera, or ſuch as have four ſemicruſtaceous incumbent wings. The head of the blatta is inflected towards the breaſt; the antennæ, or feelers, are hard like briſtles; the elytra and wings are plain, and reſemble parchment; the breaſt is ſmooth, roundiſh, and is terminated by an edge or margin; the feet are fitted for running; and there are two ſmall horns above the tail. This inſect reſembles the beetle; and there are 10 ſpecies, *viz.* 1. The gigantea is of a livid colour, and has ſquare browniſh marks on the breaſt. It is found in Aſia and America, and is about the ſize of a hen's egg. 2. The alba is red, and the margin of the breaſt is white. It is found in Egypt. 3. The ſurinamenſis is livid, and the breaſt edged with white. It is a native of Surinam. 4. The americana is of an iron colour, and the hind part of the breaſt is white. The wings and elytra are longer than its body. It is found in America and the ſouth of France. 5. the pivea is white, with yellow feelers. It is a native of America. 6. The africana is aſh-coloured, and has ſome hairs on its breaſt. It is found in Africa. 7. The orientalis is of a duſky aſh-colour, has ſhort elytra, with an oblong furrow in them. This ſpecies is frequent in America. They get into cheſts, &c. and do much hurt to cloaths; they infeſt peoples beds in the night, bite like bugs, and leave a very unſavoury ſmell behind them. They avoid the light, and ſeldom appear but in the night-time. The female reſembles a kind of caterpillar, as it has no wings; ſhe lays an egg of about one half the bulk of her belly. They eat bread, raw or dreſſed meat, linen, books, ſilk-worms and their bags, &c. Sir Hans Sloane ſays, that the Indians mix their aſhes with ſugar, and apply them to ulcers in order to promote the ſuppuration. 8. The germanica is livid and yellowiſh, with two black parallel lines on the breaſt. It is found in Denmark. 9. The laponica is yellow, and the elytra are ſpotted with black. It is found in Lapland; and feeds upon cheeſe, fiſhes, &c. 10. The oblongata is of an oblong figure; the colour is livid and ſhining; and it has two black ſpots on the breaſt. The feelers are red and clavated; and the feet are very hairy. It is a native of America.

BLATTARIÆ (from *Blatta*, a moth or little worm), the title of Scopoli's 12th natural claſs, in his Flora Carniolica. It is taken from the *Blattaria*, which was Tournefort's generic name for the verbaſcum of Linnæus. Varbascum.

BLAUBEUREN, a town of Germany in the circle of Suabia, and duchy of Wirtemberg. E. Long. 9. 57. N. Lat. 48. 22.

BLAVET, a ſea-port town of Brittany in France, ſituated at the mouth of a river of the ſame name. It is one of the ſtations of the royal navy of France, and is ſometimes called *Port Lewis*. W. Long. 3. 5. N. Lat. 47. 40.

BLAVIA, or Blavium, (anc. geog.), a town of Aquitain, on the north bank of the Garonne, below its confluence with the Dordone: Now *Blaye*: which ſee.

BLAYE, an ancient and ſtrong town of France, in Guienne. It is ſituated on the river Garonne, has a harbour much frequented by foreigners, and the ſhips which ſail to Bourdeaux are obliged to leave their guns here. The river is 3800 yards broad at Blaye; for which reaſon a battery was built upon an iſland in 1689, to command the veſſels that ſail up. The city is built on a rock, and has a citadel with four baſtions, which is called the *Upper Town*. The lower town is ſeparated from the upper by a ſmall river; and in the lower town the merchants reſide with their magazines. The neighbourhood produces a great deal of corn, which they ſend abroad when the exportation of it is allowed. W. Long. 1. 23. N. Lat. 45. 6.

BLAZE, a white ſpot in a horſe's face.

BLAZONING, or Blazonry, in heraldry, the decyphering the arms of noble families. The word originally ſignified the blowing or winding of a horn; and was introduced into heraldry as a term denoting the deſcription of things borne in arms, with their proper ſignifications and the intendments, from an ancient cuſtom the heralds, who were judges, had of winding an horn at juſts and tournaments, when they explained and recorded the atchievements of knights. See Heraldry.

BLEA, in the anatomy of plants, the inner rind or dry bark. See Plants.

BLEACHING, the art of whitening linen cloth, thread, &c. which is conducted in the following manner by the bleachers of Britain.

After the cloth has been ſorted into parcels of an equal fineneſs, as near as can be judged, they are latched, linked, and then ſteeped. Steeping is the firſt operation which the cloth undergoes, and is performed in this manner. The linens are folded up, each piece diſtinct, and laid in a large wooden veſſel; into which is thrown, blood-warm, a ſufficient quantity of water, or equal parts of water and lye, which has been uſed to white cloth only, or water with rye-meal or bran mixed with it, till the whole is thoroughly wet, and the liquor riſes over all. Then a cover of wood is laid over the cloth, and that cover is ſecured with a poſt betwixt the boards and the joiſting, to prevent the cloth from riſing during the fermentation which enſues. About ſix hours after the cloth has been ſteeped in warm water, and about twelve in cold, bubbles of air ariſe, a pellicle is formed on the ſurface of the liquor, and the cloth ſwells when it is not preſſed down. This inteſtine motion continues from 36 to 48 hours, according to the warmth of the weather; about which time the pellicle or ſcum begins to fall to the bottom. Before this precipitation happens, the cloth muſt be taken out; and the proper time for taking it out, is when no more air-bubbles ariſe. This is allowed to be the juſteſt guide by the moſt experienced bleachers.

The cloth is then taken out, well rinſed, diſpoſed regularly by the ſelvage, and waſhed in the put-mill to carry off the looſe duſt. After this it is ſpread on the field to dry. When thoroughly dried, it is ready for bucking; which is the ſecond operation.

Bucking, or the application of ſalts is performed in this manner. The firſt, or mother lye, is made in a copper which we ſhall ſuppoſe, for example, when full, holds 170 Scots gallons of water. The copper is filled three-fourths full of water, which is brought to boil: juſt when it begins, the following proportion of aſhes is put into it, *viz.* 30lb. of blue, and as much white pearl aſhes; 200lb. of Marcoſt aſhes (or, if they have not theſe, about 300lb. of Caſhub); 300lb. of Muſcovy, or blanch aſhes; the three laſt ought to be well pounded. This liquor is allowed to boil for a quarter of an hour, ſtirring the aſhes from the bottom very often; after which the fire is taken away. The liquor muſt ſtand till it has ſettled, which takes at leaſt ſix hours, and then it is fit for uſe.

Out of their firſt, or mother-lye, the ſecond, or that uſed in bucking, is made in this manner. Into another copper, holding, for example, 40 Scots gallons, are put 38 gallons of water, 2lb. ſoft ſoap, and 2 gallons of mother-lye; or, for cheapneſs, in place of the ſoap, when they have lye which has been uſed to white linen, called *white linen lye*, they take 14 gallons of it, leaving out an equal quantity of water. This is called *bucking-lye*.

After the linens are taken up from the field dry, they are ſet in the *vat* or *cave*, as their large veſſel is called, in rows endwiſe, that they may be equally wet by the lye; which made blood-warm, is now thrown on them, and the cloth is afterwards ſqueezed down by a man with wooden ſhoes. Each row undergoes the ſame operation, until the veſſel is full, or all the cloth in it. At firſt the lye is put on milk-warm, and, after ſtanding a little time on the cloth, it is again let off by a cock into the bucking-copper, heated to a greater degree, and then put on the cloth again. This courſe is repeated for ſix or ſeven hours, and the degree of heat gradually increaſed, till it is, at the laſt turn or two, thrown on boiling hot. The cloth remains after this for three or four hours in the lye; after which the lye is let off, thrown away, or uſed in the firſt buckings, and the cloth goes on to another operation.

It is then carried out, generally early in the morning, ſpread on the graſs, pinned, corded down, expoſed to the ſun and air, and watered for the firſt ſix hours, ſo often, that it never is allowed to dry. Afterwards it is allowed to lie till dry ſpots appear before it is watered. After ſeven at night it gets no more water, unleſs it be a very drying night. Next day, in the morning and forenoon, it is watered twice or thrice if the day be very dry; but if the weather be not drying, it gets no water: After which it is taken up dry if the green be clean; if not, it is rinſed, mill-waſhed, and laid out to dry again, to become fit for bucking.

This alternate courſe of bucking and watering is performed for the moſt part from ten to ſixteen times, or more, before the linen is fit for ſouring; gradually increaſing the ſtrength of the lye from the firſt to the middle bucking, and from that gradually decreaſing it till the ſouring begins. The lyes in the middle buckings are generally about a third ſtronger than the firſt and laſt.

Souring, or the application of acids to cloth, is the fourth operation. It is difficult to ſay when this operation ſhould commence, and depends moſtly on the ſkill and experience of the bleacher. When the cloth has an equal colour, and is moſtly freed from the ſprat, or outer bark of the lint, it is then thought fit for ſouring; which is performed in the following manner. Into a large vat or veſſel is poured ſuch a quantity of butter-milk, or ſour milk, as will ſufficiently wet the firſt row of cloth; which is tied up in looſe folds and preſſed down by two or three men barefooted. If the milk is thick, about an eighth of water is added to it; if thin, no water. Sours made with bran, or rye-meal and water, are often uſed inſtead of milk, and uſed milk-warm. Over the firſt row of cloth a quantity of milk and water is thrown, to be imbibed by the ſecond; and ſo it is continued till the linen to be ſoured is ſufficiently wet, and the liquor riſes over the whole. The cloth is then kept down by covers filled with holes, and ſecured with a poſt fixed to the joiſt, that it may not riſe. Some hours after the cloth has been in the ſour, air-bubbles ariſe, a white ſcum is found on the ſurface, and an inteſtine motion goes on in the liquor. In warm weather it appears ſooner, is ſtronger, and ends ſooner, than in cold weather. Juſt before this fermentation, which laſts five or ſix days, is finiſhed, at which time the ſcum falls down, the cloth ſhould be taken out, rinſed mill-waſhed, and delivered to the women to be waſhed with ſoap and water.

Waſhing with ſoap and water is the fifth operation; and is performed thus. Two women are placed oppoſite at each tub, which is made of very thick ſtaves, ſo that the edges which ſlope inwards, are about four inches in thickneſs. A ſmall veſſel full of warm water is placed in each tub. The cloth is folded ſo that the ſelvage may be firſt rubbed with ſoap and warm water lengthwiſe, till it is ſufficiently impregnated with it.

In this manner all the parcel is rubbed with ſoap, and afterwards carried to be bucked.

The lye now uſed has no ſoap in it, except what it gets from the cloth; and is equal in ſtrength to the ſtrongeſt formerly uſed, or rather ſtronger, becauſe the cloth is now put in wet. From the former operation theſe lyes are gradually made ſtronger, till the cloth ſeems of an uniform white, nor any darkneſs or brown colour appears in its ground. After this the lye is more ſpeedily weakened than it was increaſed; ſo that the laſt which the cloth gets is weaker than any it got before.

But the management of ſours is different; for they are uſed ſtrongeſt at firſt, and decreaſed ſo in ſtrength, that the laſt ſour, conſidering the cloth is then always taken up wet, may be reckoned to contain three-fourths of water.

From the bucking it goes to the watering, as formerly, obſerving only to overlap the ſelvages, and tie it down with cords, that it may not tear; then it returns to the ſour, milling, waſhing, bucking, and watering again. Theſe operations ſucceed one another alternately till the cloth is whitened: at which time it is blued, ſtarched, and dried.

This is the method uſed in the whitening fine cloths. The following is the method uſed in the whitening of coarſe cloths.

Having ſorted the cloths according to their quality, they are ſteeped in the ſame manner as the fine, rinſed, waſhed in the mill, and dried before boiling.

In this proceſs boiling ſupplies the place of bucking, as it takes leſs time and conſequently is thought cheapeſt. It is done in the following manner: 200lb. Caſhub-aſhes, 100lb. white Muſcovy, and 30lb. pearl-aſhes, boiled in 105 Scots gallons of water for a quarter of an hour, as in the proceſs for the fine cloth, makes the mother or firſt lye. The cloth-boiler is then to be filled two-thirds full with water and mother-lye, about nine parts of the former to one of the latter; ſo that the lye uſed for the boiling the coarſe cloth is about a third weaker than that uſed in bucking the fine. Such a quantity of cloth is put into the foregoing quantity of lye, when cold, as can be well covered by it. The lye is brought gradually to the boil, and kept boiling for two hours; the cloth being fixed down all the time, that it does not riſe above the liquor. The cloth is then taken out, ſpread on the field, and watered, as mentioned before in the fine cloth.

As the ſalts of the lye are not exhauſted by this boiling, the ſame is continued to be uſed all that day, adding at each boiling ſo much of the mother-lye as will bring it to the ſame ſtrength as at firſt. The lye by boiling loſes in quantity ſomewhat betwixt a third and a fourth; and they reckon that in ſtrength it loſes about a half, becauſe they find in practice, that adding to it half its former ſtrength in freſh lye, has the ſame effect on cloth. Therefore ſome freſh lye, containing a fourth part of the water, and the half of the ſtrength of the firſt lye, makes the ſecond boiler equal in ſtrength to the firſt. To the third boiler they add ſomewhat more than the former proportion, and go on ſtill increaſing gradually to the fourth and fifth, which is as much as can be done in a day. The boiler is then cleaned, and next day they begin with freſh lye. Theſe additions of freſh lye ought always to be made by the maſter-bleacher, as it requires judgment to bring ſucceeding lyes to the ſame ſtrength as the firſt.

When the cloth comes to get the ſecond boiling, the lye ſhould be a little ſtronger, about a thirtieth part, and the deficiencies made up in the ſame proportion. For ſix or ſeven boilings, or fewer, if the cloth be thin, the lye is increaſed in this way, and then gradually diminiſhed till the cloth is fit for ſouring. The whiteſt cloth ought always to be boiled firſt, that it may not be hurt by what goes before.

In this proceſs, if the cloth cannot be got dry for boiling, buſineſs does not ſtop as in the fine; for after the coarſe has dreeped on racks made for the purpoſe, it is boiled, making the lye ſtrong in proportion to the water in the cloth.

The common method of ſouring coarſe linen is, to mix ſome warm water and bran in the vat, then put a layer of cloth, then more bran, water, and cloth: and ſo on, till the cave is full. The whole is tramped with mens feet, and fixed as in the former proceſs. A thouſand yards of cloth, yard-broad, require betwixt four and ſix pecks of bran. The cloth generally lies about two nights and three days in the ſour. Others prepare their ſour twenty-four hours before, by mixing the bran with warm water in a ſeparate veſſel; and before pouring it on the cloth, they dilute it with a ſufficient quantity of water. After the cloth is taken from the ſour, it ought to be well waſhed and rinſed again. It is then given to men to be well ſoaped on a table, and afterwards rubbed betwixt the rubbing-boards. When it comes from them it ſhould be well milled, and warm water poured on it all the time, if conveniency will allow of it. Two or three of theſe rubbings are ſufficient, and the cloth very ſeldom requires more.

The lye, after the ſouring begins, is decreaſed in ſtrength by degrees; and three boilings after that are commonly ſufficient to finiſh the cloth. Afterwards it is ſtarched, blued, dried, and bittled in a machine made for that purpoſe, which ſupplies the place of a calender, and is preferred by many to it.

This method uſed in the bleaching of coarſe cloths, is very like that practiſed in Ireland for both fine and coarſe. The only material difference is that there the bleachers uſe no other aſhes but the kelp or caſhub. A lye is drawn from the former by cold water, which diſſolves the ſalts, and not the ſulphureous particles of the kelp-aſhes. This lye is uſed till the cloth is half whitened, and then they lay aſide the kelp-lye for one made of caſhub-aſhes.

In the preceding hiſtory of bleaching, we may obſerve, that it naturally divides itſelf into ſeveral different branches or parts, all tending to give linen the degree of whiteneſs required. How they effectuate that comes next to be conſidered.

The general proceſs of bleaching divides itſelf into theſe different parts. 1. Steeping and milling. 2. Bucking and boiling. 3. Alternate watering and drying. 4. Souring. 5. Rubbing with ſoap and warm water, ſtarching and bluing. We ſhall treat of theſe different parts in their order.

Steeping. Green linen, in the different changes which it has undergone before it arrives at that ſtate, contracts a great foulneſs. This is chiefly communicated to it by the dreſſing compoſed of tallow and ſowen, which is a kind of flummery made of bran, flour, or oat-meal ſeeds. The firſt thing to be done in the bleachfield is to take off all that filth which is foreign to the flax, would blunt the future action of the ſalts, and might, in unſkilful hands, be fixed in the cloth. This is the deſign of ſteeping.

To accompliſh this end, the cloth is laid to ſteep in blood-warm water. A ſmaller degree of heat would not diſſolve the dreſſing ſo ſoon; and the greater might coagulate and fix, in the body of the linen, thoſe particles which we deſign to carry off. In a few hours the dreſſing made uſe of in weaving is diſſolved, mixed with the water; and as it had acquired ſome degree of acidity before application, it becomes a ſpecies of ferment. Each ferment promotes its own particular ſpecies of fermentation or inteſtine motion; the putrid ferment ſets in motion the putrefactive fermentation; the vinous ferment gives riſe to the vinous fermentation; and the acid ferment to the acetous fermentation. That there is a real fermentation going on in ſteeping, one muſt be ſoon convinced, who attends to the air-bubbles which immediately begin to ariſe, to the ſcum which gathers on the ſurface, and to the inteſtine motion and ſwelling of the whole liquor. That it muſt be the acetous fermentation, appears from this, that the vegetable particles, already in part ſoured, muſt firſt undergo this proceſs.

The effect of all fermentations is to ſet the liquor in motion; to raiſe in it a degree of heat; and to emit air-bubbles, which, by carrying up ſome of the light oleaginous particles along with them, produce a ſcum. But as the dreſſing is in ſmall quantity in proportion to the water, theſe effects are gentle and ſlow. The acid ſalts are no ſooner ſeparated, by the acetous fermentation, from the abſorbent earth, which made them not perceptible to the tongue in their former ſtate, than they are united to the only particles of the tallow, which likewiſe adhere ſuperficially, diſſolve them, and render them in ſome degree miſſible with water. In this ſtate they are ſoon waſhed off by the inteſtine motion of the liquor. The conſequence of this operation is, that the cloth comes out freed in a great meaſure from its ſuperficial dirt, and more pliant and ſoft than what it was.

Whenever this inteſtine motion is pretty much abated, and before the ſcum ſubſides, bleachers take out their cloth. The ſcum, when no more air bubbles riſe to ſupport it, ſeparates and falls down; and would again communicate to the cloth great part of the filth. But a longer ſtay would be attended with a much greater diſadvantage. The putrid follows cloſe upon the acetous fermentation: when the latter ends, the former begins. Were this to take place in any conſiderable degree, it would render the cloth black and tender. Bleachers cannot be too careful in this article.

The firſt queſtion that ariſes to be determined on theſe principles is, What is the propereſt liquor for ſteeping cloth? thoſe uſed by bleachers are plain water; white linen lye and water, equal parts; and rye-meal or bran mixed with water. They always make uſe of lye when they have it.

After ſteeping, the cloth is carried to the putſtock-mill, to be freed of all its looſe foulneſs. There can be nothing contrived ſo effectual to anſwer the purpoſe as this mill. Its motion is eaſy, regular, and ſafe. While it preſſes gently, it turns the cloth; which is continually waſhed with a ſtream of water. Care muſt be taken that no water be detained in the folds of the linen, otherwiſe that part may be damaged.

Bucking and boiling. This is the moſt important operation of the whole proceſs, and deſerves a thorough examination. Its deſign is to looſen, and carry off, by the help of alkaline lixives or lyes, that particular ſubſtance in cloth, which is the cauſe of its brown colour.

All aſhes uſed in lye, the pearl excepted, ought to be well pounded, before they are put into the copper; for the Marcoſt and Caſhub are very hard, and with ſome difficulty yield their ſalt. As theſe two laſt contain a very conſiderable proportion of a real ſulphureous matter, which muſt in ſome degree tinge white cloth; and as this is diſſolved much more by boiling than by the inferior degrees of heat, while the ſalts may be as well extracted by the latter; the water ſhould never be brought to boil, and ſhould be continued for ſome time longer under that degree of heat. The pearl-aſhes ſhould never be put in till near the end, as they are eaſily diſſolved in water.

If the ſalts were always of an equal ſtrength, the ſame quantities would make a lye equally ſtrong: but they are not. Salts of the ſame name differ very much from one another. The Muſcovy aſhes are turning weaker every day, as every bleacher muſt have obſerved, till at laſt they turn quite effete. A decoction from them when new, muſt differ very much from one when they have been long kept. Hence a neceſſity of ſome exact criterion to diſcover when lyes are of an equal ſtrength. The taſte cannot ſerve as that is ſo variable; cannot be deſcribed to another, and is blunted by repeated trials. The proof-ball will ſerve the purpoſe of the bleach field ſufficiently; and, by diſcovering the ſpecific gravity, will ſhow the quantity of alkaline ſalts diſſolved. But it cannot ſhow the dangerous qualities of theſe ſalts; for the leſs cauſtic and leſs heavy this liquor is, the more dangerous and corroſive it may be for the cloth.

The third lye, which they draw from theſe materials by an infuſion of cold water, in which the taſte of lime is diſcoverable, appears plainly to be more dangerous than the firſt. The ſecond lye, which they extract from the ſame aſhes, and which is reckoned about a third in ſtrength, when compared to the firſt, muſt be of the ſame nature; nor ſhould it be uſed without an addition of pearl-aſhes, which will correct it.

It is taken for a general rule, That the ſolution of any body in its menſtruum is equally diffuſed through the whole liquor. The bleachers depending on this, uſe equal quantities of the top and bottom of their lye, when once clear and ſettled; taking it for granted, that there is an equal quantity of ſalts in equal quantities of the lye. But if there is not, the miſtake may be of fatal conſequence, as the lye may be in ſome places ſtronger than what the cloth can with ſafety bear. That general law of ſolution muſt have taken its riſe from particular experiments, and not from reaſoning. Whether a ſufficient number of experiments have been tried to aſcertain this point, and to eſtabliſh an undoubted general rule, may be called in queſtion.

"But (ſays Dr Home) when I had diſcovered that lime makes part of the diſſolved ſubſtance, and reflected how long its groſſer parts will continue ſuſpended in water, there appeared ſtronger reaſons for ſuſpecting that this rule, tho' it may be pretty general, does not take place here; at leaſt it is worth the purſuit of experiment.

"I weighed at the bleachfield a piece of glaſs in ſome cold lye, after it had been boiled, ſtood for two days, and about the fourth part of it had been uſed. The glaſs weighed 3 drams 1¼ grains in the lye, and 3 drams 7¼ grains in river-water. The ſame glaſs weighed in the ſame lye, when almoſt all uſed, 2 grains leſs than it had done before. This ſhows, that the laſt of the lye contained a third more of the diſſolved body; and, conſequently, was a third ſtronger than the firſt of the lye.

"As this might, perhaps, be owing to a continuation of the ſolution of the ſalts, I repeated the experiment in a different way.

"I took from the ſurface ſome of the lye, after the ſalts were diſſolved, and the liquor was become clear. At the ſame time I immerſed a bottle, fixed to a long ſtick, ſo near the bottom, as not to raiſe the aſhes there, and, by pulling out the cork by a ſtring, filled the bottle full of the lye near the bottom. The glaſs weighed in river-river 3 drams 38¼ grains; in the lye taken from the ſurface 3 drams 34¼ grains; and in the lye taken from the bottom 3 drams 31¼ grains. This experiment ſhows, that the lye at the bottom was, in this caſe, ¾ths ſtronger than the lye at the ſurface.

"At other times when I tried the ſame experiment, I found no difference in the ſpecific gravity; and therefore, I leave it as a queſtion yet doubtful, though deſerving to be aſcertained by thoſe who have an opportunity of doing it. As the lye ſtands continually on the aſhes, there can be no doubt but what is uſed laſt muſt be ſtronger than the firſt. I would therefore recommend, to general practice, the method uſed by Mr John Chriſtie, who draws off the lye, after it has ſettled into a ſecond receptacle, and leaves the aſhes behind. By this means it never can turn ſtronger; and he has it in his power to mix the top and bottom, which cannot be done ſo long as it ſtands on the aſhes."

Having conſidered the lye, let us next inquire how it acts. On this enquiry depends almoſt the whole theory of bleaching, as its action on cloth is, at leaſt in this country, abſolutely neceſſary. It is found by experiment, that one effect they have on cloth is the diminiſhing of its weight; and that their whitening power is, generally, in proportion to their weakening power. Hence ariſes a probability, that theſe lyes act by removing ſomewhat from the cloth, and that the loſs of this ſubſtance is the cauſe of whiteneſs. This appears yet plainer, when the bucking, which laſts from Saturday night to Monday morning, is attended to.

There are various and different opinions with regard to the operations of theſe ſalts: that they act by altering the external texture of the cloth, or by ſeparating the mucilaginous parts from the reſt, or by extracting the oil which is laid up in the cells of the plant. The laſt is the general opinion, or rather conjecture, for none of them deſerves any better name; but we may venture to affirm, that it is ſo without any better title to pre-eminence than what the others have. Alkaline ſalts diſſolve oils, therefore theſe ſalts diſſolve the cellular oil of the cloth, is all the foundation which this theory has to reſt on; too ſlight, when unſupported by experiment, to be relied on.

Dr Home endeavours to ſettle this queſtion by the following experiments and obſervations.

"Wax (ſays he) is whitened by being expoſed to the influence of the ſun, air, and moiſture. A diſcovery of the change made on it by bleaching may throw a light upon the queſtion.

"Six drams of wax were ſliced down, expoſed on a ſouth window, September 10. and watered. That day being clear and warm, bleached the wax more than all the following. It ſeemed to me to whiten quicker when it had no water thrown on it than when it had. September 15. it was very white, and 1 dram 3 grains lighter. 3¼ drams of this bleached wax, and as much of unbleached, taken from the ſame piece, were made into two candles of the ſame length and thickneſs, having cotton wicks of the ſame kind. The bleached candle burnt 1 hour 33 minutes; the unbleached 3 minutes longer. The former run down four times, the latter never. The former had an obſcure light and dull flame; the latter had a clear pleaſant one, of a blue colour at the bottom. The former when burning ſeemed to have its wick thicker, and its flame nearer the wax, than the latter. The former was brittle, the latter not. It plainly appears from theſe facts, that the unbleached wax was more inflammable than the bleached; and that the latter had loſt ſo much of an inflammable ſubſtance as it had loſt in weight; and conſequently the ſubſtance loſt in bleaching of wax is the oily part.

"As I had not an opportunity of repeating the former experiment, I do not look on it as entirely concluſive; for it is poſſible that ſome of the duſt, flying about in the air, might have mixed with the bleached wax, and ſo have rendered it leſs inflammable. Nor do I think the analogical reaſoning from wax to linen without objections. Let us try then if we cannot procure the ſubſtance extracted from the cloth, ſhow it to the eye, and examine its different properties. The proper place to find it, is in a lye already uſed, and fully impregnated with theſe colouring particles.

"I got in the bleachfield ſome lye, which had been uſed all that day for boiling coarſe linen, which was tolerably white, and had been twice boiled before. There could be no dreſſing remaining in theſe webs. No ſoap had ever touched that parcel; nor do they mix ſoap with the lye uſed for coarſe cloth. Some of this impregnated lye was evaporated, and left a dark coloured matter behind. This ſubſtance felt oily betwixt the figures, but would not lather in water as ſoap does. It deflagrated with nitre in fuſion, and afforded a tincture to ſpirit of wine. By this experiment the ſalts ſeem to have an oily inflammable ſubſtance joined with them.

"Could we ſeparate this colouring ſubſtance from theſe ſalts, and exhibit it by itſelf, ſo that it might become the object of experiment, the queſtion would be ſoon decided. Here chemiſtry lends us its aſſiſtance. Whatever has a ſtronger affinity or attraction to the ſalts with which it is joined than this ſubſtance has, muſt ſet it at liberty, and make it viſible. Acids attract alkaline ſalts from all other bodies; and therefore will ſerve our purpoſe.

“ Into a quantity of the impregnated lye mentioned in the former experiment, I poured in oil of vitriol. Some bubbles of oil aroſe, an inteſtine motion was to be perceived, and the liquor changed its colour from a dark to a turbid white. It curdled like a ſolution of ſoap, and a ſcum ſoon gathered on the ſurface, about half an inch in thickneſs, the deepneſs of the liquor not being above ſix inches. What was below was now pretty clear. A great deal of the ſame matter lay in the bottom; and I obſerved that the ſubſtance on the ſurface was precipitated, and ſhowed itſelf heavier than water, when the particles of air, attached to it in great plenty, were diſpelled by heat. This ſubſtance was in colour darker than the cloth which had been boiled in it.

“ I procured a conſiderable quantity of it by ſkimming it off. When I tried to mix it with water, it always fell to the bottom. When dried by the air, it diminiſhed very much in its ſize, and turned as black as a coal. In this ſtate it deflagrated ſtrongly with nitre in fuſion; gave a ſtrong tincture to ſpirit of wine; and when put on a red-hot iron, burnt very ſlowly, as if it contained a heavy ponderous oil; and left ſome earth behind.

“ From the inflammability of this ſubſtance, its rejecting of water, and diſſolving in ſpirit of wine, we diſcover its oleaginous nature; but from its great ſpecific gravity we ſee that it differs very much from the expreſſed or cellular oil of vegetables; and yet more from their mucilage. That it diſſolves in ſpirit of wine, is not a certain argument of its differing from expreſſed oils; becauſe theſe, when joined to alkaline ſalts, and recovered again by acids, become ſoluble in ſpirit of wine. The quantity of earthy powder left behind after burning, ſhows that it contains many of the ſolid particles of the flax. The ſubſtance extracted from cloth by alkaline lyes appears then to be a compoſition of a heavy oil, and the ſolid earthy particles of the flax.

“ In what manner theſe ſalts act ſo as to diſſolve the oils, and detach the ſolid particles, is uncertain; but we ſee evidently how much cloth muſt be weakened by an improper uſe of them, as we find the ſolid particles themſelves are ſeparated.”

It is neceſſary that cloth ſhould be dry before bucking, that the ſalts may enter into the body of the cloth along with the water; for they will not enter in ſuch quantity if it be wet; and by acting too powerfully on the external threads, may endanger them.

The degree of heat is a very material circumſtance in this operation. As the action of the ſalts is always in proportion to the heat, it would appear more proper to begin with a boiling heat, by which a great deal of time and labour might be ſaved. The reaſon why this method is not followed appears to be this. If any vegetable or vegetable ſubſtance is to be ſoftened and to have its juices extracted, it is found more proper to give it gentle degrees of heat at firſt, and to advance gradually, than to plunge it all at once in boiling water. This laſt degree of heat is ſo ſtrong, that when applied at once to a vegetable it hardens inſtead of ſoftening its texture. Dried vegetables are immediately put into boiling water by cooks, that theſe ſubſtances may preſerve their green colour, which is only to be done by hindering them from turning too ſoft. Boiling water has the ſame effect on animal ſubſtances; for if ſalt beef is put into it, the water is kept from getting at the ſalts from the outſide of the beef being hardened.

But when we conſider how much of an oily ſubſtance there is in the cloth, eſpecially at firſt, which will for ſome time keep off the water, and how the twiſting of the threads, and cloſeneſs of the texture, hinders the water from penetrating, we ſhall find, that if boiling water were put on at once, the cloth might be liable, in ſeveral parts, to a dry heat which would be much worſe than a wet one. That the lyes have not acceſs to all parts of the cloth, at firſt, appears plainly from this, that when it has lain, after the firſt bucking, till all the lyes are waſhed out, it is as black, in ſome parts, as when it was ſteeped. This muſt be owing to the diſcharge of the colouring particles from thoſe places to which the lye has acceſs, and to their remaining where it has not. It would ſeem adviſable then, in the firſt bucking or two, when the cloth is foul, to uſe the lye conſiderably below the boiling point; that by this ſoaking or maceration, the foulneſs may be entirely diſcharged, and the cloth quite opened for the ſpeedy reception of the boiling lye in the buckings which follow.

The lyes ſhould likewiſe be weakeſt in the firſt buckings, becauſe then they act only on the more external parts; whereas, when the cloth is more opened, and the field of action is increaſed, the active powers ought to be ſo too. For this reaſon they are at the ſtrongeſt after ſome ſourings.

The only thing that now remains to be conſidered, is, the management of the coarſe cloth, where boiling is ſubſtituted in place of bucking. This ſpecies of linen cannot afford the time and labour neceſſary for the latter operation; and therefore they muſt undergo a ſhorter and more active method. As the heat continues longer at the degree of boiling, the lyes uſed to the coarſe cloth muſt be weaker than thoſe uſed to the fine. There is not ſo much danger from heat in the coarſe as in the fine cloth, becauſe the former is of a more open texture, and will allow the lye to penetrate more ſpeedily. In the cloſer kinds, however, the firſt application of the ſalts ſhould be made without a boiling heat.

Alternate watering and drying. After the cloth has been bucked, it is carried out to the field, and frequently watered for the firſt ſix hours. For if, during that time, when it is ſtrongly impregnated with ſalts, it is allowed to dry, the ſalts approaching cloſer together, and aſſiſted by a greater degree of heat, increaſing always in proportion to the dryneſs of the cloth, act with greater force, and deſtroy its very texture. After this time, dry ſpots are allowed to appear before it gets any water. In this ſtate it profits moſt, as the latter part of the evaporation comes from the more internal parts of the cloth, and will carry away moſt from thoſe parts. The bleaching of the wax, in a preceding experiment, helps to confirm this; for it ſeemed to whiten moſt when the laſt particles of water were going off.

This continual evaporation from the ſurface of the cloth ſhows, that the deſign of the operation is to carry off ſomewhat remaining after the former proceſs of bucking. This appears likewiſe from a fact known to all bleachers, that the upper ſide of cloth, where the evaporation is ſtrongeſt, attains to a greater degree of whiteneſs than the under ſide. But it is placed beyond all doubt by experiment, which ſhows, that cloth turns much lighter by being expoſed to the influence of the ſun, air, and winds, even though the ſalts have been waſhed out of it.

What, then, is this ſubſtance? As we have diſcovered in the former ſection, that the whitening, in the operation of bucking, depends on the extracting or looſening the heavy oil, and ſolid particles of the flax; it appears highly probable, that the effects of watering, and expoſition to the ſun, air, and winds, are produced by the evaporation of the ſame ſubſtance, joined to the ſalts, with which compoſite body the cloth is impregnated when expoſed on the field. That theſe ſalts are in a great meaſure carried off or deſtroyed, appears from the cloth's being allowed to dry without any danger after the evaporation has gone on for ſome time. “ If we can ſhow, (ſays Dr Home) that oils and ſalts, when joined together, are capable of being exhaled, in this manner, by the heat of the atmoſphere, we ſhall reduce this queſtion to a very great degree of certainty.

September 10. I expoſed in a ſouth-weſt window half an oz. of Caſtile ſoap, ſliced down and watered. September 14. when well dried, it weighed but 3 dr. 6 gr. September 22. it weighed 2 dr. 2 gr. September 24. it weighed 1 dr. 50 gr. It then ſeemed a very little whiter; but was much more mucilaginous in its taſte, and had no degree of ſaltneſs which it had before.

“ It appears from this experiment, that ſoap is ſo volatile, when watered, and expoſed to air not very warm, that it loſes above half its weight in 14 days. The ſame muſt happen to the ſaponaceous ſubſtance, formed from the conjunction of the alkaline ſalts, heavy oil, and earthy particles of the flax. The whole deſign, then, of this operation, which by way of pre-eminence, gets the name of *bleaching*, is to carry off, by the evaporation of water, whatever has been looſened by the former proceſs of bucking.

“ Againſt this doctrine there may be brought two objections, ſeemingly of great weight. It is a general opinion among bleachers, that linen whitens quicker in March and April than in any other months: but as the evaporation cannot be ſo great at that time as when the ſun has a greater heat; hence the whitening of cloth is not in proportion to the degree of evaporation; and therefore the former cannot be owing to the latter. This objection vaniſhes, when we conſider, that the cloth that comes firſt into the bleachfield, in the ſpring, is cloſely attended, having no other to interfere with it for ſome time; and as it is the whiteſt, gets, in the after-buckings, the firſt of the lye; while the ſecond parcel is often bucked with what has been uſed to the firſt. Were the fact true, on which the objection is founded, this would be a ſufficient anſwer to the objection. But it appears not to be true, from an obſervation of Mr John Chriſtie, that cloth laid down in the beginning of June, and finiſhed in September, takes generally leſs work, and undergoes fewer operations, than what is laid down in March, and finiſhed in June.

“ The other objection is, That cloth dries much faſter in windy weather than in calm ſun-ſhine; but it does not bleach ſo faſt. This would ſeem to ſhow, that the ſun has ſome particular influence independent on evaporation. In anſwer to this objection, let it be conſidered, that it is not the evaporation from the ſurface, but from the more internal parts, that is of benefit to the cloth. Now, this latter evaporation muſt be much ſtronger in ſun-ſhine than in windy weather, on account of the heat of the ſun, which will make the cloth more open; while the coldneſs of windy weather muſt ſhut it up, ſo that the evaporation will all be from the ſurface. Clear ſun-ſhine, with a very little wind, is obſerved to be the beſt weather for bleaching; a convincing proof that this reaſoning is juſt.

“ It would ſeem to follow as a corollary from this reaſoning, that the number of waterings ſhould in general be in proportion to the ſtrength of the lye; for the ſtronger the lye is, the more there is to be evaporated; and the greater the danger, in caſe the cloth ſhould be allowed to dry. But there is an exception to this general rule, ariſing from the conſideration of another circumſtance. It is obſerved that cloth when brown, dries ſooner than when it becomes whiter, ariſing from the cloſeneſs and oilineſs which it then has not allowing the water a free paſſage. Perhaps that colour may retain a greater degree of heat, and in that way aſſiſt a very little. Cloth, therefore, after the firſt buckings, muſt be more carefully watered than after the laſt.

“ It follows likewiſe from this reaſoning, that the ſoil of the bleachfield ſhould be gravelly or ſandy, that the water may paſs quickly through it, and that the heat may be increaſed by the reflection of the ſoil, for the ſucceſs of this operation depends on the mutual action of heat and evaporation. It is likewiſe neceſſary that the water ſhould be light, ſoft, and free from mud or dirt, which not being able to riſe along with the water, muſt remain behind. When there is much of this, it becomes neceſſary to rinſe the cloth in water, and then give it a milling, to take out the dirt; elſe it would be fixed in the cloth by the following bucking, as it is not ſoluble by the lye.

“ This operation has more attributed to it by bleachers than it can juſtly claim. The cloth appears, even to the eye, to whiten under theſe alternate waterings and dryings; and theſe naturally get the honour of it, when it more properly belongs to the former operation. Here lies the fallacy. Alkaline ſalts give a very high colour to the decoctions or infuſion of vegetables. This is probably owing to the ſolution of the oleaginous colouring particles of the plant; which particles, being opened and ſeparated by the ſalts, occupy a greater ſpace, and give a deep colour to the liquor. The cloth participates of the liquor and colour. Hence bleachers always judge of the goodneſs of the bucking by the deepneſs of its colour. The rule, in general, is good. I obſerve that in thoſe buckings which continue from the Saturday night to the Monday morning, the cloth has always the deepeſt colour. When that cloth has been expoſed ſome hours to the influence of the air, theſe colouring particles which are but looſely attached to it, are evaporated, and the linen appears of a brighter colour. This operation does no more than complete what the former had almoſt finiſhed. If its own merit were thoroughly known, there would be no occaſion to attribute that of another operation to it. Thread, and open cloths, ſuch as diaper, may be reduced to a great degree

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degree of whiteneſs, after one bucking, by it alone. No cloth, as would appear, can attain to a bright whiteneſs without it.

“ Since the only advantage of watering is the removal of the ſalts, and what they have diſſolved, might we not effectuate this by ſome cheaper and more certain method? For it occupies many hands; and muſt depend altogether on the uncertainty of the weather; ſo that in the beginning of the ſeaſon, the bleacher is often obliged to repeat his buckings without bleaching. We might take out the alkaline ſalts by acids; but then the other ſubſtance would be left alone in the cloth, nor would any waſhing be able to remove it. Mill-waſhing appears a more probable method of taking out both ſalts and oils; and it would ſeem that this might in a great meaſure ſupply the place of watering; but upon trial it does not ſucceed. Two parcels of linen were managed equally in every other reſpect, except in this, that one was watered, and expoſed to the influence of the air, and the other was only mill-waſhed. This method was followed until they were fit for ſouring. The cloth which had been mill-waſhed had a remarkable green colour, and did not recover the bright colour of the pieces managed in the common way, until it had been treated like them for a fortnight. The green colour was certainly owing to a precipitation of the ſulphureous particles, with which the lye is impregnated, upon the ſurface of the cloth; owing to the ſalts being waſhed off more ſpeedily than the ſulphur, to which they are united in the lye. The attachment betwixt theſe two bodies we know is very looſe, and the ſeparation eaſily made. Evaporation then alone is ſufficient to carry off theſe ſulphureous particles.”

Souring. It is well known to all chymiſts, that alkaline ſalts are convertible, by different methods, into abſorbent earths. Frequent ſolution in water, and evaporation of it again, is one of theſe. This tranſmutation then of theſe ſalts, which are not volatiliſed or waſhed away, muſt be continually going on in the cloth under theſe alternate waterings and dryings of the former proceſs: not much indeed after the firſt two or three buckings; becauſe the ſalts, not having entered deep into the cloth, are eaſily waſhed off, or evaporated. But when they penetrate into the very compoſition of the leaſt and minuteſt fibres, of which the firſt veſſels are made, they find greater difficulty of eſcaping again, and muſt be more ſubject to this tranſmutation. But if we conſider the bleaching aſhes as a compoſition of lime and alkaline ſalts, we muſt diſcover a freſh fund for the depoſition of this abſorbent earth. The common cauſtic, a compoſition of this very kind ſoon converts itſelf, if expoſed to the open air, into a harmleſs earthy powder.

Frequent buckings and bleachings load the cloth with this ſubſtance. It becomes then neceſſary to take it out. No waſhing can do that, becauſe earth is not ſoluble in water. Nothing but acids can remove it. Theſe are attracted by the abſorbent earth, join themſelves to it, and compoſe a kind of neutral imperfect ſalt, which is ſoluble in water, and therefore eaſily waſhed out of the cloth. The acid liquors commonly uſed are butter-milk, which is reckoned the beſt, ſour-milk, infuſion of bran, rye-meal, &c. kept for ſome days till they ſour. Sour whey is thought to give the cloth a yellow colour.

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The linen ought to be dried before it is put in the ſour, that the acid particles may penetrate, along with the watery, through the whole. A few hours after it has been there, air bubbles ariſe, the liquor ſwells, and a thick ſcum is formed; manifeſt ſigns of a fermentation. The following experiment, ſays Dr Home, ſhows the degree of heat which attends it.

May 25. I put a thermometer of Fahrenheit's into ſome butter-milk, of which the bleachers were compoſing their ſours, and which ſtood in a vat adjoining to another, where the milk was the ſame, and the ſouring proceſs had been going on for two days. After the thermometer had been 20 minutes in the butter-milk the mercury ſtood at 64 degrees. In the ſouring vat it roſe to 68 degrees. An increaſe of four degrees ſhows a pretty briſk inteſtine motion.

“ To what are all theſe effects owing? To the acetous fermentation going on in thoſe vegetable liquors, whoſe acids, extricating themſelves, produce heat, inteſtine motion, and air bubbles. As the change is ſlow, the proceſs takes five or ſix days before it is finiſhed. During this time the acid particles are continually uniting themſelves to the abſorbent earth in the cloth. That this fermentation goes on in the liquor alone, appears from this conſideration, that the ſame effects, *viz.* air bubbles, and ſcum, are to be ſeen in the butter-milk alone. The only effect then it has is, by the ſmall degree of heat, and inteſtine motion, which attend it, to aſſiſt the junction of the acid and abſorbent particles. We ſhall preſently ſee that this proceſs may be carried on to as great advantage, without any fermentation; and therefore it appears not abſolutely neceſſary.

“ When theſe abſorbent particles are fully ſaturated, the remaining acids may unite with, and have ſome ſmall effect in extracting the colouring particles. This appears from the following experiments.

“ Sept. 20. A piece of cloth which had been ſteeped, weighing 41¼gr. was put into a half-pound of butter-milk, whigged, and well ſoured, by a mixture of water, and by boiling. Sept. 24. When taken out, and waſhed in water, it appeared a very little whiter. The mineral acids, as will appear afterwards, whiten cloth, even though they are very much diluted.

“ Juſt before the acetous fermentation is finiſhed, the cloth ſhould be taken out; otherwiſe the ſcum will fall down and lodge in the cloth, and the putrefaction which then begins will weaken it. This appears from the following experiment.

“ Sept. 16. A piece of cloth weighing 42 gr. was laid in butter-milk unwhigged. Nov. 15. The milk had a putrefied ſmell. The cloth was a little whiter, but very tender; and weighed, when well waſhed in warm water and dried, 40 gr.”

All the ſours made of bran, rye-meal, &c. ought to be prepared before uſe; for by this means ſo much time will be ſaved. Beſides, when the water is poured upon the cloth and bran, as is done in the management of coarſe cloth, the linen is not in a better ſituation than if it had been taken up wet from the field; and by this means the acid particles cannot penetrate ſo deep. Again, this method of mixing the bran with the cloth, may be attended with yet worſe conſequences. All vegetable ſubſtances, when much preſſed, fall into the putreſcent, and not the acetous fermentation. This often happens to the bran preſſed betwixt the different layers on the linen, which muſt weaken the cloth. Hence all ſours ſhould be prepared before the cloth is ſteeped in them; and none of the bran or meal ſhould be mixed with the cloth.

The ſours are uſed ſtrongeſt at firſt, and gradually weakened till the cloth has attained to its whiteneſs. In the firſt ſourings, there is more of the earthy matter in the cloth, from the many buckings it has undergone, than what there can be afterwards. As the quantity of this matter decreaſes, ſo ſhould the ſtrength of the ſour. There is not, however, the leaſt danger, at any time, from too ſtrong a ſour.

What is moſt wanted in this operation is a more expeditious and cheaper method of obtaining the ſame end. As it takes five or ſix days, it retards the whitening of the cloth conſiderably; and as bleachers are obliged to ſend for milk to a great diſtance, it becomes very dear. This laſt conſideration makes them keep it ſo long, that, when uſed, it can have no good effect; perhaps it may have a bad one.

There is one conſideration that may lead us to ſhorten the time. It is obſerved, that the ſouring proceſs is ſooner finiſhed in warm than in cold water. Heat quickens the fermentation, by aiding the inteſtine motion. The vats therefore ſhould not be buried in the ground as they always are, which muſt keep them cold; there ſhould rather be pipes along the walls of the room, to give it that degree of heat, which, on trial, may be found to anſwer beſt. There are few days in ſummer ſo hot as is neceſſary; and the beginning and end of the ſeaſon is by much too cold. That this is no ideal ſcheme, the following fact is ſufficient proof. There were two vats in a bleachfield, adjoining to a partition wall, at the back of which there was a kitchen-fire. In theſe vats the ſouring proceſs was finiſhed in three days, whereas it laſted five or ſix days in the others placed round the ſame room.

This improvement, tho' it ſhortens the time of ſouring a very little, yet is no remedy againſt the ſcarcity and dearneſs of milk ſours. Such a liquor as would ſerve our purpoſe, muſt be found either among the vegetable acids, which have no further fermentation to undergo, or among the mineral acids. The former are a large claſs, and contain within themſelves many different ſpecies; ſuch as the acid juice of ſeveral plants, vinegars made of fermented liquors, and acid ſalts, called *tartars*. But there is one objection againſt theſe vegetable acids: they all contain, along with the acid, a great quantity of oily particles, which would not fail to diſcolour the cloth. Beſides, the demand of the bleachfields would raiſe their price too high.

The mineral acids have neither of theſe objections. They are exceedingly cheap, and contain no oil. "I will freely own (ſays Dr Home), that at firſt I had no great opinion of ſucceſs from the mineral, from two reaſons; their want of all fermentation, which I then looked on as neceſſary; and their extreme corroſiveneſs. But the experience of two different ſummers, in two different bleachfields, has convinced me, that they will anſwer all the purpoſes of the milk and bran ſours; nay, in ſeveral reſpects be much preferable to them. I have ſeen many pieces of fine cloth, which had no other ſours but thoſe of vitriol, and were as white and ſtrong as thoſe bleached in the common way. I have cut ſeveral webs through the middle, and bleached one half with milk and the other with vitriol: gave both the ſame number of operations, and the latter were as white and ſtrong as the former."

The method in which it has been hitherto uſed is this. The proportion of the oil of vitriol to the water, with which it is diluted, is half an ounce or at moſt three quarters, to a Scots gallon of water. As the milk-ſours are diminiſhed in ſtrength, ſo ought the vitriol-ſours. The whole quantity of the oil of vitriol to be uſed, may be firſt mixed with a ſmall quantity of water, then added to the whole quantity of water, and well mixed together. The water ſhould be milk-warm; by which means the acid particles will penetrate further and operate ſooner. The cloth ſhould then be put dry into the liquor.

It is obſerved, that this ſour performs its taſk much ſooner than thoſe of milk and bran; ſo that Mr John Chriſtie, in making the trial, uſed to lay the milk-ſours 24 hours before the vitriol. Five hours will do as much with this ſour as five days with the common ſort. But the cloth can receive no harm in allowing it to remain for ſome days in the ſour; but rather, on the contrary, an advantage. The cloth is then taken out, well-rinſed, and mill-waſhed in the ordinary way.

The liquor, while the cloth lies in this ſour, is leſs acid the ſecond day than the firſt, leſs the third than the ſecond, and ſo diminiſhes by degrees. At firſt it is clear, but by degrees a mucilaginous ſubſtance is obſerved to float in it, when put into a glaſs. This foulneſs increaſes every day. This ſubſtance, extracted by the acid, is the ſame with what is extracted by the alkaline ſalts; and blunts the acidity of the former, as it does the alkaleſcency of the latter. Hence the liquor loſes by degrees its acidity. But as the acid ſalts do not unite ſo equally with oily ſubſtance as the alkaline do, the liquor is not ſo uniformly tinged in the former as in the latter caſe, and the mucous ſubſtance preſents itſelf floating in it.

It is obſerved, that in the firſt ſouring, which is the ſtrongeſt, the liquor, which was a pretty ſtrong acid before the cloth was put in, immediately afterwards becomes quite vapid; a proof how very ſoon it performs its taſk. But in the following operations, as the linen advances in whiteneſs, the acidity continues much longer; ſo that in the laſt operations the liquor loſes very little of its acidity. This happens although the firſt buckings after the firſt ſourings are increaſed in ſtrength, while the ſours are diminiſhed. There are two cauſes to which this is owing. The texture of the cloth is now ſo opened, that although the lyes are ſtrong, the alkaline ſalts and abſorbent earth are eaſily waſhed out; and the oily particles are in a great meaſure removed which help to blunt the acidity of the liquor.

Two objections are made againſt the uſe of vitriol-ſours. One is, that the proceſs of ſouring with milk is performed by a fermentation; and as there is no fermentation in the vitriol-ſours, they cannot ſerve the purpoſe ſo well: the other, that they may hurt the texture of the cloth. The anſwer to the former objection is very ſhort; that the vitriol-ſours operate ſucceſsfully without a fermentation, as experience ſhows; and therefore in them a fermentation is not neceſſary.

As to the latter objection, that oil of vitriol, being a very corroſive body, may hurt the cloth; that will vaniſh likewiſe, when it is conſidered how much the vitriol is diluted with water, that the liquor is not ſtronger than vinegar, and that it may be ſafely taken into the human body.

That it may be uſed with ſafety, much ſtronger than what is neceſſary in the bleachfield, appears from the following experiment with regard to the ſtamping of linen. After the linen is boiled in a lye of aſhes, it is bleached for ſome time. After this, in order to make it receive the colour, it is ſteeped in a ſour of water and oil of vitriol, about 15 times ſtronger than that made uſe of in the bleachfield; for to 100 gallons of water are added two and a half of oil of vitriol. Into this quantity of liquor, made ſo warm as the hand can juſt be held in it, is put ſeven pieces of 28 yards each. The linen remains in it about two hours, and comes out remarkably whiter. The fine cloth often undergoes this operation twice. Nor is there any danger if the oil of vitriol is well mixed with water. But if the two are not well mixed together, and the oil of vitriol remains in ſome parts undiluted, the cloth is corroded into holes.

Let us now take a view of the advantages which the vitriol-ſours muſt have over the milk. The latter is full of oily particles, ſome of which muſt be left in the cloth; but the caſe is worſe when the ſcum is allowed to precipitate upon the cloth. The former is liable to neither of theſe objections.

The common ſours haſten very faſt to corruption; and if, from want of proper care, they ever arrive at that ſtate, muſt damage the cloth very much. As the milk is kept very long, it is often corrupted before it is uſed; and without acting as a ſour, has all the bad effects of putrefaction. The vitriol-ſours are not ſubject to putrefaction.

The milk takes five days to perform its taſk; but the vitriol-ſours do it in as many hours; nay, perhaps as many minutes. Their junction with the abſorbent particles in the cloth muſt be immediate, whenever theſe acid particles enter with the water. An unanſwerable proof that the fact is ſo, ariſes from the circumſtances which happen when the cloth is firſt ſteeped in the vitriol-ſour; the cloth has no ſooner imbibed the acid liquor, than it looſes all acidity, and becomes immediately vapid. The effect of vitriol-ſours muſt be of great advantage in the bleachfield, as the bleachers are at preſent hindered from enjoying the ſeaſon by the tedioufneſs of the ſouring proceſs. The whole round of operations takes ſeven days; to anſwer which they muſt have ſeven parcels, which are often mixing together, and cauſing miſtakes. As three days at moſt will be ſufficient for all the operations when vitriol-ſours are uſed, there will be no more than three parcels. The cloth will be kept a ſhorter time in the bleachfield, and arrive ſooner at market.

The milk-ſours are very dear, and often difficult to be got; but the vitriol are cheap, may be eaſily procured, and at any time.

There is yet another advantage in the uſe of vitriol, and that is its power of whitening cloth. Even in this diluted ſtate, its whitening power is very conſiderable. We have already ſeen, that it removes the ſame colouring particles which the alkaline lyes do. What of it then remains, after the alkaline and abſorbent particles are neutralized in the cloth, muſt act on theſe colouring particles, and help to whiten the cloth. That this is really the caſe, appears from the following fact. Mr Chriſtie being obliged to chooſe 20 of the whiteſt pieces out of 100, five of the twenty were taken out of ſeven pieces which were bleached with vitriol.

From both experience and reaſon, it appears, that it would be for the advantage of the linen-manufacture to uſe vitriol in place of milk-ſours.

Hand-rubbing with ſoap and warm water, rubbing-boards, ſtarching, and bluing.—After the cloth comes from the ſouring, it ſhould be well waſhed in the waſhing-mill, to take off all the acid particles which adhere to its ſurface. All acids decompoſe ſoap, by ſeparating the alkaline ſalts and oily parts from one another. Were this to happen on the ſurface of the cloth, the oil would remain; nor would the waſhing-mill afterwards be able to carry it off.

From the waſhing-mill the fine cloth is carried to be rubbed by womens hands, with ſoap and water. As the liquors, which are generally employed for ſouring, are impregnated with oily particles, many of theſe muſt lodge in the cloth, and remain, notwithſtanding the preceding milling. It is probable, that all the heavy oils are not evaporated by bleaching. Hence it becomes neceſſary to apply ſoap and warm water, which unite with, diſſolve, and carry them off. It is obſerved, that if the cloth, when it is pretty white, gets too much ſoap, the following bleaching is apt to make it yellow; on that account they often wring out the ſoap.

It is a matter worth inquiring into, whether hard or ſoft ſoap is beſt for cloth. Moſt bleachers agree, that hard ſoap is apt to leave a yellowneſs in the cloth. It is ſaid, that the uſe of hard ſoap is diſcharged in Holland. As there muſt be a conſiderable quantity of ſea-ſalt in this kind, which is not in the ſoft, and as this ſalt appears prejudicial to cloth, the ſoft ſoap ought to be preferred.

The management of the coarſe cloth is very different, in this operation from fine. Inſtead of being rubbed with hands, which would be too expenſive, it is laid on a table, run over with ſoap, and then put betwixt the rubbing-boards, which have ridges and grooves from one ſide to another, like teeth. Theſe boards have ſmall ledges to keep in the ſoap and water, which ſaves the cloth. They are moved by hands or a water-wheel, which is more equal and cheaper. The cloth is drawn by degrees through the boards, by men who attend; or which is more equal and cheaper, the ſame water-wheel moves two rollers, with ridge and groove, ſo that the former enters the latter, and by a gentle motion round their own axis, pull the cloth gradually through the boards.

This mill was invented in Ireland about thirty years ago. The Iriſh bleachers uſe it for their fine as well as coarſe cloth. Theſe rubbing-boards were diſcharged ſome years ago in Ireland, by the truſtees for the manufactures of that country, convinced from long experience of their bad effects. But as proper care was not taken to inſtruct the bleachers by degrees in a ſafer method, they continued in the old, made a party, and kept poſſeſſion of the rubbing-boards. There were conſiderable improvements made in them in Britain;

ſuch as the addition of the ledges, to keep the cloth moiſt; and of the rollers, which pull the cloth more gradually than mens hands. Theſe improvements were firſt made in Salton bleachfield.

The objections againſt theſe rubbing-boards are unanſwerable. By rubbing on ſuch an unequal ſurface, the ſolid fibrous part of the cloth is wore; by which means it is much thinned, and in a great meaſure weakened before it comes to the market. As a proof of this, if the water which comes from the cloth in the rubbing-boards be examined, it will be found full of cottony fibrous matter. Theſe boards give the cloth a cottony ſurface, ſo that it does not keep long clean. Again, they flatten the threads, and take away all that roundneſs and firmneſs which is the diſtinguiſhing property of cloth bleached in the Dutch method.

For thoſe reaſons they muſt be very prejudical to fine cloth, and ſhould never be uſed in bleaching it. As they ſeem to be in ſome meaſure neceſſary to leſſen the expence of bleaching coarſe linen, they ought never to be uſed above twice, or thrice at moſt. They might be rendered much more ſafe, by lining their inſides with ſome ſoft elaſtic ſubſtance, that will not wear the cloth ſo much as the wooden teeth do. Mr Chriſtie at Perth has lined his boards with ſhort hair for ſome years paſt, and finds that it anſwers very well.

After the coarſe cloth has undergone a rubbing, it ſhould be immediately milled for an hour, and warm water poured now and then on it to make it lather. This milling has very good effects; for it cleans the cloth of all the dirt and filth which the rubbing-boards have looſened, and which, at the next boiling, would diſcolour the cloth. Beſides, it is obſerved, that it makes the cloth leſs cottony, and more firm, than when whitened by rubbing alone.

The laſt operation is that of ſtarching and bluing. It often happens, that the cloth, when expoſed to the weather to be dried after this operation, gets rain: which undoes all again, and forces the bleacher to a new expence. To remedy this inconvenience, Mr Chriſtie, ſome years ago, invented the dry-houſe, where the cloth may be dried, after this operation, in any weather. This invention meets with univerſal approbation.

A method of bleaching ſafely with lime.—Dr Home has found by repeated trials, that alkaline ſalts added to lime, diminiſhes its power of weakening and corroding cloth; and that in proportion to the quantity of theſe ſalts added to the lime. This compoſition, as it is not ſo dangerous as lime alone, ſo it is not ſo expeditious in whitening. When equal parts of each are uſed, the whitening power is ſtrong, and the weakening power not very conſiderable; ſo that they might be uſed with ſafety to bleach cloth, in the proportion of one part of lime to four of pure alkaline ſalts. This fully accounts for an obſervation made by all bleachers, That the bleaching ſalts, when mixed together, operate ſafer and better than when uſed ſeparately. For the corroſive power of the Muſcovy, Marcoſt, and Caſhub aſhes, is corrected by the pearl aſhes, and the whitening quality of the latter is increaſed by that of the former.

There is not a more corroding ſubſtance, with regard to animals, than alkaline ſalts and lime joined together, eſpecially when fuſed in the fire. This is the compoſition of the common cauſtic. But lime, and lime-water alone, preſerve animal ſubſtances in a ſound entire ſtate. It appears then ſurpriſing, that ſalts and lime ſhould be found ſo little deſtructive of cloth, when lime, or lime-water alone, deſtroys it ſo remarkably. But that this is a fact, is made evident by many experiments, and has been practiſed both with ſucceſs and ſafety, by a bleacher who gives the following account of his method of bleaching with lime.

“Firſt (ſays he) I ſteep the cloth in warm water for 24 hours; then clean it in a waſhing-mill, of all the dreſſing, or ſowen, as the vulgar term it. Afterwards I buck cloth with cow-dung and water, and bleach it with this for three days; then clean it again, and boil it with a lye made of Caſhub aſhes. A pound to each piece of 18 or 20 yards long is ſufficient. This I do twice, as no lime ought to be given to cloth before it is a full third whitened; as it by no means advances the whitening of the cloth, but, on the contrary, protracts it: For, inſtead of looſening the oil and dirt in the cloth, when brown, it rather fixes them; juſt as when fine cloth is bucked with over-warm lyes in the firſt buckings. Lime is by no means fit for diſcharging the oil in the cloth, but for cleaning it of the dead part, commonly called *ſprat*. The cloth, being cleaned, is laid upon a dreeper. It muſt not be drier before bucking with lime, otherwiſe it will take in more than can be got out again before the next application: for as I have obſerved already, that lime is only fit for diſcharging the dead part, bucking thus wet makes it reſt on the outſide of the cloth. I take a lippy of the fineſt and richeſt powdered lime that can be got, of the brighteſt white colour, as poor lime does more hurt than good, to thirty pieces of the above length; and make a cold lye of it, by ſtirring and pouring water off the lime, until all be diſſolved but the droſs, which is thrown away: then I add a little ſoap, which makes the lye have the neareſt reſemblance to milk that breaks in boiling, of any thing I can think of: for this ſoap blunts the hotneſs of the lime. Then I take the cloth and dip it in the lime-lye, and that moment out again, and lay it on a dreeper until it be bucked; then put it on the field, watering it carefully; for if allowed to dry, it is much damaged. This is done always in the morning; as it cannot be done at night, in regard of the hot quality of the lime, which ſoon heats the cloth and tenders it. If a hot ſun-ſhine follows, it has great effect; for lime is juſt like all other materials for bleaching, that have more or leſs effect according as the weather is good or bad. I take it up the ſecond day after bucking, and give it a little milling, or hand-rubbing, or bittling, commonly called *knocking*; and lay it on the field again, watering it carefully as before. The effect is more viſible the ſecond than the firſt day. As all cloth when limed ſhould have a great deal of work, otherwiſe more than half the effect is loſt; and not only that, but a great deal of labour and pains is requiſite to take the lime out of the cloth again; it muſt never be expoſed on the Sabbath day, but carefully kept wet always while uſed in this way. Thus bucking for three or four times at moſt, is ſufficient for any cloth, except that made of flax pulled either over-green, or which grows in a droughty ſeaſon, or perhaps not ſo well heckled as it ſhould be. This ſort occaſions great trouble and expence to the bleacher. But the moſt effectual and expeditious way I ever found for this kind was, after boiling, to take a little of the warm lye, and mix a very ſmall quantity of lime with it, and draw the cloth through that as hot as poſſible, and put it on the field directly, watering it carefully. This will clean it of the ſprat ſurpriſingly. Then I boil it with pearl aſhes, and give it the laſt boil with ſoap.

"There are innumerable miſtakes in the uſe of lime committed by the vulgar, who are ignorant of its quality and effects. They know only this in general, that it is a thing which whitens cloth cheap, and is eaſy purchaſed; therefore they will uſe it. Some of them begin whitening of their cloth with it, which I have already obſerved to be wrong, and given reaſons for it, and continue it until the cloth is bleached; give it a boil or two at moſt, and then waſh it up while the groſs body of the lime is in the ſubſtance of the cloth. This makes limed cloth eaſily diſtinguiſhable from unlimed, as the former has a yellowiſh colour, and is full of a powder. Beſides, as lime is of a very hot corroding nature, it muſt by degrees weaken the cloth. The bad effects of this ſubſtance do not end here. When the cloth is put on board, it contracts a dampneſs, which not only makes it yellow, and loſe any thing of colour it has, but directly rots it. And although it ſhould eſcape this, which it is poſſible it may, by a quick and ſpeedy paſſage; yet whenever it is put in any warehouſe, it will meet with moiſture there, eſpecially if the winter-ſeaſon ſhould come on before it is diſpoſed or made uſe of. Theſe I take to be the principal reaſons for ſo much complaint in bleaching with this material."

The whole art and ſafety in uſing the lime, according to this method, depends on the junction of the alkaline ſalts, during the bucking, to the particles of lime which were on the ſurface of the cloth.

As the operation of bleaching depends on the extraction of a certain quantity of phlogiſtic matter from the cloth, it is natural to ſuppoſe that it might be accelerated by rendering the alkali very cauſtic. Thus the ſalt would be entirely freed from the incumbrance of fixed air, with which in the uſual experiments of chemiſtry it appears to have a greater affinity than with oil; for ſoap may be partially decompoſed by fixed air, nor can it be prepared without an exceedingly cauſtic alkaline lye. In this light the matter has appeared to ſome very eminent chemiſts; and Dr Black thought it of importance ſufficient to publiſh printed directions to the practical bleachers how to render their alkali ſufficiently cauſtic with lime, and at the ſame time recover it from the chalky reſiduum with as little loſs as poſſible. This method has accordingly been tried; but is not found altogether to anſwer the ſanguine expectations at firſt raiſed by the propoſal. It is found that in the large way of operating, fixed alkali quits the fixed air to unite with the oily or other matter to be extracted from the cloth. The only advantage therefore to be gained by Dr Black's improvement is, that the action of the alkali is thus quickened, and ſome quantity of fuel ſaved; but this is not, by the bleachers, reckoned an equivalent to the trouble of rendering the alkali cauſtic, unleſs in places where fuel is very ſcarce.

The uſe of acids is leſs obvious than that of alkalis. Some have ſuppoſed that they were only uſeful in diſſolving the earthy part, and therefore that any acid in ſufficient quantity would anſwer the purpoſe. Objections have even been made to the uſe of vitriolic acid, which is that commonly uſed, on account of its not being capable of diſſolving calcareous earth; and the marine acid, which has this property in a remarkable degree, recommended in its ſtead. Experience, however, hath not ſhown the propriety of this exchange; and it is found abſolutely neceſſary that the acid, as well as the alkali, ſhould be capable of diſſolving phlogiſtic matter. The marine acid, therefore, has never come into uſe; though it is ſaid, that when dephlogiſticated by means of manganeſe, it then anſwers the purpoſe equally well with the vitriolic; but how far this will be found to hold good muſt be left to future experience to determine.

A method has alſo been diſcovered of ſhortening the proceſs of bleaching to ſuch a degree, that, inſtead of three or four months, the cloth may be thoroughly whitened in almoſt as many hours. This, however, is kept a ſecret; and is moreover ſaid to be too expenſive for practice.

BLEAK, in ornithology. See CYPRINUS.

BLECHINGLY, a town of Surry in England, which ſends two members to parliament, and the bailiff who returns the members is choſen annually at the lord of the manor's court. The town ſtands on a hill, and has a fine proſpect as far as the South Downs in Suſſex. W. Long. 0. 15 N. Lat. 51. 20.

BLEEDING, in therapeutics; ſee MEDICINE-*Index*. As a chirurgical operation, ſee SURGERY-*Index*.

BLEEDING at the Noſe, called *Epiſtaxis*. See MEDICINE-*Index*.

BLEEDING, in FARRIERY. See there, § ii. 1.

BLEEDING is alſo uſed for a hæmorrhage or flux of blood from a wound, rupture of a veſſel, or other accident. See HÆMORRHAGE.

BLEEDING of a Corpſe, is a phenomenon ſaid to have frequently happened in the bodies of perſons murdered, which, on the touch, or even the approach, of the murderer, began to bleed at the noſe, ears, and other parts; ſo as formerly to be admitted in England, and ſtill allowed in ſome other parts, as a ſort of detection of the criminal, and proof of the fact. Numerous inſtances of theſe poſthumous hæmorrhages are given by writers. But this kind of evidence ought to be of ſmall weight: for it is to be obſerved, that this bleeding does not ordinarily happen, even in the preſence of the murderer; yet ſometimes in that even of the neareſt friends, of perſons moſt innocent; and ſometimes without the preſence of any, either friend or foe. In effect, where is the impoſſibility that a body, eſpecially if full of blood, upon the approach of external heat, having been conſiderably ſtirred or moved, and a putrefaction coming on, ſome of the blood-veſſels ſhould burſt, as it is certain they all will in time *.

BLEEDING is alſo uſed for the drawing out the ſap of plants, otherwiſe called *tapping*. See TAPPING.

BLEKING, a territory in the ſouth part of Sweden, having the Baltic Sea on the ſouth, Smaland on the north, and the province of Schonen on the weſt. Its principal towns are Chriſtianſtadt, Elleholm, Ahuys, Roterby, and Chriſtianople, which laſt is the capital.

BLEMYES, or BLEMMYES, a fabulous people of Ethiopia, ſaid to have had no heads; their eyes, mouth,

* Vat. Phyſ. Exper. p. 373.

mouth, &c. being ſituated in their breaſts. See Acephalous.

BLENCH, or Blanch. See Blanch.

BLEND, or Blinde. See Blinde.

Blend-Water, called alſo *morehough*, a diſtemper incident to black cattle, comes either from the blood, from the yellows, or from the change of ground.—In order to cure it, take bole armoniac, and as much charcoal-duſt as will fill an egg-ſhell, a good quantity of the inner bark of an oak, dried and pounded together to a powder, and give it to the beaſt in a quart of new milk and a pint of earning.

BLENHEIM, a village of Germany, in the circle of Suabia, ſituated in E. Long. 2. 30. N. Lat. 48. 40. This village is remarkable for the defeat of the French and Bavarians in 1704, by the Engliſh and their confederates under Prince Eugene and the Duke of Marlborough. The French army amounted to 60,000 veterans, who had ſhared in the conqueſts of the grand monarque; and were now commanded by two generals the moſt diſtinguiſhed at that time in France, Marſhal Tallard and the Duke of Bavaria. The former had eſtabliſhed his reputation by many victories. He was active and penetrating; but his ardour often roſe to impetuoſity; and he was ſo ſhortſighted as to be incapable of ſeeing objects at a very ſmall diſtance. The Duke of Bavaria was equally experienced in the field, and had ſtronger motives for activity: His country was ravaged before his eyes, and nothing remained of his poſſeſſions but the army which he commanded The allied army, commanded by Eugene and Marlborough, amounted to about 52,000 men, troops who had long been familiar with victory, and who had ſeen the French, the Turks, and the Ruſſians, fly before them. Both armies, after many marches and counter-marches, approached each other. The French were poſted on a hill near the town of Hochſtet; their right covered by the Danube and the village of Blenheim; their left by the village of Lutzengen; and their front by a rivulet, the banks of which were ſteep and the bottom marſhy. The right wing of the French was commanded by Marſhal Tallard; their left by the Duke of Bavaria, and under him General Marſin, an experienced Frenchman. Their poſition being advantageous, they were willing to await the enemy rather than offer battle. On the other hand, Marlborough and Eugene were ſtimulated to engage them at all events, in conſequence of an intercepted letter from Villeroy, intimating that he was preparing to cut off all communication between the Rhine and the allied army. The diſpoſitions, therefore, being made for the attack, and the orders communicated to the general officers, the allied forces advanced into the plain, and were ranged in order of battle. The cannonading began about nine in the morning, and continued to about half after twelve. The troops then advanced to the attack; the right under the direction of Prince Eugene, the left headed by Marlborough, and oppoſed to Marſhal Tallard. Marlborough, at the head of the Engliſh troops, having paſſed the rivulet, attacked the cavalry of Tallard with great bravery. This general being then reviewing the diſpoſition of his troops to the left, his cavalry fought for ſome time without the preſence of their commander. Prince Eugene had not yet attacked the forces of the elector; and it was near an hour before he could bring up his troops to the engagement. Tallard was no ſooner informed that his right was attacked by the duke, than he flew to its head, where he found a furious encounter already begun; his cavalry being thrice driven back, and rallying as often. He had poſted a large body of forces in the village of Blenheim; and he made an attempt to bring them to the charge. They were attacked by a detachment of Marlborough's troops ſo vigorouſly that inſtead of aſſiſting the main body they could hardly maintain their ground. All the French cavalry being thus attacked in flank, was totally defeated. The Engliſh army now penetrated between the two bodies of the French commanded by the marſhal and elector, while the forces in the village of Blenheim were ſeparated by another detachment. In this diſtreſſed ſituation Tallard flew to rally ſome ſquadrons; but from his ſhortſightedneſs miſtaking a detachment of the enemy for his own, he was made priſoner by the Heſſian troops, who were in the allied army. Meanwhile, Prince Eugene on his part, after having been thrice repulſed, at laſt put the enemy into confuſion. The rout then became general, and the flight precipitate. The conſternation of the French ſoldiers was ſuch, that they threw themſelves into the Danube, without knowing whither they fled. The allies being now maſters of the field of battle, ſurrounded the village of Blenheim, where a body of 13,000 men had been poſted in the beginning of the action, and ſtill maintained their ground. Theſe troops ſeeing themſelves cut off from all communication with the reſt of the army, and deſpairing of being able to force their way through the allies, threw down their arms, and ſurrendered themſelves priſoners of war. Thus ended the battle of Blenheim, one of the moſt complete victories that ever was obtained. Twelve thouſand French and Bavarians were ſlain in the field or drowned in the Danube; 13,000 were made priſoners of war; and there were taken 100 pieces of cannon, 22 mortars, upwards of 100 pair of colours, 200 ſtandards, 17 pair of kettle-drums, upwards of 3000 tents, 34 coaches, 300 loaded mules, two bridges of boats, and all the French baggage, with their military cheſt. Next day, when the Duke of Marlborough viſited his priſoner the marſhal, the latter aſſured him that he had overcome the beſt troops in the world. "I hope, Sir (replied the duke), you will except thoſe troops by whom they were conquered." The allies, in conſequence of this victory, became maſters of a country 100 leagues in extent.

Blenheim-Houſe, a noble and princely houſe erected in honour of the Duke of Marlborough at Woodſtock near Oxford, which with the manor of Woodſtock is ſettled on the Duke and his heirs, in conſideration of the eminent ſervices by him performed for the public; and for building of which houſe the ſum of L.500,000 was granted by parliament, &c.—The tenure by which his Grace holds the manor of Woodſtock is the preſenting at the caſtle of Windſor annually on the day in which the battle of Blenheim was fought, a flag embroidered with flowers-de-lis; which flag is ſhown to all ſtrangers who viſit the caſtle,

BLENNIUS, in ichthyology, a genus of fiſhes belonging to the order of jugulares; the characters of which are theſe: The head ſlants or declines to one ſide; there are ſix rays in the membrane of the gills; the body tapers towards the tail; the belly-fins have only two blunt bones; and the tail-fin is diſtinct. The ſpecies are 13: *viz.* 1. The galeria, with a tranſverſe membranous creſt upon the head. It is found in the European ſeas. 2. The criſtatus, with a longitudinal briſtly creſt betwixt the eyes. 3. The cornutus, with a ſimple ray above the eyes, and a ſingle back-fin. The above two are natives of the Indies. 4. The ocellaris, with a furrow betwixt the eyes, and a large ſpot on the back-fin. 5. The gattorugine, with ſmall palmated fins about the eye-brows and neck. It is about ſeven or eight inches long. Theſe two laſt are found in the European ſeas. 6. The ſuperciliοſus, with ſmall fins about the eye-brows, and a curved lateral line. It is a native of India. 7. The phycis, with a kind of creſted noſtrils, a cirrus or beard on the under lip, and a double fin on the back. It has ſeven rays in the gill-membrane; the anus is ſurrounded with a black ring; and the tail is roundiſh. 8. The pholis, has a ſmooth head, a curve line upon the ſides, and the upper jaw is larger than the under one. The two laſt are found in the Mediterranean Sea. 9. The gunellus, has 10 black ſpots on the back-fin. It is found in the Atlantic Ocean. 10. The muſtelaris, has three rays on the fore-part of the back-fin. It is a native of India. 11. The viviparus has two tentacula at the mouth. Schonevelde firſt diſcovered this ſpecies; Sir Robert Sibbald afterwards found it on the Scottiſh coaſt. They bring forth two or three hundred young at a time. Their ſeaſon of parturition is a little after the depth of winter. Before midſummer, they quit the bays and ſhores; and retire into the deep, where they are commonly taken. They are a very coarſe fiſh, and eat only by the poor. They are common in the mouth of the river Eſk, at Whitby, Yorkſhire; where they are taken frequently from off the bridge. They ſometimes grow to the length of a foot. Their form is ſlender, and their backbone is green, as that of a ſea-needle. 12. The lumpenus has ſeveral duſky-coloured areolæ running acroſs its body. The two laſt are found in the European ſeas. 13. The raninus, with ſix diviſions in the belly-fins, is found in the lakes of Sweden. It is remarkable, that when this fiſh appears in the lake, all the other fiſhes retire; and what is worſe, it is not fit for eating.

BLENNY, See the above article.

BLESS (Henry), painter of hiſtory and landſcape, was born at Bovine, near Dinant, in 1480. He acquired his ſkill in the art merely by the ſtrength of his natural genius, aſſiſted by a diligent ſtudy and obſervation of the works of Patenier, without having any other inſtructor: and at laſt rendered himſelf very eminent particularly by his landſcapes. His beſt performances were bought up by the emperor Rodolph, and they are ſtill preſerved at Vienna. His ſtyle of compoſition in hiſtorical ſubjects reſembled the ſtyle of the Flemiſh artiſts of that age, and exhibited a great number of figures finiſhed with extreme neatneſs. But he crowded ſeveral ſubject into one deſign; as in his picture of the diſciples at Emmaus, he repreſented not only that incident, but in different groupes diſpoſed in the back ground, he repreſented likewiſe the different parts of the paſſion of our Saviour. And yet, notwithſtanding the impropriety of that manner of compoſing, his pictures were ſo delicately pencilled and finiſhed, and his landſcapes in particular ſo agreeably invented, ſo full of variety, and well executed, that even in Italy his works were in great requeſt, and were diſtinguiſhed there by the appellation of the *owl-pictures:* for he fixed an owl, as his peculiar mark, in every picture he painted; by which the works of this maſter are always indiſputably known. He died in 1550.

BLESTIUM, a town in Britain. Now *Old-town*, not far from Hereford.

BLETONISM, a faculty of perceiving and indicating ſubterraneous ſprings and currents by ſenſation. The term is modern, and derived from a Mr Bleton, who for ſome years paſt has excited univerſal attention by his poſſeſſing the above faculty, which ſeems to depend upon ſome peculiar organization. Concerning the reality of this extraordinary faculty, there occurred great doubts among the learned. But M. Thouvenel, a Frenchman of ſome conſequence and a philoſopher, ſeems to have put the matter beyond diſpute, in two memoirs which he has publiſhed upon the ſubject. He was charged by the king with a commiſſion to analyſe the mineral and medicinal waters in France; and, by repeated trials, he had been ſo fully convinced of the capacity of Bleton to aſſiſt him with efficacy in this important undertaking, that he ſolicited the miniſtry to join him in the commiſſion upon advantageous terms. All this ſhows that the operations of Bleton have a more ſolid ſupport than the tricks of impoſture or the deluſions of fancy. In fact, a great number of his diſcoveries are aſcertained by reſpectable affidavits. The following is a ſtrong inſtance in favour of Bletoniſm. "For a long time the traces of ſeveral ſprings and their reſervoirs in the lands of the Abbé de Vervains had been entirely loſt. It appeared, nevertheleſs, by ancient deeds and titles, that theſe ſprings and reſervoirs had exiſted. A neighbouring abbey was ſuppoſed to have turned their waters for its benefit into other channels, and a law-ſuit was commenced upon this ſuppoſition. M. Bleton was applied to: he diſcovered at once the new courſe of the waters in queſtion: his diſcovery was aſcertained, and the law-ſuit was terminated."

Bleton has been miſtaken more than once; and our author enumerates, with the faireſt candour, the caſes in which he has failed: but theſe caſes are very rare in compariſon with thoſe in which he has ſucceeded. Beſides, even the miſtakes of Bleton do not invalidate the reality of his talent; ſince a talent may be real without being perfect, or exerting itſelf with the ſame ſucceſs in every trial.

Many were indiſpoſed againſt Bletoniſm becauſe they looked upon the facts on which it is founded as inexplicable. But M. Thouvenel aſſigns principles upon which the impreſſions made by ſubterraneous waters and mines may be naturally enough accounted for. Having aſcertained a general law by which ſubterraneous electricity exerts an influence upon the bodies of certain individuals eminently ſuſceptible of that influence, and ſhown that this law is the ſame whether the electrical action ariſes from currents of warm or cold water, from currents of humid air, from coal or metallic mines, from ſulphur, and ſo on, he obſerves, that there is a diverſity in the phyſical and organical impreſſions which are produced by this electrical action, according as it proceeds from different foſſile bodies which are more or leſs conductors of electrical emanations. There are alſo artificial proceſſes, which concur in leading us to diſtinguiſh the different focuſes or conductors of mineral electricity; and in theſe proceſſes the uſe of electrometrical rods deſerves the attention of philoſophers, who might perhaps in proceſs of time ſubſtitute in their place a more perfect inſtrument. Their phyſical and ſpontaneous mobility, and its electrical cauſe, are demonſtrated by indiſputable experiments.

On the other hand, our author proves, by very plauſible arguments, the influence of ſubterraneous electrical currents, compares them with the electrical currents of the atmoſphere, points out the different impreſſions they produce according to the number and quality of the bodies which act, and the diverſity of thoſe which are acted upon. The ordinary ſources of cold water make impreſſions proportionable to their volume, the velocity of their currents, and other circumſtances. Their ſtagnation deſtroys every ſpecies of electrical influence; at leaſt, in this ſtate they have none that is perceptible. Their depth is indicated by geometrical proceſſes, founded upon the motion and divergence of the electrical rays; but there are ſecond cauſes which ſometimes diverſify theſe indications, and occaſion ſeeming errors. Theſe errors, however, according to our author, are only exceptions to the general rule; exceptions which depend on the difference of mediums and ſituations, and not on the inconſtancy or incertitude of the organical, ſenſitive, or convulſive faculties of the Bletoniſt.

All the hot ſprings in France, traced by our author from the places where they flow to the places where their formation commences (ſometimes at a diſtance of 15 leagues), led him conſtantly to maſſes of coal; where they are collected and heated in baſons of different depths and dimenſions, nouriſhed by the filtration of lakes and the courſe of torrents, and mineralized by ſaline, ſulphureous, metallic, and bituminous ſubſtances, in the natural furnaces where they are heated, or in the ſtrata through which they flow.

The laſt and the moſt ſingular and important phenomenon which our author met with in the courſe of his experiments muſt not be here omitted. Over the veins of iron mines alone the electrometrical rods aſſume a motion of rotation diametrically oppoſite to that which they exhibit over all other mines. This phenomenon takes place with the ſame diſtinction when iron and other metals are extracted from their mines and depoſited under ground. But the moſt remarkable circumſtance in this diſtinctive action of theſe metals is, that it has a uniform and conſtant direction from eaſt to weſt in all metals, iron excepted, juſt as iron rendered magnetic has an action directed from ſouth to north. The action of red metals is more palpable than that of the white; but the latter, though weaker, has nevertheleſs a real exiſtence in the ſulphur. In the ſupplement to this memoir there is an accurate account of the proceſſes that have furniſhed theſe invariable reſults. They will naturally ſuggeſt, ſays our author, the idea of conſtructing an electrical compaſs, which may be of as eminent uſe in experimental philoſophy as the magnetic compaſs is in navigation. The natural and ſpontaneous direction of metallic emanations towards the weſt being aſcertained, it only remains to render them palpable by the conſtruction of an inſtrument which may be ſubſtituted in the place of the electrometrical twig, that goes vulgarly by the name of the *divining rod*.

His analyſis of the hot ſprings of Bourbon-Lancy, to the ſource of which in the great mountains in Burgundy he was led by the electrical ſenſations of Bleton, ſhows the great intelligence and ſagacity of our author in operations of this nature. He found the origin of theſe famous hot ſprings in the centre of an oblong riſing ground, full of coal, and commanded on three ſides by a group of mountains, of which the greateſt part was filled by the ſame mineral. From a particular caſe, here circumſtantially deſcribed, in which the electrical rays of the ſubterraneous water and thoſe of the adjacent coal croſſed each other, our author deduces a very natural account of the errors which may ſometimes, though rarely, miſlead for a time the greateſt adepts in Bletoniſm, when they find themſelves in combined ſpheres of electrical activity. Another obſervation, which ſeems confirmed by ſeveral facts, accounts farther for this fallibility: the obſervation is, that electrical rays, whether direct or collateral, iſſuing from ſubterranean focuſes, ſeem to undergo in certain caſes a ſort of refraction as they paſs from one medium to another, or traverſe bodies which differ with reſpect to the property of tranſmitting this electricity. In a word, it follows from theſe obſervations, that when ſuch privileged inveſtigators of currents or minerals as Bleton are placed upon the electrical ſpheres of theſe bodies, they will indicate their ſituation and their reſpective depths, according to the impreſſions they feel within themſelves, or the motions they obſerve in the electrometrical inſtruments which they employ: and if they meet with ſecond accidental cauſes or complications of electrical ſpheres, which modify or alter theſe methods of trial, this will neceſſarily occaſion miſtakes in the reſults of their operations which they may probably rectify; but which, at all events, it would be unjuſt to lay to their charge, or allege as an objection againſt the reality of their talent.

BLIGHT, in huſbandry, a diſeaſe incident to plants, which affects them variouſly, the whole plant ſometimes periſhing by it, and ſometimes only the leaves and bloſſoms, which will be ſcorched and ſhrivelled up, the reſt remaining green and flouriſhing.

Some have ſuppoſed that blights are uſually produced by an eaſterly wind, which brings vaſt quantities of inſects eggs along with it, from ſome diſtant place, that, being lodged upon the ſurface of the leaves and flowers of fruit-trees, cauſe them to ſhrivel up and periſh.

To cure this diſtemper, they adviſe the burning of wet litter on the windward ſide of the plants, that the ſmoke thereof may be carried to them by the wind, which they ſuppoſe will ſtifle and deſtroy the inſects, and thereby cure the diſtemper.

Others direct the uſe of tobacco-duſt, or to waſh the trees with water wherein tobocco-ſtalks have been infuſed for 12 hours; which they ſay will deſtroy thoſe inſects, and recover the plants.

Pepper-duſt ſcattered over the bloſſoms of fruit-trees, &c. has been recommended as very uſeful in this caſe; and there are ſome that adviſe the pulling off the leaves that are diſtempered.

The true cauſe of blights ſeem to be continued dry eaſterly winds for ſeveral days together, without the intervention of ſhowers, or any morning dew, by which the perſpiration in the tender bloſſom is ſtopped; and if it ſo happens that there is a long continuance of the ſame weather, it equally affects the tender leaves, whereby their colour is changed, and they wither and decay.

The beſt remedy for this diſtemper, is gently to waſh and ſprinkle over the tree, &c. from time to time with common water; and if the young ſhoots ſeem to be much infected, let them be waſhed with a woollen cloth, ſo as to clear them, if poſſible, from this glutinous matter, that their reſpiration and perſpiration may not be obſtructed. This operation ought to be performed early in the day, that the moiſture may be exhaled before the cold of the night comes on; nor ſhould it be done when the ſun ſhines very hot.

Another cauſe of blights in the ſpring, is ſharp hoary froſts, which are often ſucceeded by hot ſunſhine in the day-time. This is the moſt ſudden and certain deſtroyer of the fruits that is known.

BLIGHTED CORN. See SMUT.

1 Blindneſs, what.

2 Either natural or metaphorical.

BLIND, an epithet applied to a perſon or ſenſitive creature deprived of the uſe of his eyes; or, in other words, to one from whom light, colours, and all the glorious variety of the viſible creation, are intercepted by ſome natural or accidental diſeaſe. Such is the literal acceptation of the term: but it is likewiſe uſed in a metaphorical ſenſe, to ſignify mental or intellectual darkneſs; and frequently implies, at the ſame time, ſome moral or ſpiritual depravity in the ſoul thus blinded, which is either the efficient or continuing cauſe of this internal malady. Yet, even in metaphor, the epithet of *blind* is ſometimes applied to a kind of ignorance, which neither involves the ideas of real guilt nor of voluntary error. It is, however, our preſent intention to conſider the word, not in its figurative, but in its natural and primary ſenſe. Nor do we mean in this place to regard it as a ſubject of medical ſpeculation, or to explore its cauſes and enumerate its cures. Theſe are in the department of another ſcience†. It is rather our deſign to conſider, By what means this inexpreſſible misfortune may be compenſated or alleviated to thoſe who ſuſtain it; what advantages and conſolations they may derive from it; of what acquiſitions they may be ſuſceptible; what are the proper means of their improvement; or by what culture they may become uſeful to themſelves, and important members of ſociety.

†See the Index ſubjoined to *Medicine*.

3 How the blind may be rendered uſeful in an individual or a ſocial capacity.

4 Diſadvantages of blindneſs.

There is not perhaps any ſenſe or faculty of the corporeal frame, which affords ſo many reſources of utility and entertainment as the power of viſion; nor is there any loſs or privation which can be productive of diſadvantages or calamities ſo multiform, ſo various, and ſo bitter, as the want of ſight. By no avenue of corporeal perception is knowledge in her full extent, and in all her forms, ſo acceſſible to the rational and inquiring ſoul, as by the glorious and delightful medium of light. For this not only reveals external things in all their beauties, in all their changes, and in all their varieties; but gives body, form, and colour, to intellectual ideas and abſtract eſſences; ſo that the whole material and intelligent creation lie in open proſpect, and the majeſtic frame of nature in its whole extent, is, if we may ſpeak ſo, perceived at a ſingle glance. To the blind, on the contrary, the viſible univerſe is totally annihilated; he is perfectly conſcious of no ſpace but that in which he ſtands, or to which his extremities can reach. Sound, indeed, gives him ſome ideas of diſtant objects; but thoſe ideas are extremely obſcure and indiſtinct. They are obſcure, becauſe they conſiſt alone of the objects whoſe oſcillations vibrate on his ear, and do not neceſſarily ſuppoſe any other bodies with which the intermediate ſpace may be occupied, except that which gives the ſound alone; they are indiſtinct, becauſe ſounds themſelves are frequently ambiguous, and do not uniformly and excluſively indicate their real cauſes. And though by them the idea of diſtance in general, or even of ſome particular diſtances, may be obtained; yet they never fill the mind with thoſe vaſt and exalting ideas of extenſion which are inſpired by ocular perception. For though a clap of thunder, or exploſion of ordnance, may be diſtinctly heard after they have traverſed an immenſe region of ſpace; yet, when the diſtance is uncommonly great, it ceaſes to be indicated by ſound; and therefore, the ideas acquired by auricular experiment, of extenſion and interval, are extremely confuſed and inadequate. The living and comprehenſive eye darts its inſtantaneous view over expanſive valleys, lofty mountains, protracted rivers, illimitable oceans. It meaſures, in an indiviſible point of time, the mighty ſpace from earth to heaven, or from one ſtar to another. By the aſſiſtance of teleſcopes, its horizon is almoſt indefinitely extended, its objects prodigiouſly multiplied, and the ſphere of its obſervation nobly enlarged. By theſe means, the imagination, inured to vaſt impreſſions of diſtance, can not only recal them in their greateſt extent with as much rapidity as they were at firſt imbibed; but can multiply them, and add one to another, till all particular boundaries and diſtances be loſt in immenſity. Thus nature, by profuſely irradiating the face of things, and clothing objects in a robe of diverſified ſplendor, not only invites the underſtanding to expatiate on a theatre ſo extenſive, ſo diverſified, and ſo attractive; but entertains and inflames the imagination with every poſſible exhibition of the ſublime or beautiful. The man of light and colours beholds the objects of his attention and curioſity from far. Taught by experience, he meaſures their relative diſtances; diſtinguiſhes their qualities; determines the ſituations, poſitions, and attitudes; preſages what theſe tokens may import; ſelects his favourites; traverſes in ſecurity the ſpace which divides them from him; ſtops at the point where they are placed; and either obtains them with eaſe, or immediately perceives the means by which the obſtacles that intercept his paſſage to them may be ſurmounted. The blind not only may be, but really are, during a conſiderable period, apprehenſive of danger in every motion towards any place from whence their contracted powers of perception can give them no intelligence. All the various modes of delicate proportion, all the beautiful varieties of light and colours, whether exhibited in the works of nature or art, are to them irretrievably loſt. Dependent for every thing, but mere ſubſiſtence, on the good offices of others; obnoxious to injury from every point, which they are neither capacitated to perceive nor qualified to reſiſt; they are, during the preſent ſtate of being, rather to be conſidered as priſoners at large, than citizens of nature. The ſedentary life, to which by privation of ſight they are deſtined, relaxes their frame, and ſubjects them to all the diſagreeable ſenſations which ariſe from dejection of ſpirits. Hence the moſt feeble exertions create laſſitude and uneaſineſs. Hence the native tone of the nervous ſyſtem, which alone is compatible with health and pleaſure, deſtroyed by inactivity, exaſperates and embitters every diſagreeable impreſſion. Natural evils, however, are always ſupportable; they not only ariſe from blind and undeſigning cauſes, but are either mild in their attacks, or ſhort in their duration: it is the miſeries which are inflicted by conſcious and reflecting agents alone, that can deſerve the name of evils. Theſe excrutiate the ſoul with ineffable poignancy, as expreſſive of indifference or malignity in theſe by whom ſuch bitter portions are cruelly adminiſtered. The negligence or wantonneſs, therefore, with which the blind are too frequently treated, is an enormity which God alone has juſtice to feel or power to puniſh.

5
The ſituation of the blind deſcribed by poets.

Thoſe among them who have had ſenſibility to feel, and capacity to expreſs, the effects of their misfortunes, have deſcribed them in a manner capable of penetrating the moſt callous heart. The venerable father of epic poetry, who in the perſon of Demodocus the Phæatian bard is ſaid to have deſcribed his own ſituation, proceeds thus:

6
Homer.

Τον περι Μουσ' εφιλησε, διδου δ' αγαθον τε, κακον τε
Οφθαλμων μεν αμερσε διδου δ' ηδειαν αοιδην. ODYS. θ

Dear to the muſe, who gave his days to flow
With mighty bleſſings mixed with mighty wo,
In clouds and darkneſs quench'd his viſual ray,
Yet gave him power to raiſe the lofty lay. POPE.

Milton, in his addreſs to light, after a ſublime deſcription of his arduous and gloomy journey from the regions of primeval darkneſs to this our viſible diurnal ſphere, thus continues to apoſtrophiſe the celeſtial beam:

7
Milton.

Taught by the heav'nly muſe to venture down
The dark deſcent, and up to reaſcend,
Though hard and rare; thee I reviſit ſafe,
And feel thy ſov'reign vital lamp: but thou
Reviſit'ſt not theſe eyes, that roll in vain
To find thy piercing ray, and find no dawn;
So thick a drop ſerene hath quench'd their orbs,
Or dim ſuffuſion veil'd. Yet not the more
Ceaſe I to wander, where the muſes haunt
Clear ſpring, or ſhady grove, or ſunny hill,
Smit with the love of ſacred ſong: but chief
Thee, Sion, and the flow'ry brooks beneath,
That waſh thy hallow'd feet, and warbling flow,
Nightly I viſit, nor ſometimes forget
Thoſe other two equall'd with me in fate,
So were I equall'd with them in renown,
Blind Thamyris and blind Mæonides,
And Tireſias and Phineus prophets old:
Then feed on thoughts, that voluntary move
Harmonious numbers; as the wakeful bird
Sings darkling, and in ſhadieſt covert hid
Tunes her nocturnal note. Thus with the year
Seaſons return: but not to me returns
Day, or the ſweet approach of ev'n or morn,
Or ſight of vernal bloom, or ſummer's roſe,
Or flocks or herds, or human face divine;
But cloud inſtead, and ever during dark,
Surrounds me, from the cheerful ways of men
Cut off, and for the book of knowledge fair
Preſented with a univerſal blank,
Of nature's works to me expunged and raſ'd,
And wiſdom at one entrance quit ſhut out.
PAR. LOST, Book III.

The ſame intimitable author in his tragedy of Sampſon Agoniſtes, and in the perſon of his hero, deplores the misfortune of blindneſs with a pathos and energy ſufficient to extort the deepeſt ſighs from the moſt unfeeling hearts:

————————But chief of all,
O loſs of ſight, of thee I muſt complain!
Blind among enemies, O worſe than chains,
Dungeon, or beggary, decrepid age.
Light, the prime work of God, to me is extinct,
And all her various objects of delight
Annull'd, which might in part my grief have eas'd,
Inferior to the vileſt now become
Of man or worm. The vileſt here excel me:
They creep, yet ſee: I dark in light expos'd
To daily fraud, contempt, abuſe, and wrong,
Within doors, or without, ſtill as a fool,
In power of others, never in my own;
Scarce half I ſeem to live, dead more than half.
O dark, dark, dark, amid the blaze of noon,
Irrecoverably dark, total eclipſe
Without all hope of day!
O firſt created Beam, and thou great Word,
Let there be light, and light was over all;
Why am I thus bereav'd thy prime decree?
The ſun to me is dark,
And ſilent, as the moon
When ſhe deſerts the night,
Hid in her vacant interlunar cave.
Since light ſo neceſſary is to life,
And almoſt life itſelf, if it be true
That light is in the ſoul,
She all in every part; why was the ſight
To ſuch a tender ball as th' eye confin'd?
So obvious, and ſo eaſy to be quench'd?
And not, as feeling, throughout all parts diffuſed,
That ſhe might look at will through ev'ry pore?
Then had I not been thus exil'd from light,
As in the land of darkneſs, yet in light
To live a life half dead, a living death:
And bury'd; but yet more miſerable!
Myſelf the ſepulchre, a moving grave;
Bury'd, yet not exempt
By privilege of death and burial
From worſt of other evils pains and wrongs,
But made hereby obnoxious more
To all the miſeries of life.

Oſſian, the Caledonian bard, who lived before the authenticated hiſtory of his nation dates its origin, who in his old age participated the ſame calamity, has in more than one paſſage of his works deſcribed his ſituation in a manner ſo delicate, yet ſo pathetic, that it pierces the inmoſt receſſes and excites the fineſt feelings of the heart. Of theſe paſſages, take the following:

8
Oſſian.

"O thou that rolleſt above, round as the ſhield of my fathers! whence are thy beams, O ſun! whence thy everlaſting light? Thou comeſt forth in thy awful beauty, and the ſtars hide themſelves in the ſky; the moon, cold and pale, ſinks in the weſtern wave. But thou thyſelf moveſt alone: who can be a companion of thy courſe? The oaks of the mountains fall; the mountains themſelves decay with years; the ocean ſhrinks and grows again; the moon herſelf is loſt in heaven: but thou art for ever the ſame; rejoicing in the brightneſs of thy courſe. When the world is dark with tempeſts: when thunder rolls and lightning glances thro' the heavens; thou lookeſt in thy beauty from the clouds, and laugheſt at the ſtorm. But to Oſſian thou lookeſt in vain: for he beholds thy beams no more; whether thy yellow hair flows on the eaſtern clouds, or thou trembleſt at the gates of the weſt. But thou art, perhaps, like me, for a ſeaſon; and thy years will have an end: thou ſhalt ſleep in thy clouds, careleſs of the voice of the morning.—Exult then, O ſun, in the ſtrength of thy youth! age is dark and unlovely; it is like the glimmering light of the moon, when it ſhines through broken clouds, and the miſt is on the hills, the howling blaſt of the north is on the plain, the traveller ſhrinks in the midſt of his journey."

9
The dejection attending blindneſs accounted for

Thus dependent on every creature, and paſſive to every accident, can the world, the uncharitable world, be ſurpriſed to obſerve moments when the *blind* are at variance with themſelves and every thing elſe around them? With the ſame inſtincts of ſelf-preſervation, the ſame iraſcible paſſions which are common to the ſpecies, and exaſperated by a ſenſe of debility either for retaliation or defence; can the blind be real objects of reſentment or contempt, even when they ſeem peeviſh or vindictive? This, however, is not always their character. Their behaviour is often highly expreſſive, not only of reſignation, but even of cheerfulneſs; and tho' they are often coldly, and even inhumanly, treated by men, yet are they rarely, if ever, forſaken of heaven. The common Parent of nature, whoſe benignity is permanent as his exiſtence and boundleſs as his empire, has neither left his afflicted creatures without conſolation nor reſource.

10
Some advantages peculiar to the blind.

Even from their loſs, however oppreſſive and irretrievable, they derive advantages; not indeed adequate to recompenſe, but ſufficient to alleviate, their miſery. The attention of the ſoul, confined to theſe avenues of perception which ſhe can command, is neither diſſipated nor confounded by the immenſe multiplicity nor the rapid ſucceſſion of ſurrounding objects. Hence her contemplations are more uniformly fixed upon herſelf, and the revolutions of her own internal frame. Hence her perceptions of ſuch external things as are contiguous and obvious to her obſervation become more lively and exquiſite. Hence even her inſtruments of corporeal ſenſation are more aſſiduouſly cultivated and improved, ſo that from them ſhe derives ſuch notices and preſages of approaching pleaſure or impending danger as entirely eſcape the attention of thoſe who depend for ſecurity on the reports of their eyes. A blind man, when walking ſwiftly, or running, is kindly and effectually checked by nature from rudely encountering ſuch hard and extended objects as might hurt or bruiſe him. When he approaches bodies of this kind, he feels the atmoſphere more ſenſibly reſiſt his progreſs; and in proportion as his motion is accelerated, or his diſtance from the object diminiſhed, the reſiſtance is increaſed. He diſtinguiſhes the approach of his friend from far by the ſound of his ſteps, by his manner of breathing, and almoſt by every audible token which he can exhibit. Prepared for the dangers which he may encounter from the ſurface of the ground upon which he walks, his ſtep is habitually firm and cautious. Hence he not only avoids thoſe falls which might be occaſioned by its leſs formidable inequalities, but from its general bias he collects ſome ideas how far his ſafety is immediately concerned; and though theſe conjectures may be ſometimes fallacious, yet they are generally ſo true, as to preſerve him from ſuch accidents as are not incurred by his own temerity. The rapid torrent and the deep caſcade not only warn him to keep a proper diſtance, but inform him in what direction he moves, and are a kind of audible ſynoſures to regulate his courſe. In places to which he has been accuſtomed, he as it were recogniſes his latitude and longitude from every breath of varied fragrance that tinges the gale, from every aſcent or declivity in the road, from every natural or artificial ſound that ſtrikes his ear; if theſe indications be ſtationary, and confined to particular places. Regulated by theſe ſigns, the *blind* have not only been known to perform long journeys themſelves, but to conduct others through dangerous paths at the dark and ſilent hour of midnight, with the utmoſt ſecurity and exactneſs (A)

(A) We have read, in authors of good credit, of a very ſurpriſing blind guide who uſed to conduct the merchants through the ſands and deſarts of Arabia. Vide *Leo Afric.* Deſcr. Afr. lib. vi. p. 246. and *Caſaub.* Treat. of Enthuſ. c. ii. p. 45.

An inſtance not leſs marvellous, exiſts at this preſent time in Britain. "John Metcalf, a native of the neighbourhood of Mancheſter, where he is well known, became blind at a very early age, ſo as to be entirely unconſcious of light and its various effects. This man paſſed the younger part of his life as a waggoner, and occaſionally as a guide in intricate roads during the night or when the tracts were covered with ſnow. Strange as this may appear to thoſe who can ſee, the employment he has ſince undertaken is ſtill more extraordinary: it is one of the laſt to which we could ſuppoſe a blind man would ever turn his attention. His preſent occupation is that of a projector and ſurveyor of highways in difficult and mountainous parts. With the aſſiſtance only of a long ſtaff, I have ſeveral times met this man traverſing the roads, aſcending precipices, exploring valleys, and inveſtigating their ſeveral extents, forms, and ſituations, ſo as to anſwer his deſigns in the beſt manner. The plans which he deſigns, and the eſtimates he makes, are done in a method peculiar to himſelf; and which he cannot well convey the meaning of to others His abilities in this reſpect are nevertheleſs ſo great, that he finds conſtant employment. Moſt of the roads over the Peak in Derbyſhire, have been altered by his directions; particularly thoſe in the vicinity of Buxton: and he is at this time conſtructing a new one betwixt Wilmſlow and Congleton, with a view to open the communication to the great London road, without being obliged to paſs over the mountains." Account by Dr Bew, publiſhed in the *Tranſactions of the Mancheſter Society*.

11 Whether the blind are able to diſtinguiſh colours.

It were endleſs to recapitulate the various mechanical operations of which they are capable, by their nicety and accuracy of touch. In ſome the tactile powers are ſaid to have been ſo highly improved, as to perceive that texture and diſpoſition of coloured ſurfaces by which ſome rays of light are reflected and others abſorbed, and in this manner to diſtinguiſh colours. But the teſtimonies for this fact ſtill appear to us too vague and general to deſerve public credit. We have known a perſon who loſt the uſe of his ſight at an early period of infancy, who in the vivacity or delicacy of his ſenſations was not perhaps inferior to any one, and who had often heard of others in his own ſituation capable of diſtinguiſhing colours by touch with the utmoſt exactneſs and promptitude. Stimulated, therefore, partly by curioſity to acquire a new train of ideas, if that acquiſition were poſſible; but ſtill more by incredulity with reſpect to the facts related; he tried repeated experiments, by touching the ſurfaces of different bodies, and examining whether any ſuch diverſities could be found in them as might enable him to diſtinguiſh colours: but no ſuch diverſity could he ever aſcertain. Sometimes, indeed, he imagined that objects which had no colour, or, in other words, ſuch as were black, were ſomewhat different and peculiar in their ſurfaces; but this experiment did not always nor univerſally hold. His ſcepticiſm therefore ſtill continues to prevail (B). That their acouſtic perceptions are diſtinct and accurate, we may fairly conclude from the rapidity with which they aſcertain the acuteneſs or gravity of different tones, as relative one to another; and from their exact diſcernment of the various kinds and modifications of ſound, and of ſonorous objects, if the ſounds themſelves be in any degree ſignificant of their cauſes. From this vivacity and accuracy of external ſenſation, and from the aſſiduous and vigorous applications of a comprehenſive and attentive mind alone, we are able to account for the rapid and aſtoniſhing progreſs which ſome of them have made, not only in thoſe departments of literature which were moſt obvious to their ſenſes and acceſſible to their underſtandings, but even in the abſtracteſt, and (if we may be allowed the expreſſion) in the moſt occult ſciences. What, for inſtance, can be more remote from the conceptions of a blind man than the abſtract relations and properties of ſpace and quantity? yet the incomprehenſible attainments of Dr Saunderſon in all the branches of mathematics are now fully known and firmly believed by the whole literary world, both from the teſtimony of his pupils and the publication of his works. But ſhould the fact be ſtill uncertain, it might be ſufficiently verified by a living prodigy of this kind with which Britain is at preſent honoured. The gentleman of whom we now ſpeak, though blind from his infancy, by the ardour and aſſiduity of his application, and by the force of a genius to which nothing is impenetrable, has not only made incredible advances in mechanical operations, in muſic, and in the languages; but is likewiſe profoundly ſkilled in geometry, in optics, in algebra, in aſtronomy, in chemiſtry, and in all the other branches of natural philoſophy as taught by Newton and received by an admiring world. We are ſorry that neither the modeſty of this amiable philoſopher, nor the limits of this article, will permit us to delineate his character in its full proportions. All we can do is to exhibit his example, that by it the vulgar prejudice, which preſumes to think blindneſs and learning incompatible, may be diſſipated; and that an inſtance of ſucceſs ſo noble and recent may inflame the emulation and encourage the efforts of ſuch as have genius and opportunity to purſue the ſame laudable path (C). If theſe glorious attempts ſhould neither be per-

12 Inſtances how far they are ſuſceptible of abſtract learning.

(B) See, however the extraordinary caſe ſubjoined to this article.

(C) As particular anecdotes of this aſtoniſhing genius have been, ſince the former edition of the Encyclopæ, delivered to the Mancheſter Society by G. Bew, M. D. and afterwards publiſhed, we ſhall here take the liberty to tranſcribe them from the original volume in which they are inſerted, as this freedom is authoriſed by a letter from Dr Bew's own hand.

"Dr Henry Moyes, who occaſionally read Lectures on Philoſophical Chemiſtry at Mancheſter, like Dr Saunderſon, the celebrated profeſſor of Cambridge, loſt his ſight by the ſmall-pox in his early infancy. He never recollected to have ſeen: 'but the firſt traces of memory I have (ſays he), are in ſome confuſed ideas of the ſolar ſyſtem.' He had the good fortune to be born in a country where learning of every kind is highly cultivated, and to be brought up in a family devoted to learning.

"Poſſeſſed of native genius, and ardent in his application, he made rapid advances in various departments of erudition; and not only acquired the fundamental principles of mechanics, muſic, and the languages, but likewiſe entered deeply into the inveſtigation of the profounder ſciences, and diſplayed an acute and general knowledge of geometry, optics, algebra, aſtronomy, chemiſtry, and in ſhort of moſt of the branches of the Newtonian philoſophy.

"Mechanical exerciſes were the favourite employments of his infant years. At a very early age he made himſelf acquainted with the uſe of edged tools ſo perfectly, that notwithſtanding his entire blindneſs, he was able to make little wind-mills; and he even conſtructed a loom with his own hands, which ſtill ſhow the cicatrices of wounds he received in the execution of theſe juvenile exploits.

"By a moſt agreeable intimacy and frequent intercourſe which I enjoyed with this accompliſhed blind gentleman, whilſt he reſided in Mancheſter, I had an opportunity of repeatedly obſerving the peculiar manner in which he arranged his ideas and acquired his information. Whenever he was introduced into company, I remarked that he continued ſome time ſilent. The ſound directed him to judge of the dimenſions of the room, and the different voices of the number of perſons that were preſent. His diſtinction in theſe reſpects was very accurate; and his memory ſo retentive, that he ſeldom was miſtaken. I have known him inſtantly recognize a perſon, on firſt hearing him ſpeak, though more than two years had elapſed ſince the time of their laſt meeting. He perceived nor rewarded by an unfeeling world, if human nature ſhould forget to recognize its own excellence ſo nobly diſplayed in inſtances of this kind; yet beſides the enjoyment reſulting from a ſublime and comprehenſive underſtanding, beſides the immortal and inexhauſtible ſources of delight which are the peculiar portion of a ſelf-approving mind, theſe happy pupils and favourites of Nature are as it were indulged with her perſonal intercourſe. They become more intimately acquainted with her laws, till by exploring the beneficence of her œconomy, the ſublimity of her ends, the regularity of her procedure, and the beauties of her frame, they imbibe the ſpirit, and feel the preſence, of her glorious Author:

> By ſwift degrees the love of nature works,
> And warms the boſom; till at laſt, ſublim'd
> To rapture and enthuſiaſtic heat,
> We feel the preſent deity, and taſte
> The joys of God to ſee a happy world.
>
> THOMSON.

13
Accounts of the effects of recovered ſight upon thoſe who have been born blind, uncertain.

Much labour has been beſtowed to inveſtigate, both from reaſon *à priori* and from experiment, what might be the primary effects of light and luminous objects upon ſuch as have been born blind, or early deprived of ſight, if at a maturer period they ſhould inſtantaneouſly recover their viſual powers. But upon this topic there is much reaſon to fear, that nothing ſatisfactory has yet been ſaid. The fallacy of hypotheſis and conjecture, when formed *à priori* with reſpect to any organ of corporeal ſenſation and its proper object, is too obvious to demand illuſtration. But from the nature of the eye, and the mediums of its perception, to attempt an inveſtigation of the various and multiform phenomena of viſion, or even of the varieties of which every particular phenomenon is ſuſceptible according as the circumſtances of its appearance are diverſified, would be a project worthy of philoſophy in a delirium. Nay, even the diſcoveries which are ſaid to accrue from experiment, may ſtill be held as extremely doubtful and ſuſpicious; becauſe in theſe experiments it does not appear to have been aſcertained, that the organs to which viſible objects were preſented immediately after chirurgical operations, could be in a proper ſtate to perceive them. Yet after all it is extremely probable, that figure, diſtance, and magnitude, are not immediate objects of ocular ſenſation, but acquired and adjuſted by long and reiterated experience (D). There are, however, many deſiderata, which the perceptions of a man born blind might conſiderably illuſtrate, if his inſtruments of viſion were in a right ſtate, and aſſiſted by a proper medium. Such a perſon might perhaps give a clearer account, why objects, whoſe pictures are inverted upon the retina of the eye, ſhould appear to the mind in their real poſitions; or why, though each particular object is painted upon the retina of both our eyes, it ſhould only be perceived as ſingle. Perhaps, too, this new ſpectator of viſible nature might equally amuſe our curioſity and improve our theory, by attempting to deſcribe his earlieſt ſenſations of colour, and its original effects upon his organ and his fancy. But, as we have already hinted, it is far from being certain, that trials of this kind have ever been fairly made. Such readers as may wiſh to ſee a more minute detail of theſe queſtions, may conſult M. Didedort's *Lettre ſur les aveugles, a l'uſage de ceux qui voyent:* "A letter concerning the blind for the uſe of thoſe who ſee." To theſe may be added, *Mr Cheſelden's Anatomy*, and *Locke's Eſſay on the human underſtanding*.

Diderot's Works, Vol. ii.

When we ruminate on the numberleſs advantages derived from the uſe of ſight, and its immenſe importance,

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He determined pretty nearly the ſtature of thoſe he was ſpeaking with by the direction of their voices; and he made tolerable conjectures reſpecting their tempers and diſpoſitions, by the manner in which they conducted their converſation.

"It muſt be obſerved, that this gentleman's eyes were not totally inſenſible to intenſe light. The rays refracted through a priſm, when ſufficiently vivid, produced certain diſtinguiſhable effects on them. The red gave him a diſagreeable ſenſation, which he compared to the touch of a ſaw. As the colours declined in violence, the harſhneſs leſſened, until the green afforded a ſenſation that was highly pleaſing to him, and which he deſcribed as conveying an idea ſimilar to what he felt in running his hand over ſmooth poliſhed ſurfaces. Poliſhed ſurfaces, meandering ſtreams, and gentle declivities, were the figures by which he expreſſed his ideas of beauty: Rugged rocks, irregular points, and boiſterous elements, furniſhed him with expreſſions for terror and diſguſt. He excelled in the charms of converſation; was happy in his alluſions to viſual objects; and diſcourſed on the nature, compoſition, and beauty of colours, with pertinence and preciſion.

"Doctor Moyes was a ſtriking inſtance of the power the human ſoul poſſeſſes of finding reſources of ſatiſfaction, even under the moſt rigorous calamities. Though involved 'in ever during darkneſs,' and excluded from the charming views of ſilent or animated nature; though dependent on an undertaking for the means of his ſubſiſtence, the ſucceſs of which was very precarious; in ſhort, though deſtitute of other ſupport than his genius, and under the mercenary protection of a perſon whoſe integrity he ſuſpected, ſtill Dr Moyes was generally chearful, and apparently happy. Indeed it muſt afford much pleaſure to the feeling heart to obſerve this hilarity of temper prevail almoſt univerſally with the blind. Though 'cut off from the ways of men, and the contemplation of the human face divine,' they have this conſolation; they are exempt from the diſcernment and contagious influence of thoſe painful emotions of the ſoul that are viſible on the countenance, and which hypocriſy itſelf can ſcarcely conceal. This diſpoſition may likewiſe be conſidered as an internal evidence of the native worth of the human mind, that thus ſupports its dignity and chearfulneſs under one of the ſevereſt misfortunes that can poſſibly befal us."

(D) The gentleman couched by Mr Cheſelden, had no idea of diſtance; but thought that all the objects he ſaw, touched his eyes, as what he felt did his ſkin. It was alſo a conſiderable time before he could remember which was the cat and which the dog, though often informed, without firſt feeling them.

ance, in extending the human capacity, or in improving and cultivating every faculty and every function of the mind, we might be ſtrongly tempted to doubt the fidelity of thoſe reports which we have heard concerning ſuch perſons as, without the aſſiſtance of light, have arrived at high degrees of eminence even in thoſe ſciences which appear abſolutely unattainable but by the interpoſition of external mediums. It has, however, been demonſtrated by a late ingenious author, that *blind* men, by proper inſtruction, are ſuſceptible almoſt of every idea, and of every truth which can be impreſſed on the mind by the mediation of light and colours, except the ſenſations of light and colours themſelves †.

† See *Dr Reid's Inquiry into the Human Mind*, chap. vi. § 1, 2.

14
How the blind catch the enthuſiaſm inſpired by viſual perceptions, a paradox.

Yet there is one phenomenon of this kind which ſeems to have eſcaped the attention of that great philoſopher, and for which no author either of this or any former period has been able to offer any tolerable account. Still, however, it ſeems to merit the attention of a philoſopher. For though we ſhould admit, that the blind can underſtand with great perſpicuity all the phenomena of light and colours; though it were allowed, that in theſe ſubjects they might extend their ſpeculations beyond their inſtructions, and inveſtigate the mechanical principles of optics by the mere force of genius and application, from the data which they had already obtained; yet it will be difficult, if not impoſſible, to aſſign any reaſon why theſe objects ſhould be more intereſting to a blind man than any other abſtract truths whatever. It is poſſible for the blind, by a retentive memory, to tell you, That the ſky is an azure; that the ſun, moon, and ſtars, are bright; that the roſe is red, the lily white or yellow, and the tulip variegated. By continually hearing theſe ſubſtantives and adjectives joined, he may be mechanically taught to join them in the ſame manner: but as he never had any ſenſation of colour, however accurately he may ſpeak of coloured objects, his language muſt be like that of a parrot; without meaning, or without ideas. Homer, Milton, and Oſſian, had been long acquainted with the viſible world before they were ſurrounded with clouds and ever-during darkneſs. They might, therefore, ſtill retain the warm and pleaſing impreſſions of what they had ſeen. Their deſcriptions might be animated with all the rapture and enthuſiaſm which originally fired their boſoms when the grand or delightful objects which they delineated were immediately beheld. Nay, that enthuſiaſm might ſtill be heightened by a bitter ſenſe of their loſs, and by that regret which a ſituation ſo diſmal might naturally inſpire. But how ſhall we account for the ſame energy, the ſame tranſport of deſcription, exhibited by thoſe on whoſe minds viſible objects were either never impreſſed, or have been entirely obliterated? Yet, however unaccountable this fact may appear, it is no leſs certain than extraordinary. But delicacy and other particular circumſtances forbid us to enter into this diſquiſition with that minuteneſs and preciſion which it requires. We only mention the fact as one among the few reſources for entertainment, and avenues to reputation, which are ſtill reſerved for the *blind*. Whoever thinks the ſubject of ſufficient conſequence to merit a nicer ſcrutiny, may conſult the *Preface* to *Blacklock's Poems*, written by G. G. Eſq. and printed at Edinburgh 1754; on the account of his life and writings by the Rev. Mr Spence, prefixed to a quarto edition of his poems publiſhed at London in 1756.

It is hoped, however, that we ſhall not be ſuſpected of partiality for inſerting a character of the ſame author by one who was a foreigner, a ſtranger to his perſon, and prepoſſeſſed in his favour by his works alone.

"Blacklock will appear to poſterity a fabulous character: even now he is a prodigy. It will be thought a fiction and a paradox, that a man quite blind ſince he was three years old (E), beſides having made himſelf ſo good a maſter of various languages, of Greek, Latin, Italian, and French, ſhould alſo be a great poet in his own; and without hardly ever having ſeen the light, ſhould be ſo remarkably happy in deſcription.†"

† *Carlo Denina, Diſcorſo de la Letteratura*, chap. xi.

15
Of the education of the blind.

It is impoſſible to enter into a detail of particulars with reſpect to the education of the blind. Theſe muſt be left to be determined by the genius, the capacity, the circumſtances, of thoſe to whom the general rules which may be given ſhould be applied. Much therefore muſt depend on their fortunes, much on their temper and genius; for unleſs theſe particulars were known, every anſwer which could be given to queſtions of this kind muſt be extremely general, and of conſequence extremely ſuperficial. Beſides, the taſk is ſo much more arduous, becauſe whoever attempts it can expect to derive no aſſiſtance from thoſe who have written on education before him: And though the blind have excelled in more than one ſcience; yet, except in the caſe of Saunderſon, profeſſor of mathematics in the univerſity of Cambridge, concerning whom we ſhall afterwards have occaſion to ſpeak, it does not appear, that any of them have been conducted to that degree of eminence, at which they arrived, upon a premeditated plan. One ſhould rather imagine, that they have been led through the general courſe and ordinary forms of diſcipline; and that, if any circumſtances were favourable to their genius, they rather proceeded from accident than deſign.

This fact, if not ſupported by irrefragable evidence, ſhould, for the honour of human nature, have been ſuppreſſed. When contemplated by a man of benevolence and underſtanding, it is not eaſy to gueſs whether his mortification or aſtoniſhment would be moſt ſenſibly felt. If a heart that glows with real philanthropy muſt feel for the whole vital creation, and become, in ſome meaſure, the *ſenſorium* of every ſuffering inſect or reptile; how muſt our ſympathy increaſe in tenderneſs and force, when the diſtreſſed individuals of our own ſpecies become its objects? Nor do the blind bear ſo ſmall proportion to the whole community, as, even in a political view, to be neglected. But in this, as in every other political crime, the puniſhment returns upon the ſociety in which it is committed. Thoſe abandoned and unimproved beings, who, under the influence of proper culture and diſcipline, might have ſucceſsfully concurred in producing and augmenting the general welfare, become the nuiſances and burdens of thoſe very ſocieties who have neglected them.

(E) The author is here miſtaken: Dr Blacklock only ſaw the light for five months.

16 Why the blind deſerve, and how they may repay public ſympathy.

There is perhaps no rank of beings in the ſenſible univerſe, who have ſuffered from nature or accident, more meritorious of public compaſſion, or better qualified to repay its generous exertions, than the blind. They are meritorious of compaſſion; for their ſphere of action and obſervation is infinitely more limited than that of the deaf, the lame, or of thoſe who labour under any other corporeal infirmity conſiſtent with health. They are better qualified to repay any friendly interpoſition for their happineſs; becauſe, free from the diſtraction which attends that multiplicity of objects and purſuits that are continually obvious to the ſight, they are more attentive to their own internal œconomy, to the particular notices of good and evil impreſſed on their hearts, and to that peculiar province in which they are circumſcribed by the nature and cultivation of their powers.

17 Proper employments for the blind.

It will eaſily occur to the reader, that, if the pupil ſhould not be placed in eaſy circumſtances, muſic is his readieſt and moſt probable reſource. Civil and eccleſiaſtical employments have either ſomething in their own nature, or in the invincible prejudices of mankind, which renders them almoſt entirely inacceſſible to thoſe who have loſt the uſe of ſight. No liberal and cultivated mind can entertain the leaſt heſitation in concluding, that there is nothing, either in the nature of things, or even in the poſitive inſtitutions of genuine religion, repugnant to the idea of a blind clergyman. But the novelty of the phenomenon, while it aſtoniſhes vulgar and contracted underſtandings, inflames their zeal to rage and madneſs. Beſides, the adventitious trappings and ceremonies aſſumed by ſome churches as the drapery of religion, would, according to theſe ſyſtems, render the ſacerdotal office painful, if not impracticable, to the blind.

We have, ſome years ago, read of a blind gentleman*, deſcended from the ſame family with the celebrated lord Verulam, who, in the city of Bruſſels, was with high approbation created doctor of laws; ſince that period we have been honoured with his correſpondence. He was deprived of ſight at nine years of age by an arrow from a croſs-bow whilſt he was attempting to ſhoot it. When he had recovered his health, which had ſuffered by the ſhock, he purſued the ſame plan of education in which he had been engaged: and having heard that one Nicaſius de Vourde, born blind, who lived towards the end of the 15th century, after having diſtinguiſhed himſelf by his ſtudies in the univerſity of Lovain, took his degree as doctor of divinity in the univerſity of Cologne; this motive prevailed with him to make the ſame attempt. But the public, curſed with prejudices for which the meaneſt ſenſitive nature might bluſh, prejudices equally beneath the brutality and ignorance of the loweſt animal-inſtinct, treated his intention with ridicule: even the profeſſors were not far from being of that ſentiment; and they admitted him into their ſchools, rather from an impreſſion that it might amuſe him, than become of any uſe to him. He had the good fortune, however, contrary to their expectations, to obtain the firſt places among his condiſciples. It was then ſaid, that ſuch rapid advances might be made in the preliminary branches of his education; but would ſoon be effectually checked by the ſtudies of a more profound and abſtracted nature. This, it ſeems, was repeated from ſchool to ſchool, through the whole climax of his purſuits; and when, in the courſe of academical learning, it became neceſſary to ſtudy poetry, it was the general voice that all was over, and that at length he had reached his *ne plus ultra*. But here he likewiſe confronted their prepoſſeſſions, and taught them the immenſe difference between blindneſs of body and blindneſs of ſoul. After continuing his ſtudies in learning and philoſophy for two years more, he applied himſelf to law, took his degree in that ſcience, commenced pleading counſellor or advocate in the council of Brabant, and has had the pleaſure of terminating almoſt every ſuit in which he had been engaged to the ſatiſfaction of his clients.

18 Law difficult, tho' not impoſſible, for the blind.

Had it not been for a fact ſo ſtriking and ſo well authenticated, though there could have been no doubt that a blind-man might diſcharge the office of a chamber-counſel with ſucceſs; yet, as a barriſter, his difficulties muſt have appeared more formidable, if not abſolutely inſuperable. For he ſhould remember all the ſources, whether in natural equity or poſitive inſtitutions, whether in common or ſtatutory law, from whence his argument ought to be drawn. He muſt be able to ſpecify, and to arrange in their proper order, all the material objections of his antagoniſts: theſe he muſt likewiſe anſwer as they were propoſed, *extempore*.

19 The blind, naturally ſubject to deſpondency, ſhould be ſtimulated by the proſpect of attainable excellence.

When, therefore, it is conſidered how difficult it is to temper the natural aſſociations of memory with the artificial arrangements of judgment, the deſultory flights of imagination with the calm and regular deductions of reaſon, the energy and perturbation of paſſion with the coolneſs and tranquillity of deliberation; ſome idea may be formed of the arduous taſk which every blind man muſt atchieve, who undertakes to purſue the law as a profeſſion. Perhaps aſſiſtance might be drawn from Cicero's treatiſe on Topics and on Invention; which if happily applied and improved, might leſſen the diſparity of a blind man to others, but could ſcarcely place him on an equal footing with his brethren. And it ought to be fixed as an inviolable maxim, that no blind man ought ever to engage in any province in which it is not in his power to excel. This may at firſt ſight appear paradoxical; but it is eaſily explained. For the conſciouſneſs of the obvious advantages poſſeſſed by others, habitually prediſpoſes a blind man to deſpondency: and if he ever gives way to deſpair (which he will be too apt to do when purſuing any acquiſition where others have a better chance of ſucceſs than himſelf), adieu, for ever adieu, to all proficiency. His ſoul ſinks into irretrievable depreſſion; his abortive attempts inceſſantly prey upon his ſpirit; and he not only loſes that vigour and elaſticity of mind which are neceſſary to carry him through life, but that patience and ſerenity which alone can qualify him to enjoy it.

20 Phyſic perhaps impractical to the blind.

In this recapitulation of the learned profeſſions, we have intentionally omitted phyſic; becauſe the obſtacles which a blind man muſt encounter, whether in the theory or practice of that art, will be more eaſily conceived by our readers than deſcribed in detail. From this, therefore, let us paſs to more general ſubjects.

It has been formerly hinted, that the blind were objects of compaſſion, becauſe their ſpheres of action and obſervation were limited: and this is certainly true.

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* Dr *Nicholas Bacon*.

For what is human exiſtence, in its preſent ſtate, if you deprive it of action and contemplation? Nothing *then* remains but the diſtinction which we derive from form or from ſenſitive and locomotive powers. But for theſe, unleſs directed to happier ends by ſuperior faculties, few rational beings would, in our opinion, be grateful. The moſt important view, therefore, which we can entertain in the education of a perſon deprived of ſight, is to redreſs as effectually as poſſible the natural diſadvantages with which he is encumbered; or, in other words, to enlarge as far as poſſible the ſphere of his knowledge and activity. This can only be done by the improvement of his intellectual, imaginative, or mechanical, powers; and which of theſe ought to be moſt aſſiduouſly cultivated, the genius of every individual alone can determine. Were men to judge of things by their intrinſic nature, leſs would be expected from the blind than others. But, by ſome pernicious and unaccountable prejudice, people generally hope to find them either poſſeſſed of preternatural talents, or more attentive to thoſe which they have than others: For it was not Rocheſter's opinion alone,

> That if one ſenſe ſhould be ſuppreſs'd,
> It but retires into the reſt.

21 Too much often expected from the blind.

Hence it unluckily happens, that blind men, who in common life are too often regarded as rareſhows, when they do not gratify the extravagant expectations of their ſpectators, too frequently ſink in the general opinion, and appear much leſs conſiderable and meritorious than they really are. This general diffidence of their powers at once deprives them both of opportunity and ſpirit to exert themſelves; and they deſcend, at laſt, to that degree of inſignificance in which the public eſtimate has fixed them. From the original dawning, therefore, of reaſon and ſpirit, the parents and tutors of the blind ought to inculcate this maxim, That it is their indiſpenſable duty to excel, and that it is abſolutely in their power to attain a high degree of eminence. To impreſs this notion on their minds, the firſt objects preſented to their obſervation, and the firſt methods of improvement applied to their underſtanding, ought, with no great difficulty, to be comprehenſible by thoſe internal powers and external ſenſes which they poſſeſs. Not that improvement ſhould be rendered quite eaſy to them, if ſuch a plan were poſſible: For all difficulties, which are not really or apparently inſuperable, heighten the charms and enchance the value of thoſe acquiſitions which they ſeem to retard. But care ſhould be taken that theſe difficulties be not magnified or exaggerated by imagination; for it has before been mentioned, that the blind have a painful ſenſe of their own incapacity, and conſequently a ſtrong propenſity to deſpair continually awake in their minds. For this reaſon, parents and relations ought never to be too ready in offering their aſſiſtance to the blind in any office which they can perform, or in any acquiſition which they can procure for themſelves, whether they are prompted by amuſement or neceſſity. Let a blind boy be permitted to walk through the neighbourhood without a guide, not only though he ſhould run ſome hazard, but even though he ſhould ſuffer ſome pain.

22 The elements of education for the blind ſhould neither be too difficult nor too eaſy.

23 The powers of action poſſeſſed by the blind ſhould never be ſuperſeded.

If he has a mechanical turn, let him not be denied the uſe of edge-tools; for it is better that he ſhould looſe a little blood, or even break a bone, than be perpetually confined to the ſame place, debilitated in his frame, and depreſſed in his mind. Such a being can have no employment but to feel his own weakneſs, and become his own tormentor; or to transfer to others all the malignity and peeviſhneſs ariſing from the natural, adventitious, or imaginary evils which he feels. Scars, fractures, and diſlocations in his body, are trivial misfortunes compared with imbecility, timidity, or fretfulneſs of mind. Beſides the ſenſible and dreadful effects which inactivity muſt have in relaxing the nerves and conſequently in depreſſing the ſpirits, nothing can be more productive of jealouſy, envy, peeviſhneſs, and every paſſion that corrodes the ſoul to agony, than a painful impreſſion of dependence on others, and of our inſufficiency for our own happineſs. This impreſſion, which, even in his moſt improved ſtate, will be too deeply felt by every blind man, is redoubled by that utter incapacity of action which muſt reſult from the officious humanity of thoſe who would anticipate or ſupply all his wants, who would prevent all his motions, who would do or procure every thing for him without his own interpoſition. It is the courſe of nature, that blind people, as well as others, ſhould ſurvive their parents; or, it may happen, that they ſhould likewiſe ſurvive thoſe who, by the ties of blood and nature, are more immediately intereſted in their happineſs than the reſt of mankind. When, therefore, they fall into the hands of the world in general, ſuch exigences as they themſelves cannot redreſs will be but coldly and languidly ſupplied by others. Their expectations will be high and frequent, their diſappointments many and ſenſible; their petitions will often be refuſed, ſeldom fully gratified; and, even when granted, the conceſſion will be ſo ungraceful, as to render its want infinitely more tolerable than its fruition. For all theſe reaſons, we repeat it once more (becauſe it can never be too frequently reiterated), that, in the formation of a blind man, it is infinitely better to direct than ſuperſede his own exertions. From the time that he can move and feel, let him be taught to ſupply his own exigences; to dreſs and feed himſelf; to run from place to place, either for exercise, or in purſuit of his own toys or neceſſaries.

In theſe excurſions, however, it will be highly proper for his parent or tutor to ſuperintend his motions at a diſtance, without ſeeming to watch over him. A vigilance too apparent, may impreſs him with a notion that malignity or ſome other ſelfiſh motive may have produced it. When dangers are obvious and great, ſuch as we incur by rivers, precipices, &c. thoſe who are entruſted with the blind will find it neither neceſſary nor expedient to make their vigilance a ſecret. They ought then to acquaint their pupil, that they are preſent with him; and to interpoſe for his preſervation, whenever his temerity renders it neceſſary. But objects of a nature leſs noxious, which may give him ſome pain without any permanent injury or mutilation, may with deſign be thrown in his way; providing, however, that this deſign be always induſtriouſly concealed. For his own experience of their bad effects will be an infinitely more eloquent and ſenſible monitor, than the abſtract and frigid counſels of any adviſer whatever.

When the volatile ſeaſon of puerile amuſement is expired, and the impetuous hurry of animal-ſpirits ſubſides, through the whole demeanour of his pupil the tutor will probably obſerve a more ſenſible degree of timidity and precaution, and his activity will then require to be ſtimulated more than reſtrained. 24 Exerciſes ſuitable to the blind. In this criſis, exerciſe will be found requiſite, rather to preſerve health, and facilitate the vital functions, than merely for recreation. 25 Riding on horſeback. Of all the different kinds of exerciſe, riding, not in a machine, but on horſeback, is by far the moſt eligible, and moſt productive of its end. On theſe occaſions, however, care muſt be taken that the horſes employed may neither be capricious, nor unmanagable; for on the manſuetude of the creature which he rides, not only his ſafety, but his confidence, will entirely depend. In theſe expeditions, whether long or ſhort, his companion or attendant ought conſtantly to be with him; and the horſe ſhould always either be taught implicitly to follow its guide, or be conducted by a leading rein beſides the bridle which he himſelf holds. 26 Walking in allweathers that are tolerable. Next to this mode of exerciſe, is walking. If the conſtitution of the blind boy be tolerably robuſt, let him be taught to endure every viciſſitude of weather which the human ſpecies can bear with impunity. For if he has been bred with too much delicacy, particular accidents may ſuperſede all his former ſcruples, and ſubject him to the neceſſity of ſuffering what will not only be ſevere in its immediate ſenſation, but dangerous in its future conſequences. Yet, when the cold is ſo intenſe, or the elements ſo tempeſtuous, as to render air and exerciſe abroad impracticable, there are methods of domeſtic exerciſe, which, though not equally ſalutary, may ſtill be eligible; ſuch as dumb-bells, or the bath-chair. 27 Dumb bells. The firſt of theſe are made of lead, conſiſting of a cylinder, the middle of which may either be rectilineal or arcuated for the conveniency of holding, and terminates at each end in a ſemiglobular maſs. Their weight ſhould be conformed to the ſtrength and age of the perſon who uſes them. The method of employing them is to take one in each hand, and ſwing them backwards and forwards over his head, deſcribing a figure ſomewhat like a parabola. This not only ſtrengthens the arms, and opens the cheſt, but promotes the circulation of the fluids. 28 Bath-chair. The bath-chair is a deal of 12 feet in length, as free from knots and as elaſtic as poſſible, ſupported by a fulcrum at each end, upon which may be placed two rolling cylinders to give it greater play; when ſeated upon this, by alternately depreſſing it with his own weight, and ſuffering it to return to its natural ſituation, he gives himſelf a motion, though not equal in its energy, yet ſomewhat reſembling the trot of a horſe. There are other elaſtic ſeats of the ſame kind conſtructed with ſteel ſprings, but one of this ſimple fabrication may anſwer the purpoſe.

The ſpring deal here recommended by the author, was preferred, as being ſuitable to the blind in all ſpheres or conditions of life; but he has ſince been taught by experience, in a valetudinary ſtate, that the elaſtic chair is of infinitely greater utility. It conſiſts of three falſe bottoms, and one real, which is the baſis of the whole. The loweſt is by far the moſt extenſive. The higheſt is ſtuffed to render it an eaſy ſeat, and covered with pluſh, baize, or duffle. Between each of the falſe bottoms, at either end, behind and before, are placed ſteel ſprings, fixed above and below to the boards; not with nails, but ſtaples, and curved in a ſpiral or ſerpentine form, each conſiſting of ſeven ſpires or volumina. The volumina are formed in ſuch a manner, that one of them can paſs through another, and thus give the ſprings full play in riſing or deſcending. The loweſt bottom or baſis of the whole is protended about four inches; which aſſiſts you to mount the ſeat with more facility, and ſerves as a ſupport for your feet when you ride. This operation is performed by alternately depreſſing or raiſing yourſelf upon the ſeat, ſo that the ſprings yielding to your weight as you deſcend, and reſiſting as you riſe, may give you a motion like that of the deal above deſcribed, but more violent, more rapid, and conſequently more ſalutary. The whole frame of the ſeat is ſurrounded with leather, having different apertures to admit or eject the air occaſioned by the motion. Theſe general hints are ſufficient to give any ingenious artiſan an idea of the nature and ſtructure of the machine, which he may alter or improve as conveniency ſhall dictate.

To theſe modes of domeſtic exerciſe may be added that of a ſwing, which is formed by a rope ſuſpended from two ſcrews, which ought to be ſtrongly fixed, at proper diſtances, in the joiſts of a capacious chamber, with a board and a cuſhion for a ſeat, and cords faſtened behind and before, leſt the impetuoſity of the motion ſhould ſhake the patient out of his poſition. But this inſtrument of health is ſo often formed by children for their amuſement, and depends ſo much upon the form and extent of the area where it vibrates, that a more minute detail of its nature and office would here be unneceſſary.

29 Diet. His meals ſhould be temperate, his diet light and of eaſy digeſtion If the tone of his ſtomach be vigorous, vegetables ſhould be preferred to animal-food, particularly thoſe vegetables which are moſt farinaceous and leaſt aceſcent. Fermented liquors and ardent ſpirits ſhould never be given him but to gratify the real demands of exhauſted nature; for though they exhilarate the ſpirits, they at the ſame time corrode the veſſels and relax the nerves: a misfortune doubly pernicious to ſedentary life. The ſafeſt and moſt wholeſome beverages are milk and water. If he ſhould be tired with theſe, he may be indulged with the variety of chocolate, balm, ſage, or ground-ivy. Coffee may ſometimes be taken with impunity: but tea ſhould be interdicted with inflexible ſeverity; for no vegetable juice under heaven is more noxious to ſedentary people. Let him alſo, for ſimilar reaſons, be prohibited the uſe of tobacco in all its forms. In the obſervations of diet and exerciſe, let him neither be mechanically regular, nor entirely excentric. In the one caſe, he will be a ſlave to habit, which may create ſome inconvenience; in the other, he will form no habits at all, which may ſtill be productive of greater.

30 Low ſpirits. We have more than once hinted, during the courſe of this article, that the blind, as liable to all the inconveniences of ſedentary life, are peculiarly ſubjected to that diſorder which may be called *tædium vitæ* or low ſpirits. This indiſpoſition may be ſaid to comprehend in it all the other diſeaſes and evils of human life; becauſe, by its immediate influence on the mind, it aggravates the weight and bitterneſs of every calamity to which we are obnoxious. In a private letter,

we have heard it deſcribed as a formidable precipice, in the regions of miſery, between the awful gulphs of ſuicide on the one hand, and phrenzy on the other; into either of which, a gentle breeze, according to the force of its impulſe and the line of its direction, may irrecoverably plunge the unhappy victim; yet from both of which he may providentially eſcape. Though the ſhades of the metaphor may, perhaps, be unnaturally deepened, yet thoſe who have felt the force of the malady will not fail to repreſent it by the moſt dreadful images which its own feelings can ſuggeſt. Parents and tutors therefore, if they have the leaſt pretence to conſcience or humanity, cannot be too careful in obſerving and obviating the firſt ſymptoms of this impending plague. If the limbs of your blind child or pupil be tremulous; if he is apt to ſtart, and eaſily ſuſceptible of ſurpriſe; if he finds it difficult to ſleep; if his ſlumbers, when commenced, are frequently interrupted, and attended with perturbation: if his ordinary exerciſes appear to him more terrible and more inſuperable than uſual; if his appetites become languid and his digeſtion ſlow; if agreeable occurrences give him leſs pleaſure, and adverſe events more pain than they ought to inſpire,—this is the criſis of vigorous interpoſition. The regimen and exerciſe above preſcribed are the beſt preventatives of this evil, and perhaps its beſt remedies when unhappily incurred. But if the ſymptoms ſhould eſcape your attention till the patient is actually ſeized with the diſtemper, you may then, according to its depth and permanency, apply the cold bath, vitriolic acid, and Peruvian bark. Magneſia alba will, from time to time, be found uſeful to lenify the ſevere and corroſive acid generated in the ſtomach; it is preferable to chalk, to crab's eyes, or to any of the other abſorbents, becauſe of its laxative tendency. The tincture or infuſion of wild valerian, pills of aſafœtida, and white muſtard-ſeed, are likewiſe preſcribed. Care ſhould be taken that the patient may never be ſuffered to remain coſtive, otherwiſe the function of digeſtion will be impeded. Gentle cathartics ſhould therefore be adminiſtered; but with caution, that their operation may clear the bowels without weakening nature. Emetics may ſometimes give the patient a temporary relief, by exerting and bracing the fibres of the ſtomach; but if uſed too frequently, they will have a contrary effect: previous to the uſe of bark, however, they ſhould always be taken to prepare the veſſel for its reception. The ſymptoms above enumerated would ſeem to indicate the origin of the diſtemper from extreme weakneſs or relaxation of nerves: that relaxation may be cauſed by ſevere and intemperate thought; by ſupine indolence; by exceſſive or habitual drinking; and above all, by venereal gratifications prematurely and frequently indulged, by which the approaches of this evil are accelerated, its continuance inſured, and its poignancy augmented. Parents and tutors, therefore, as they value the welfare of their charge, and would anſwer to God for their conduct, ſhould be ſcrupulouſly careful to obſerve when any of theſe illegitimate propenſities inflame the youthful mind, to check, or rather elude them; not ſo much by ſevere reprehenſion and ſolemn interdict, as by endeavouring to preoccupy the ſoul, and engage the attention with other favourite amuſements. Againſt every act of arbitrary power, the mind ſtrongly and naturally revolts. She ſhould therefore be rather allured to wiſdom and virtue, by rational motives and gentle methods, than by cruel menaces and ſtern commands. Thoſe who are afflicted with low ſpirits may be ſaid to be doubly unfortunate; for they have not only their own internal ſufferings to ſuſtain, but the contempt and ridicule of a thoughtleſs and unfeeling world, by whom their complaints are thought to be imaginary, and their depreſſion affected. Should the ſarcaſtic or ſceptical reader apoligize for his want of humanity, by aſking in what theſe internal ſufferings conſiſt, it will be eaſy to give him a clear and ſolid anſwer: They ariſe from a ſevere and acute feeling of nature's incapacity to diſcharge the vital functions with tolerable eaſe; from the ſharp and conſtant irritation inflicted on the ſtomach and lower inteſtines by every thing not ſweet or inſipid that paſſes through them; and from a degree of ſenſibility too exquiſite for the precarious and fluctuating ſtate of our nature: theſe are the vindictive, inexorable demons that arm every thought with the ſtings of ſcorpions and render the ſenſe of exiſtence itſelf inſupportable. We have heard of hypochondriacs who thought themſelves made of glaſs; and of others who believed their perſons grown to a ſize ſo enormous, that they could not enter into any door: but it has never been our fortune to be perſonally acquainted with any of theſe fantaſtics. Thoſe with whom we have converſed were rather inclined to exaggerate real, than to create imaginary, evils; rather to anticipate gloomy poſſibilities, than to dwell upon improbable or chimerical cataſtrophes: the tender parent, therefore, or the faithful guardian, will beware of treating them with neglect or levity. He will ſuit his converſation, as much as poſſible, to the preſent tone of their feelings; he will avoid all innovations in their management, except ſuch as are abſolutely neceſſary for their cure.

Be careful never to reaſon nor expoſtulate with your patient on the nature of his malady. Tell him not that his uneaſy feelings, far from being real, are the fictitious impoſitions of a depraved fancy. His diſagreeable ſenſations will be more than ſufficient to demonſtrate the falſehood of your aſſertions: thus your argumentative and perſuaſive powers will not only be exerted in vain, but may conſiderably retard, if not finally prevent, his recovery; and may leave ſuch indelible prepoſſeſſions againſt you, in his mind, as no length of time, no viciſſitudes of life, will ever be able to efface. Opium has alſo been recommended; but excepting deſperate caſes, it will be found a fallacious and dangerous remedy:—fallacious, becauſe the eaſe it gives is only temporary, and infallibly ſucceeded by ſharper paroxiſms:—dangerous, becauſe it may be rendered habitual, and ſubject the patient to unmixed torment when omitted. Though we have already inculcated a regimen and exerciſe which appeared proper for the blind in general, and not incompatible with peculiar ſituations, it ſtill ſeems neceſſary to add a few reſults of painful experience upon theſe ſubjects, as being particularly conducive to the preſent eaſe and future amendment of ſuch as labour under the diſeaſes now in queſtion. And firſt, let it be obſerved, that animal food is their proper nutriment, as being of eaſieſt digeſtion; better too, if well done upon the ſpit or gridiron: for inſtead of being allowed to imbibe adventitious fluids, it ſhould be as much as poſſible drained of its own; neither ſhould it be too fat: beef, mutton, or fowls arrived at maturity, give the ſtomach leaſt labour; veal, lamb, chickens, and every other kind of young meat, anſwers the purpoſes of nature with more difficulty, as the parts are not only too ſucculent, but prevented by their ſoftneſs and lubricity from acting forcibly one upon another to facilitate the efforts of the ſtomach in digeſtion. Of all vegetable ſubſtances, white bread is perhaps the only ingredient which they can eat with the greateſt impunity; and even this would ſtill be ſafer were the paſte formed with as little water as poſſible, and prepared without fermentation. Whether eggs are vegetable or animal ſubſtances, let phyſicians determine; but this we know, that by people in low ſpirits they may be eaten, even at ſupper, with great impunity. Every other herb or root is not only extremely flatulent, but productive of that ſharp and intenſe acid for which we have formerly preſcribed magneſia as the beſt remedy. Patients of this deſcription ſhould rather be frequent than liberal in their meals, and ſcrupulouſly careful of all heterogeneous mixture. Their moſt eligible beverage, except ſimple water, if they can afford it, is port wine, as being leaſt convertible into that poignant fluid: porter likewiſe, if not ſtale, may, by its ſtrength and bitterneſs, aſſiſt the action of the ſtomach. Neither of theſe fermented liquors ſhould be taken in large quantities at once: let the clamours of nature be ſatisfied, and no more; for if the ſpirits are unnaturally elated, they will be certain to ſink proportionably when the ſtimulus ceaſes to operate. The moderate uſe of genuine rum or brandy, properly diluted, when the other liquors cannot be had, may be productive of good effects, but ſhould never be uſed at or near natural periods of repoſe; becauſe, even when diluted, they occaſion a febriety or pyrexia, incompatible with ſound and refreſhing ſleep. Care ſhould likewiſe be taken that the patient may never be too much warmed, either by clothes or exerciſe, eſpecially when in bed. Exertions of body, particularly in the open air, are indiſpenſably neceſſary for promoting digeſtion and acquiring ſtrength; but ſhould never be carried to fatigue. The mind ſhould likewiſe be diverted from attention to itſelf and its diſorder, by reading and converſation. But there is an uncommon degree of diſcernment and delicacy requiſite in the topics, that they may neither be too cheerful nor too ſerious, for the ſtate of the mind, when they are applied. Neither let theſe injunctions be eſteemed trivial: ſuch little attentions, uniformly and tenderly exerted for their ſatisfaction, will contribute in no ſmall degree to their preſent tranquillity, and of conſequence to their future reſtoration. We have thought it neceſſary to expatiate thus far, on a ſubject gloomy and forbidding in itſelf, but of ſufficient importance to demand particular attention; and, beſides what we have ſaid may not only be uſeful to the blind in particular, but applicable to all thoſe who labour under the ſame depreſſion. It only remains to add, that the order, the periods, and the quantities, in which the remedies above enumerated ſhould be applied, muſt be determined by wiſdom and experience, or regulated by the advice of a ſkilful and vigilant phyſician. We are ſorry that truth obliges us to acknowledge, that we have found the faculty leſs intelligent in this diſeaſe, and leſs attentive to its various aſpects, than could be wiſhed, or than its malignity requires.

31
Natural curioſity to be gratified, when poſſible; when otherwiſe, a reaſon to be given.

The natural curioſity of children renders them extremely and indefatigably inquiſitive. This diſpoſition is often peculiarly prevalent in the blind. Parents and tutors, therefore, ſhould gratify it whenever their anſwers can be intelligible to the pupil; when it is otherwiſe, let them candidly confeſs the impoſſibility or impropriety of anſwering his queſtions. At this period, if their hearts be tender and their powers inventive, they may render his amuſements the vehicles, and his toys the inſtruments, of improvement: why, for inſtance, may not the centrifugal and centripetal forces be illuſtrated from the motion of a top, or the nature and power of elaſticity by the rebound of a ball. Theſe hints may lead to others, which, if happily improved and applied, may wonderfully facilitate the progreſs of knowledge. Nor will the violence of exerciſe, and the tumult of play, be productive of ſuch perils and accidents as may be apprehended.

For the encouragement of ſuch parents as chooſe to take theſe advices with regard to exerciſe, let us inform them, that though, till the age of twenty, ſome blind perſons were on moſt occaſions permitted to walk, to run, to play at large, they have yet eſcaped without any corporeal injury from theſe excurſions.

32
The blind not to be indulged in promiſcuous company.

Parents of middle, or of higher rank, who are ſo unfortunate as to have blind children, ought, by all poſſible means, to keep them out of vulgar company. The herd of mankind have a wanton malignity, which eternally impels them to impoſe upon the blind, and to enjoy the painful ſituations in which theſe impoſitions place them. This is a ſtricture upon the humanity of our ſpecies, which nothing but the love of truth and the dictates of benevolence could have extorted from us. But we (F) have known ſome who have ſuffered ſo much from this diabolical mirth in their own perſons, that it is natural for us, by all the means in our power, to prevent others from becoming its victims.

Blind people have infinitely more to fear from the levity and ignorance, than from the ſelfiſhneſs and ill-nature, of mankind. In ſerious and important negociations, pride and compaſſion ſuſpend the efforts of knavery or ſpleen; and that very infirmity, which ſo frequently renders the blind defenceleſs to the arts of the inſidious, or to the attempts of malice, is a powerful incentive to pity, which is capable of diſarming fury itſelf. Villainy, which frequently piques itſelf more upon the arts by which it prevails, than upon the advantages which it obtains, may often with contempt reject the blind, as ſubjects beneath the dignity of its operation; but the ill-natured buffoon conſiders the moſt malicious effects of his merriment as a mere jeſt, without reflecting on the ſhame or indignation which they inſpire when inflicted on a ſenſible temper.

But vulgar credulity and ignorance are no leſs dangerous

(F) The author of theſe obſervations, though he chooſes to expreſs himſelf in this manner, is blind.

33 They muſt not be permitted to hear marvellous and frightful tales.

34 The aſſociation between darkneſs and ſpectres founded in nature.

gerous to thoſe who want ſight, than the falſe and mechanical wit ſo univerſally practiſed in common life. We know, we ſympathetically feel, the ſtrong propenſity of every illiterate mind, to relate or to believe whatever is marvellous and dreadful. Theſe impreſſions, when early imbibed, can ſcarcely be eradicated by all the conſpiring efforts of mature reaſon and confirmed experience. Thoſe philoſophers who have attempted to break the alliance between darkneſs and ſpectres, were certainly inſpired by laudable motives. But they muſt give us leave to aſſert, that there is a natural and eſſential connection between night and *orcus*. Were we endued with ſenſes to advertiſe us of every noxious object before its contiguity could render it formidable, our panics would probably be leſs frequent and ſenſible than we really feel them. Darkneſs and ſilence, therefore, have ſomething dreadful in them, becauſe they ſuperſede the vigilance of thoſe ſenſes which give us the earlieſt notices of things. If you talk to a blind boy of inviſible beings, let benevolence be an inſeparable ingredient in their character. You may, if you pleaſe, tell him of departed ſpirits, anxious for the welfare of their ſurviving friends; of miniſtering angels, who deſcend with pleaſure from heaven to execute the purpoſes of their Maker's benignity; you may even regale his imagination with the ſportive gambols and innocent frolics of fairies; but let him hear as ſeldom as poſſible, even in ſtories which he knows to be fabulous, of vindictive ghoſts, vindictive fiends, or avenging furies. They ſeize and pre-occupy every avenue of terror which is open in the ſoul; nor are they eaſily diſpoſſeſſed. Sooner ſhould we hope to exorciſe a ghoſt, or appeaſe a fury, than to obliterate their images in a warm and ſuſceptible imagination, where they have been habitually impreſſed, and where theſe feelings cannot be diſſipated by external phenomena. If horrors of this kind ſhould agitate the heart of a blind boy (which may happen, notwithſtanding the moſt ſtrenuous endeavours to prevent it), the ſtories which he has heard will be moſt effectually diſcredited by ridicule. This, however, muſt be cautiouſly applied, by gentle and delicate gradations. If he is inſpired with terror by effects upon his ſenſes, the cauſes of which he cannot inveſtigate, indefatigable pains muſt be taken to explain theſe phenomena, and to confirm that explication, whenever it can be done, by the teſtimony of his own ſenſes and his own experience. The exertion of his locomotive and mechanical powers (the rights of which we have formerly endeavoured to aſſert) will ſenſibly contribute to diſpel theſe terrors.

35 The method of diſſipating the fears of the blind.

36 The invention of the blind may be aſſiſted, but neither anticipated nor checked.

His inventive faculties ought likewiſe to be indulged with the ſame freedom. The data which they explore may be preſented in ſuch a manner, as to render diſcoveries eaſy: but ſtill let invention be allowed to co-operate. The internal triumph and exultation which the mind feels from the attainment and conviction of new truths, heightens their charms, impreſſes them deep on the memory, and gives them an influence in practice of which they would not otherwiſe have boaſted.

There are a ſort of people in the world, whoſe views and education have been ſtrictly confined to one province, and whoſe converſation is of conſequence limited and technical. Theſe, in literary intercourſe, or faſhionable life, are treated with univerſal contempt, and branded with the odious name of *mere men of buſineſs*. Nor is it any wonder that the converſation of ſuch ſhould prove nauſeous and diſguſting. It would be arrogance in them to expect, that indifferent perſons ſhould either enter into their private intereſts, or the peculiarities of their craft, with a warmth equal to their own. We have known the intruſion of ſuch a perſon involve a numerous company in gloom, and terminate the freedom and vivacity of agreeable diſcourſe in lazy yawning and diſcontented ſilence. Of all innocent characters, this ought to be avoided by the the blind; becauſe, of all others, it is the character which they run the greateſt hazard of adopting. The limitation of their powers naturally contracts their views and purſuits, and, as it were, concentres their whole intellectual faculties in one, or at beſt in few objects. Care ſhould therefore be taken to afford the mind a theatre for its exertions, as extenſive as poſſible, without diverting it from one great end, which, in order to excel, it ought for ever to have in proſpect.

37 The manners of the blind.

There are few ſciences in which the blind have not diſtinguiſhed themſelves: even thoſe whoſe acquiſition ſeemed eſſentially to depend upon viſion, have at laſt yielded to genius and induſtry, though deprived of that advantage. Mr Sanderſon, whom we formerly mentioned, has left behind him the moſt ſtriking evidences of aſtoniſhing proficiency in thoſe retired and abſtract branches of mathematics which appeared leaſt acceſſible to perſons of his infirmity. Sculpture (G) and painting are not, perhaps, the moſt practicable arts for a blind man; yet he is not excluded from the pleaſing creation and extenſive regions of fancy. However unaccountable it may appear to the abſtract philoſopher, yet nothing is more certain in fact, than that a blind man may, by the inſpiration of the muſes, or, to ſtrip the figure of its mythological dreſs, may, by the effort of a cultivated genius, exhibit in poetry the moſt natural images and animated deſcriptions, even of viſible objects, without either incurring or deſerving the imputation of plagiariſm.

In the ſiſter art of muſic, there are, at preſent, living and noble inſtances how far the blind may proceeed.

If we look into former periods, we ſhall find illuſtrious and pregnant examples, how amply nature has capacitated the blind to excel both in the ſcientific and practical departments of muſic. In the 16th century, when the progreſs of improvement both in melody and harmony was rapid, and conſpicuous, Franciſcus Salinas was eminently diſtinguiſhed. He was born A. D. 1513, at Burgos in Spain; and was ſon to the treaſurer of

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(G) Yet there are inſtances of perſons who have been enabled to take the figure and idea of a face by the touch, and mould it in wax with the utmoſt exactneſs; as was the caſe of the blind ſculptor mentioned by De Piles, who thus took the likeneſs of the Duke de Bracciano in a dark cellar, and made a marble ſtatue of King Charles I. with great elegance and juſtneſs. Vide *De Piles* Cours de Peint. p. 329. and *Wolf*. Pſychol. Rat. § 162.

of that city. Tho' afflicted with incurable blindneſs, he was profoundly ſkilled both in the theory and practice of muſic. As a performer, he is celebrated by his cotemporaries with the higheſt encomiums. As a theoriſt, his book, if we may believe Sir John Hawkins, is equal in value to any now extant in any language. Tho' he was deprived of ſight in his earlieſt infancy, he does not content himſelf to delinate the various phenomena in muſic, but the principles from whence they reſult, the relations of ſound, the nature of arithmetical, geometrical, and harmonical ratios, which at that period were eſteemed eſſential to the theory of muſic, with a degree of intelligence which would have deſerved admiration though he had been in full poſſeſſion of every ſenſe requiſite for theſe diſquiſitions. He was taken to Rome in the retinue of Petrus Sarmentus archbiſhop of Compoſtella; and having paſſed twenty years in Italy, he returned to Salamanca, where he obtained the profeſſorſhip of muſic, an office at that time equally reſpectable and lucrative. Having diſcharged it with reputation and ſucceſs for ſome time, he died at the venerable age of 77.

In the ſame period flouriſhed Caſpar Crumbhorn, blind from the third year of his age: yet he compoſed ſeveral pieces in many parts with ſo much ſucceſs, and performed both upon the flute and violin ſo exquiſitely, that he was diſtinguiſhed by Auguſtus elector of Saxony. But preferring his native Sileſia to every other country, he returned thither, and was appointed organiſt of the church of St Peter and Paul in the city of Lignitz, where he likewiſe had often the direction of the muſical college, and died June 11th 1621.

To theſe might be added Martini Peſenti of Venice, a compoſer of vocal and inſtrumental muſic almoſt of all kinds, though blind from his nativity; with other examples equally worthy of public attention. But if vulgar prejudice is capable of bluſhing at its own contemptible character or of yielding to conviction, thoſe already quoted are more than ſufficient to ſhow the muſical jugglers of our time, who are generally as abſolute ſtrangers to learning and taſte as to virtue, that their art is no monopoly with which thoſe alone who ſee are inveſted by the irreverſible decree of heaven.

For Sanderſon's method of calculation, both in arithmetic and algebra, ſee the account prefixed to his own treatiſe on that ſubject. But there is a much fuller and more circumſtantial detail both of its nature and its various uſes, given by Mr Didoret in his "Letter concerning the Blind, for the uſe of thoſe who ſee," which we ſhall here tranſlate.

38 Sanderſon's plan of notation.

" It is much eaſier (ſays the author) to uſe ſigns already invented, than to become their inventor; as one is forced to do, when engaged in circumſtances for which he is not provided. Of what advantage might not this be to Sanderſon to find a palpable arithmetic already prepared for him at five years of age, which he might otherwiſe have felt the neceſſity of inventing for himſelf at the advanced period of twenty-five? This Sanderſon, Madam, is an author deprived of ſight, with whom it may not be foreign to our purpoſe to amuſe you. They relate prodigies of him; and of theſe prodigies there is not one, which his progreſs in the belles lettres, and his mathematical attainments, do not render credible.

" The ſame inſtrument ſerved him for algebraical calculations, and for the conſtruction of rectilineal figures. You would not perhaps be ſorry that I ſhould give you an explication of it, if you thought your mind previouſly qualified to underſtand it: and you ſhall ſoon perceive that it preſuppoſes no intellectual preparations of which you are not already miſtreſs; and that it would be extremely uſeful to you if you ſhould ever be ſeized with the inclination of making long calculations by touch.

Pl.XCVIII

" Imagine to yourſelf a ſquare, ſuch as you ſee fig. 1. divided into four equal parts by perpendicular lines at the ſides, in ſuch a manner, that it may preſent you nine points 1, 2, 3, 4, 5, 6, 7, 8, 9. Suppoſe this ſquare pierced with nine holes capable of receiving pins of two kinds, all of equal length and thickneſs, but ſome with heads a little larger than the others.

" The pins with large heads are never placed any where elſe but in the centre of the ſquare; thoſe with ſmaller heads never but at the ſides, except in one ſingle caſe, which is that of making the figure 1, where none are placed at the ſides. The ſign 0 is made by placing a pin with a large head in the centre of the little ſquare, without putting any other pin at the ſides*. The number 1 is repreſented by a pin with a ſmall head placed in the centre of the ſquare, without putting any other pin at the ſides: the number 2, by a pin with a large head placed in the centre of the ſquare, and by a pin with a ſmall head placed on one of the ſides at the point 1: the number 3, by a pin with a large head placed in the centre of the ſquare, and by a pin with a ſmall head placed on one of the ſides at the point 2: the number 4, by a pin with a large head placed in the centre of the ſquare, and by a pin with a ſmall head placed on one of the ſides at the point 3: the number 5, by a pin with a large head placed in the centre of the ſquare, and by a pin with a ſmall head placed on one of the ſides at the point 4: the number 6, by a pin with a large head placed in the centre of the ſquare, and by a pin with a ſmall head placed on one of the ſides at the point 5: the number 7, by a pin with a large head placed in the centre of the ſquare, and by a pin with a ſmall head placed on one of the ſides at the point 6: the number 8, by a pin with a large head placed in the centre of the ſquare, and by a pin with a ſmall head placed on one of the ſides at the point 7: the number 9, by a pin with a large head placed in the centre of the ſquare, and by a pin with a ſmall head placed on one of the ſides at the point 8.

" Here are plainly ten different expreſſions obvious to the touch, of which every one anſwers to one of our ten arithmetical characters. Imagine now a table as large as you pleaſe, divided into ſmall ſquares, horizontally ranged, and ſeparated one from the other at ſimilar diſtances, as you ſee it in fig. 3. Thus you will have the inſtrument of Sanderſon.

39 Their notation applied to numerical operations.

" You may eaſily conceive that there is not any number which one cannot expreſs upon this table; and, by conſequence, no arithmetical operation which one cannot execute upon it.

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* See fig. 2.

"Let it be propoſed, for inſtance, to find the ſum, or to work the addition of the nine numbers following.

1 2 3 4 5
2 3 4 5 6
3 4 5 6 7
4 5 6 7 8
5 6 7 8 9
6 7 8 9 0
7 8 9 0 1
8 9 0 1 2
9 0 1 2 3

"I expreſs them on the table in the order as they are dictated to me; the firſt figure at the left of the firſt number, upon the firſt ſquare to the left of the firſt line; the ſecond figure to the left of the firſt number, upon the ſecond ſquare to the left of the ſame line; and ſo of the reſt.

"I place the ſecond number upon the ſecond row of ſquares, units beneath units, and tens beneath tens, &c.

"I place the third number upon the third row of ſquares, and ſo of the reſt. Then with my fingers running over each of the rows vertically from the bottom to the top, beginning with that which is neareſt to my right, I work the addition of the numbers which are expreſſed, and mark the ſurplus of the tens at the foot of that column. I then paſs to the ſecond column, advancing towards the left; upon which I operate in the ſame manner; from thence to the third; and thus in ſucceſſion I finiſh my addition.

40 The ſame inſtrument applied to the conſtruction of rectilineal figures.

"We ſhall now ſee how the ſame table ſerved him for demonſtrating the properties of rectilineal figures. Let us ſuppoſe this propoſition to be demonſtrated, That parallelograms which have the ſame baſis and the ſame height are equal in their ſurfaces. He placed his pins as may be ſeen in fig. 4. He gave names to the angular points, and finiſhed his demonſtration with his fingers.

"If we ſuppoſe that Sanderſon only employed pins with large heads to mark the limits of his figures, around theſe he might arrange his pins with ſmall heads in nine different manners, all of which were familiar to him. Thus he ſcarcely found any embarraſſment but in thoſe caſes where the great number of angular points which he was under the neceſſity of naming in his demonſtration obliged him to recur to the letters of the alphabet. We are not informed how he employed them.

"We only know, that his fingers ran over the board with aſtoniſhing agility; that he undertook with ſucceſs the longeſt calculations; that he could interrupt the ſeries, and diſcover his miſtakes; that he proved them with the greateſt eaſe; and that his labours required infinitely leſs time than one could have imagined, by the exactneſs and promptitude with which he prepared his inſtruments and diſpoſed his table.

41 Preparation of the inſtrument.

"This preparation conſiſted in placing pins with large heads in the centres of all the ſquares: having done this, no more remained to him but to fix their values by pins of ſmaller heads, except in caſes where it was neceſſary to mark an unit; then he placed in the centre of a ſquare a pin with a ſmall head, in the place of a pin with a large head with which it had been occupied.

"Sometimes, inſtead of forming an entire line with theſe pins, he contented himſelf with placing ſome of them at all the angular points, or points of interſection; around which he tied ſilk threads, which finiſhed the formation of the limits of his figures." See fig. 4.

It may be added by way of improvement, that for the diviſion of one ſeries of numbers from another, a thin piece of timber in the form of a ruler with which lines are drawn, having a pin at each end for the holes in the ſquares might be interpoſed between the two ſeries to be diſtinguiſhed.

This geometrician left other inſtruments behind him; but as we do not know their uſes, we need not add their deſcriptions.

It muſt be owned, that by the notation here exhibited every modification of number may be expreſſed, and of conſequence every arithmetical operation ſucceſsfully performed; but we have been recently favoured with another form of palpable arithmetic, which appears to us equally comprehenſive and much more ſimple than that of Sanderſon. It was originally invented, and is ſtill uſed in calculation, by Dr Henry Moyes; a gentleman whom we had formerly occaſion to mention with merited applauſe in this article, and whoſe character and attainments we have endeavoured more fully to illuſtrate than had been done in the former edition, as well from perſonal knowledge as from the anecdotes of Bew, as the moſt eligible introduction to the account of his notation, given in the words of his own letter, and exemplified in a figure copied from a drawing directed by himſelf.

"To the Editor of Encyclopædia Britannica.

42 Dr Moyes's forms of a palpable notation.

"Sir, in compliance with your requeſt, I ſend you the following brief account of a palpable notation which I have generally uſed for theſe 20 years to aſſiſt my memory in numerical computations. When I began to ſtudy the principles of arithmetic, which I did at an early period of life, I ſoon diſcovered to my mortification, that a perſon entirely deprived of ſight could ſcarcely proceed in that uſeful ſcience without the aid of palpable ſymbols repreſenting the ten numerical characters. Being at that time unacquainted with the writings of Sanderſon, in which a palpable notation is deſcribed, I embraced the obvious, though as I afterwards found, imperfect expedient of cutting into the form of the numerical characters thin pieces of wood or metal. By arranging theſe on the ſurface of a board, I could readily repreſent any given number, not only to the touch, but alſo to the eye; and by covering the board with a lamina of wax, my ſymbols were prevented from changing their places, they adhering to the board from the ſlighteſt preſſure. By this contrivance, I could ſolve, though ſlowly, any problem, in the ſcience of numbers: but it ſoon occurred to me, that my notation, conſiſting of ten ſpecies of ſymbols or characters, was much more complicated than was abſolutely neceſſary, and that any given number might be diſtinctly expreſſed by three ſpecies of pegs alone. To illuſtrate my meaning, let A, B, C, D, (fig. 5.), repreſent a ſquare piece of mahogany a foot broad and an inch in thickneſs; let the ſides A B, B C, C D, D A, be each divided into 24 equal parts; let every two oppoſite diviſions be joined by a groove cut in the board ſufficiently deep to be felt with the finger,

BLIND.

Plate XCVIII.

Fig. 6.

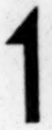


Fig. 7.

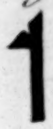


Fig. 8.

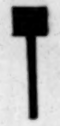


Fig. 1.

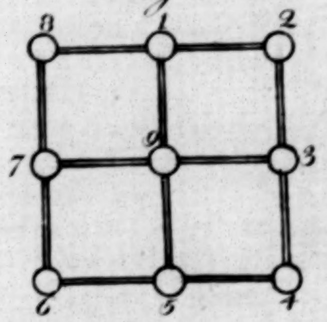


Fig. 2.

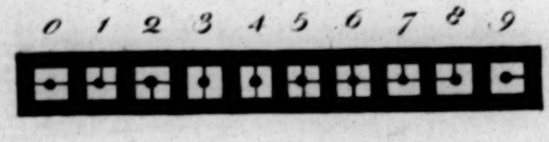

0 1 2 3 4 5 6 7 8 9

Fig. 5.

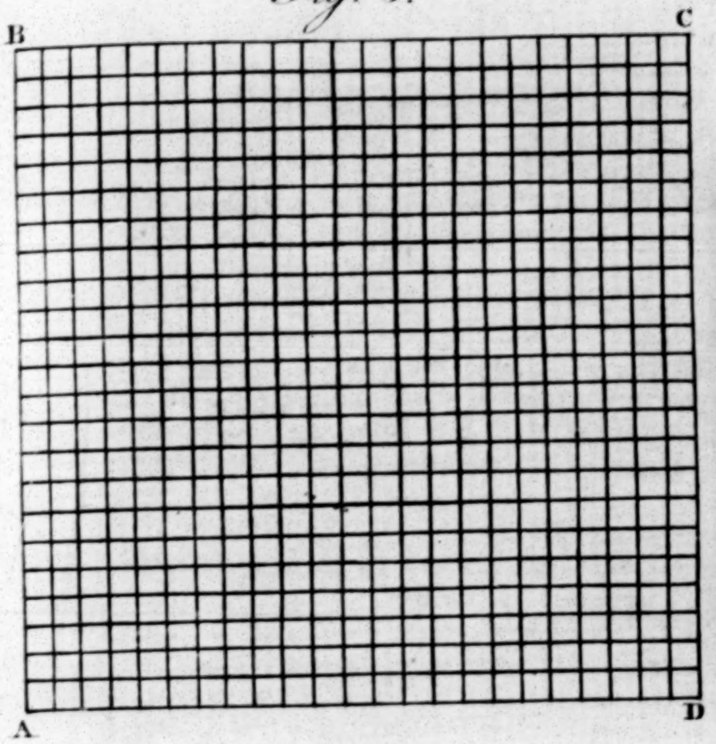


Fig. 3.

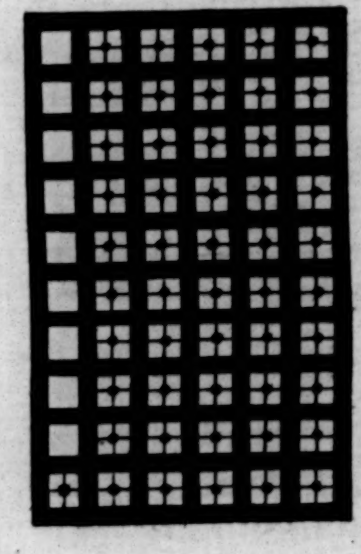


Fig. 4.

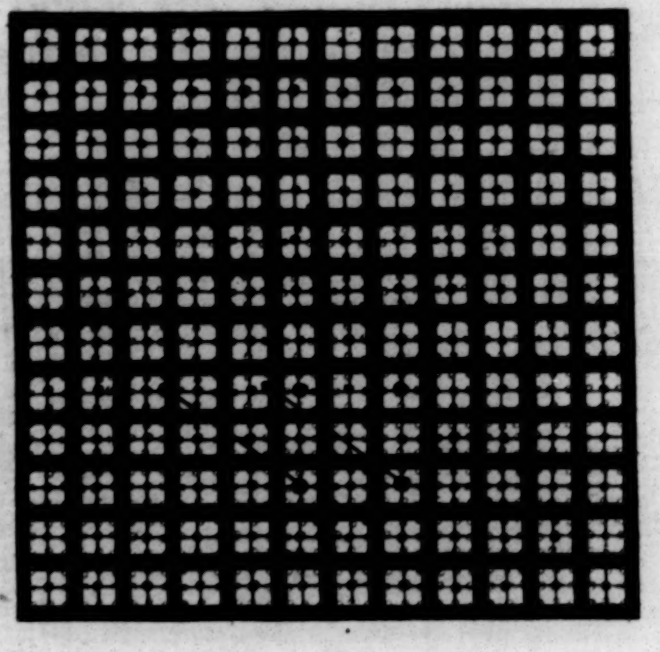
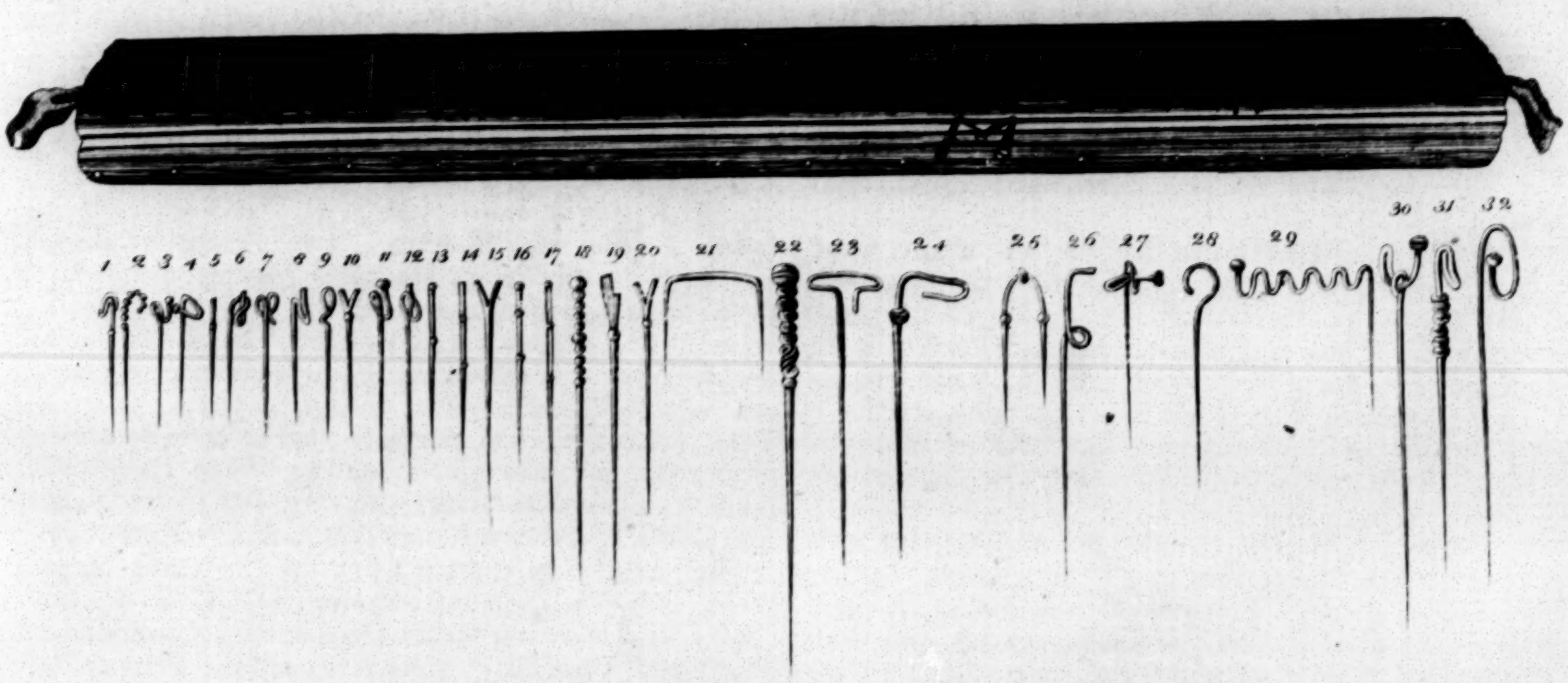


Fig. 9.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

BRITISH MUSEUM

ger, and let the board be perforated at each interſection with an inſtrument a tenth of an inch in diameter.

“ The ſurface of the board being thus divided into 576 little ſquares, with a ſmall perforation at each of their angles, let three ſets of pegs or pins, reſembling thoſe repreſented in the plate at the figures 6, 7, 8, be ſo fitted to the holes in the board, that when ſtuck into them they may keep their poſitions like thoſe of a fiddle, and require ſome force to turn them round. The head of each peg belonging to the firſt ſet is a right angled triangle about one tenth of an inch in thickneſs; the head of each peg belonging to the ſecond ſet differs only from the former in having a ſmall notch in its ſloping ſide or hypothenuſe; and the head of each peg belonging to the third ſet is a ſquare of which the breadth ſhould be equal to the baſe of the triangle of the other two. Theſe pegs ſhould be kept in a caſe conſiſting of three boxes or cells, each cell being allotted to a ſet, and the caſe muſt be placed cloſe by the board previous to the commencement of every operation. Each ſet ſhould conſiſt of 60 or 70 pegs (at leaſt when employed in long calculations); and when the work is finiſhed, they ſhould be collected from the board and carefully reſtored to their reſpective boxes.

“Things being thus prepared, let a peg of the firſt ſet be fixed into the board, and it will acquire four different values according to its poſition reſpecting the calculator. When its ſloping ſide is turned towards the left, it denotes one, or the firſt digit; when turned upwards, or from the calculator, it denotes two, or the ſecond digit; when turned to the right, it repreſents three; and when turned downwards, or towards the calculator, it denotes four, or the fourth digit. Five is denoted by a peg of the ſecond ſet, having its ſloping ſide or hypothenuſe turned to the left; ſix, by the ſame turned upwards; ſeven, by the ſame turned to the right; and eight, by the ſame turned directly down, or towards the body of the calculator. Nine is expreſſed by a peg of the third ſet when its edges are directed to right and left; and the ſame peg expreſſes the cypher when its edges are directed up and down. By three different pegs the relative values of the ten digits may therefore be diſtinctly expreſſed with facility; and by a ſufficient number of each ſet the ſteps and reſult of the longeſt calculation may be clearly repreſented to the ſenſe of feeling. It ſeems unneceſſary to illuſtrate this by an example: ſuffice it to expreſs in our characters the preſent year of the Chriſtian æra 1788: Take a peg of the firſt ſet and fix it in the board with its ſloping ſide turned towards the left equal to one; take now a peg of the ſecond ſet and fix it in the next hole in the ſame groove, proceeding as uſual from left to right, with its ſloping ſide turned to the right equal to 7; next take a peg of the ſame ſet and fix it in the next hole, with its ſloping ſide turned downwards, equal to 8; laſtly, take another peg of the ſame ſet and place it in the next hole in the ſame poſition, equal to 8; and the whole will expreſs the number required.

“ When it is neceſſary to expreſs a vulgar fraction, I place the numerator in the groove immediately above, and the denominator in that immediately below the groove in which the integers ſtand; and in decimal arithmetic an empty hole in the integer-groove repreſents the comma or decimal point. By ſimilar breaks I alſo denote pounds, ſhillings, pence, &c. and by the ſame expedient I ſeparate in diviſion the diviſor and quotient from the dividend.

“ This notation, which ſupplies me completely with coefficients and indices in algebra and fluxions, ſeems much ſuperior to any of the kind hitherto made public in the weſt of Europe. That invented and deſcribed by Mr Grenville, having no leſs than ten ſets of pegs, is by much too complicated for general practice; and that which we owe to the celebrated Sanderſon is apt to puzzle and embarraſs the calculator, as the pegs repreſenting the numerical digits can ſeldom or never be in the ſame ſtraight line. If you agree with me that the above notation may promote the knowledge, and therefore the happineſs, of perſons denied the benefit of ſight, you have my conſent to give it a place in the preſent edition of your valuable work. I am, Sir, with reſpect, your obedient ſervant,

HENRY MOYES.”

We have ſeen the machine above mentioned, which was exhibited to the ſociety for the improvement of polite arts, &c. by Mr. Grenville, who is himſelf alſo deprived of ſight. But though this has met with the approbation of Mr Stanley, we cannot forbear to think it leſs ſimple in its ſtructure than that of Dr Moyes's, more multiform in its apparatus, and of conſequence more laborious and complex in the proceſs of its operation: for where every ſingle peg has only one power, and acquires no diverſity of value from its poſition, their forms muſt be indefinitely varied and their numbers prodigiouſly multiplied; which muſt coſt both the memory and judgment of the pupil numberleſs painful and fatiguing exertions before he contracts a habit of uſing the inſtrument with promptitude and ſucceſs. On theſe accounts, a particular deſcription of it is omitted in this place.

43
A new mathematical inſtrument propoſed.

In the higher parts of mathematics, ſuch as conic ſections, the ſame ſolid figures which are mediums of perception to thoſe who ſee, may perform the ſame uſeful office the blind. But, for the ſtructure of ſuperficial figures, we ſhould imagine, that a kind of matter might be found, ſoft enough to be eaſily ſuſceptible of impreſſions, yet hard enough to retain them till effaced by an equal preſſure. Suppoſe, for inſtance, a table were formed, four feet broad and eight in length; for the figures, that they may be the more ſenſible to the touch, ought to be larger than ordinary. Suppoſe this table had brims, or a moulding round it, riſing an inch above the ſurface: let the whole expanſe, then, be filled with bees-wax, and the ſurface above preſſed extremely even with a poliſhed board, formed exactly to fit the ſpace within the mouldings. This board will always be neceſſary to efface the figures employed in former propoſitions, and prepare the ſurface for new ones. We think we have pondered the minuteſt inconvenience that can ariſe from this method of delineating and conceiving geometrical truths; and, after all, the table appears to us the beſt and the leaſt troubleſome apparatus which a blind man can uſe. We can ſee no reaſon why general ideas of geography or topography might not be conveyed to him in the ſame manner, by ſpheres compoſed of or covered with the ſame impreſſible matter.

44
Geographical inſtruments propoſed for the blind.

45 Account of a new plan for the improvement of the blind

Such were the mediums that occurred to the author, when this article was originally written, for conveying to perſons deprived of light thoſe remote and complicated truths which viſion alone was thought capable of repreſenting; but a work has been lately publiſhed at Paris which ſuperſedes every former attempt to promote or facilitate the improvement of the blind. The invention of a plan ſo arduous in its appearance and ſo practicable in its execution, demanded the higheſt exertions of the nobleſt genius to produce it, and the moſt ſtrenuous efforts of indefatigable humanity to render it effectual. It is intitled. "An Eſſay on the Education of the Blind." Its object is to teach them, by palpable characters impreſſed on paper, not only the liberal arts and ſciences, but likewiſe the principles of mechanical operation, in ſuch a manner, that thoſe who have no genius for literary improvement may yet become reſpectable, uſeful, and independent members of ſociety, in the capacity of common artiſans. By theſe tangible ſignatures they are taught to read, to write, and to print: they are likewiſe inſtructed in geometry, in algebra, geography, and, in ſhort, in every branch of natural philoſophy. Nor are their efforts circumſcribed by mere utility; a taſte for the fine arts has likewiſe been cultivated among them. They have been taught to read muſic with their fingers as others do with their eyes; and though they cannot at once feel the notes and perform them upon an inſtrument, yet are they capable of acquiring any leſſon with as much exactneſs and rapidity as thoſe who enjoy all the advantages of light. But we ſhall give a more particular account of the wonderful topics contained in this eſſay. In his firſt chapter the author diſcovers the end propoſed by that delineation of culture which he offers to the blind; it is to enlarge their ſphere of knowledge, and of conſequence to increaſe their capacities and improve their powers of action, ſo that they may become happy and independent in themſelves, and uſeful and agreeable to others. The 2d chapter contains an anſwer to the objections urged againſt the general utility of this inſtitution. Theſe objections are candidly ſtated, and anſwered in the moſt ſatisfactory manner; but were we to recapitulate them in detail, it would protract this article to a length much beyond its due proportion, even upon the extended plan of the Encyclopædia. The 3 chapter treats of reading as adapted to the practice of the blind. The 4th chapter conſiſts of anſwers to various objections againſt the method of reading propoſed for the blind; but theſe, for reaſons formerly given, we cannot, with propriety, delineate in this article. In the 5th chapter is ſhown the art of printing as practiſed by the blind for their peculiar uſe. In the 6th chapter is deſcribed the manner of teaching the blind the art of printing for thoſe that ſee. In the 7th is repreſented the manner of teaching the blind to write. The 8th chapter explains the method of teaching the blind arithmetic; the 9th, geography; the 10th, muſic. The 11th, contains an account of the mechanic arts in which the blind are employed, and of the way by which they are formed for ſuch occupations. The 12th ſhows in general the proper manner of inſtructing the blind, and draws a parallel between their education and that of the deaf and dumb. Chapter 13th treats of the method of inſtructing them in the languages, mathematics, hiſtory, &c. What remains of the book is taken up with notes which illuſtrate each particular chapter; a ſhort hiſtorical account of the riſe, the progreſs, and the preſent ſtate, of the academy for the formation of the blind; an ode on the cultivation of the blind, by one that laboured under that affliction; an extract from the regiſter of the royal academy of ſciences; opinion of the printers; models of the various pieces which blind children are capable of printing; and an account of the exerciſes performed by blind children, in preſence of the king, queen, and royal family, during the Chriſtmas ſolemnities 1786. Thus having given a curſory view of the various topics contained in the eſſay, we proceed to give ſome account of the manner in which the blind print and write.

46 Printing performed by the blind.

The blind compoſitor, then, has a box for every alphabetical character in uſe; on the outſide of theſe boxes are palpably marked the peculiar character belonging to each: they are filled with types, which he chooſes and ſets as they are called for, but not in the poſition in which they are to be read; on the contrary, they are inverted as objects are ſeen painted on the retina of an eye by an optician. Having thus fixed and arranged his types, he chooſes a page of the ſtrongeſt paper that can be found, which he gently moiſtens in a degree ſufficient to render it more eaſily ſuſceptible of impreſſions, without being dilacerated or worn by the ſhock which it muſt afterwards undergo. He then lays it upon the types; and by the cautious operation of the preſs, or by the eaſy ſtrokes of a little hammer, which are frequently repeated over the whole expanſe, he cauſes the impreſſion of the type to riſe on the oppoſite ſide of the paper, where, when dry, it continues not only obvious to the ſight but the touch, and is far from being eaſily effaced. On the upper ſide of the paper the letters appear in their proper poſition, and by their ſenſible elevation above the common ſurface render it practicable for the blind to read them with their fingers.

47 Their manner of writing, &c.

Their manner of writing is analogous to this operation: the pupil, by repeated experiments, having familiariſed himſelf to the forms of the letters, both in their inverted and in their proper poſition, gradually learns to delineate them upon paper, moiſtened as before, with the point of an iron pen, which has no ſplit, and which is juſt ſharp enough to impreſs without piercing the paper: thus, on the ſide next to the writers hand, the letters are formed ſunk and inverted; but when the paper is turned they appear right and *in relievo*. Thus the blind are enabled to form and decypher, not only the characters required in common language, but alſo mathematical diagrams, arithmetical and geographical proceſſes, and all the characters uſed in the written language of muſic. If this account ſhould appear incredible to any of our readers, let him be informed, that the author of this article has converſed with two gentlemen of learning and veracity who ſaw the blind perform all the wonders here recapitulated with aſtoniſhing ſucceſs, to the univerſal ſatisfaction of numberleſs ſpectators whom curioſity and compaſſion impelled to viſit the academy, that they might behold with their own eyes a ſpectacle ſo intereſting to humanity. Let the incredulous be alſo informed, that the compoſer of the article has in his own hands a copy of this work now reviewed, which is printed and bound by the blind themſelves. They exhibit at their own academy every Wedneſday and Saturday between one and two o'clock at noon, to crowds of charitable adadmirers, by whoſe liberal donations the inſtitution is now chiefly ſupported.

48 The blind ſuſceptible of aſtronomy. The knowledge of aſtronomy might likewiſe be of infinite uſe, both by enlarging the blind perſon's ideas of the univerſe, and by giving him higher and more confirmed impreſſions of that energy by which the ſtars are moved, and of that deſign by which their motions are regulated. But theſe objects are too vaſt: their diſtances, their magnitudes, their periods of revolution, are too complex to be comprehended in the mind, or impreſſed in the memory, without ſenſible mediums. For this purpoſe an orrery, or ſome machine of a ſimilar conſtruction, will be indiſpenſably requiſite.

49 Of natural philoſophy. The ſcience of cauſes and effects might likewiſe yield him the moſt ſublime and rational entertainment of which an intelligent being, in his preſent ſtate, is ſuſceptible. By this he might enter into the laws, the viciſſitudes, the œconomy, of nature. Nor is it abſolutely neceſſary that he ſhould be an ocular witneſs of the experiments by which theſe laws are detected and explained. He may ſafely take them for granted; and if, at any time, a particular experiment ſhould prove faithleſs, he may, from general principles, be able to diſcover its fallacy, whether in the nature of the ſubject, the inaptitude of the inſtruments, or the proceſs of the execution. The laws of motion, the various ratios or proportions of forces whether ſimple or compound, he may calculate and aſcertain by the ſame means and in the ſame method ſo happily uſed by Sanderſon.

50 Of moral philoſophy and theology. Moral and theological knowledge he may eaſily obtain, either from books or inſtructions delivered *viva voce*. The laſt, if communicated by one who underſtands and feels the ſubject, with a proper degree of perſpicuity and ſenſibility, are infinitely the moſt eligible. By morals, we would not merely be underſtood to mean a regular and inculpable ſeries of action, but the proper exertion and habitual arrangement of the whole internal œconomy, of which external actions are no more than mere expreſſions, and from which the higheſt and moſt permanent happineſs alone can proceed. By theology, we do not mean that ſyſtematic or ſcholaſtic jargon, which too frequently uſurps its venerable name; but thoſe ſublime and liberal ideas of the nature and government of a Supreme Being, whether diſcoverable by nature or revealed in Scripture, which enforce every moral obligation, which teach us what is the ultimate good of our nature, which determine our efforts and animate our hopes in purſuing this moſt important of all objects. What Cicero ſays of the arts and ſciences may with great propriety be applied to religion: *Nam cætera neque temporum ſunt, neque ætatum omnium, neque locorum; et hæc ſtudia adoleſcentiam alunt, ſenectutem oblectant, ſecundas res ornant, adverſis perfugium ac ſolatium præbent: delectant domi, non impediunt foris; pernoctant nobiſcum, perigrinantur, ruſticantur.* Tranſlated thus: 'For other ſtudies are not ſuited to every 'time, to every age, and to every place: but theſe give 'ſtrength in youth, and joy in old age; adorn proſperity, and are the ſupport and conſolation of adverſity; 'at home they are delightful, and abroad they are 'eaſy; at night they are company to us; when we 'travel, they attend us; and in our rural retirements, 'they do not forſake us.'

To this may be added, that the joys of religion are for ever adequate to the largeſt capacity of a finite and progreſſive intelligence; and as they are boundleſs in extent, ſo they are endleſs in duration. We have already, more than once, obſerved, that the ſoul of a blind man is extremely obnoxious to melancholy and dejection. Where, therefore, can he find a more copious, intimate, permanent, and efficacious ſource of comfort than in religion? Let this then be inculcated with the utmoſt care and aſſiduity. Let the whole force of the ſoul be exerted in ſhowing him that it is reaſonable. Let all the nobleſt affections of the heart be employed in recommending it as amiable; for we will venture to aſſert, that the votary of religion alone is the man,—

Quem, ſi fractus illabatur orbis,
Impavidum ferient ruinæ:

Thus tranſlated;

Whom, though with nature's wreck oppreſs'd,
Unmanly fears could ne'er infeſt.

When the ſituation of the blind, and its natural effects upon their characters are conſidered; when we reflect how exquiſite their diſtreſſes, how pungent their diſappointments, how ſenſible their regrets, how tedious and gloomy their periods of ſolitude; we muſt be wretches indeed, if we can grudge either labour or expenſe in procuring them every ſource of entertainment, which, when procured, remains in their own power, and yields what may be in ſome meaſure termed *ſelf-derived enjoyment*. Theſe amuſements are prolific of numberleſs advantages: they afford us at once entertainment and exertion; they teach us to explore a thouſand reſources for preſervation and improvement, which would otherwiſe have eſcaped our attention; they render us awake and ſenſible to a thouſand notices both of external and intellectual objects, which would otherwiſe have paſſed unobſerved.

Thus far have we proceeded without mentioning philological learning; though we know it to be attainable by the blind in a high degree, and though we are conſcious of its importance both to their uſe and ornament. But as it is not indiſpenſable, and as its acquiſition is tedious and operoſe, we thought it leſs neceſſary to be early and minutely ſpecified. We cannot doubt, that learning different languages adds to the treaſure of our ideas, and renders thoſe which we poſſeſs more clear and definite. It muſt be acknowledged, that the poſſeſſion of other languages elucidates our own. The technical terms of almoſt every ſcience are exotic; and without clearly underſtanding thoſe, we cannot properly poſſeſs the ideas of which they are the vehicles. But theſe motives are common to every candidate for philological improvement with the blind.

51 Of grammar. The paths of grammar, however, are dry and rugged; and it will be neceſſary for the pedagogue, whoever he is, to take all the opportunities that offer of enlightening the darkneſs and poliſhing the aſperities of the road. When, therefore, the intellect of the pupil begins to open and exert its penetration, it will

be proper to ſhow him how the nature, the forms, and arrangements, of words, flow from our ideas and their relations. Every ſubſtance muſt naturally be in ſome ſtate; it muſt either act, or be acted upon. The actions which it performs or ſuffers muſt be performed or ſuffered in ſome definite manner or degree. It muſt likewiſe have ſome qualities, whether temporary and accidental, or natural and permanent. Theſe qualities muſt likewiſe be ſuſceptible of degrees. When different ſubſtances are conſidered in the ſame ſtate, its common participation forms a connection; when regarded in different ſtates, that difference forms an oppoſition. The conſtant repetition of the names of ſubſtances and qualities produces a diſagreeable monotony in language. They muſt therefore be implied in other words, which likewiſes in ſome caſes ſerve to connect the parts of a ſentence. There is a difference between ſuch words as imply the connection of ſentences, and ſuch as imply the connection of ſtates or circumſtances. Actions to be performed or ſuffered may be either poſitively affirmed of any ſubſtance, or merely attributed to them. Living and percipient ſubſtances have immediate ſenſations of pain or pleaſure, which likewiſe are productive of deſire and averſion. To theſe ſentiments particular ſounds are adapted, whether immediately inſpired by nature, or reſulting from aſſociation and tacit convention.

Thus we have a foundation for all the different parts of ſpeech; and from their natures and offices their forms and arrangements may be deduced, according to the analogy of every language.

52 The blind ſuſceptible of logic, hiſtory, and the belles lettres.

The art of reaſoning, the knowledge of hiſtory, and a taſte for the *belles lettres*, are eaſily attainable by the blind; and as they are copious funds of entertainment, they ſhould be inculcated, though at the expence of care and labour.

53 A companion ſhould be united to the blind by more than the ties of intereſt and conveniency.

The relations of perſons ſubjected to this misfortune, if in eaſy circumſtances, will find it highly conducive to the improvement of their charge, to ſelect ſome one among his coevals, of a ſound underſtanding, a ſweet and patient temper, a docile mind, a warm heart, and a communicative diſpoſition. Theſe two ſhould be taught to find their intereſt and happineſs in their connection one with another. Their bed, their board, their walks, their entertainments, their leſſons, ſhould be common. Theſe are the beſt eyes with which art can endow a blind man: and if properly ſelected, they will on ſome occaſions yield very little, in utility and perfection, to thoſe of nature; nay, at ſome junctures they may be preferable.

54 Muſic one of the moſt proper employments for the blind. Mediocrity, however, pernicious,

If the blind muſt depend upon the exerciſe of their own powers for bread, we have already pointed out muſic as their eaſieſt and moſt obvious province; but let it at the ſame time be remembered, that mediocrity in this art may prove the bittereſt and moſt effectual curſe which a parent can inflict upon his offspring, as it ſubjects them to every vicious impreſſion or habit which may be imbibed or contracted from the loweſt and moſt abandoned of mankind. If your pupil, therefore, be not endowed with natural talents exquiſitely proper both for the theory and practiſe of this art, ſuffer him by no means to be initiated in it. If his natural genius favours your attempts, the ſpinnet, harp, or organ, are the moſt proper inſtruments for him to begin; becauſe by theſe inſtruments he may be made more eaſily acquainted with the extent of muſical ſcales, with the powers of harmony, with the relations of which it is conſtituted, and of courſe with the theory of his art. It would not only be unneceſſary, but impracticable to carry him deep into the theory, before he has attained ſome facility in the practice. Let, therefore, his head and his hands (if we may uſe the expreſſion), be taught to go *pari paſſu*. Let the one be inſtructed in the ſimpleſt elements, and the others conducted in the eaſieſt operations, firſt: contemplation and exerciſe will produce light in the one and promptitude in the other. But as his capacity of ſpeculation and powers of action become more and more mature, diſcoveries more abſtract and retired, taſks more arduous and difficult, may be aſſigned him. He ſhould be taught the names and gradations of the diatonic ſcale, the nature and uſe of time, the diverſity of its modes whether ſimple or mixed. He ſhould be taught the quantity or value of notes, not only with reſpect to their pitch, but to their duration. Yet, let him be inſtructed not to conſider theſe durations as abſolutely fixed, but variable according to the velocity of the movements in which they are placed. Thus we reckon a ſemibreve equal to 4 vibrations of a pendulum; a minim to 2; a crotchet to 1, &c. But if the number of aliquot parts, into which a ſemibreve is divided, be great, and conſequently the value of each particular part ſmall, the minim, crotchet, quaver, &c. will increaſe in their intrinſic durations, though they muſt always preſerve the ſame proportions relatively one to another. He ſhould never be habituated to take a piece of muſic, either from the ſound of a voice or an inſtrument. His companion ought to read the muſic by the names and values of its characters, with the ſame exactneſs as the words in any other language. When he becomes a conſiderable adept in the art, tangible ſigns may be invented, by which he may not only be enabled to read, but even to ſet, muſic for himſelf. Such exerciſes will render him infinitely more accurate, both in his principles and practice, than he would otherwiſe be.

There is a hint of ſuch tangible ſigns given in Tanſure's muſical grammar, p. 23. and which though (like the reſt of the book) obſcure and indigeſted, may be improved and applied with advantage.

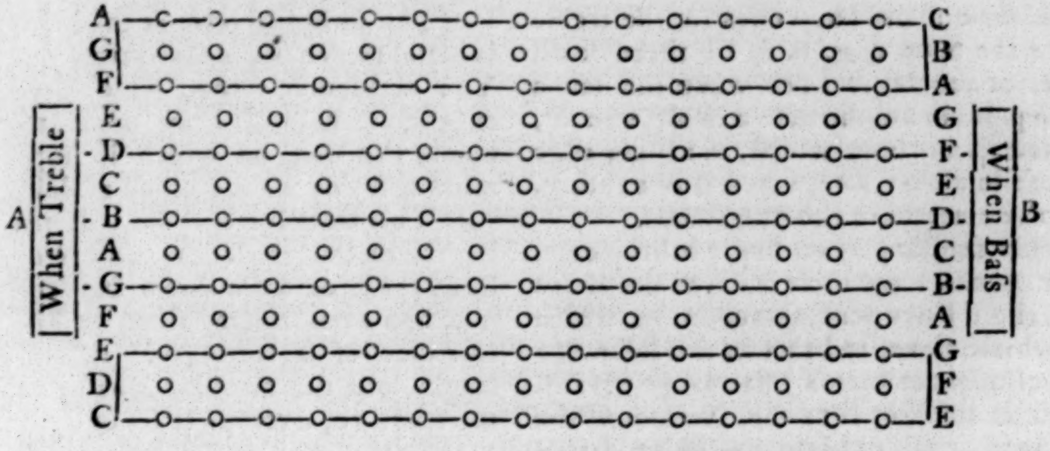
55 Scheme of muſical notation,

For the ſake of thoſe in whoſe hands it may not be, we quote the paſſage at length.

"As it is the pleaſure of the Almighty, that ſome perſons are deſtitute of *eye-ſight*; in like manner it is his infinite goodneſs to make them a double amends another way, by giving them a greater ſhare of memory, &c. whereby they become very dexterous in playing on muſical inſtruments, mathematics, &c. as we may obſerve by Dr Stanley organiſt of St Andrew's, Holburn, in London, the blind profeſſor of mathematics in the univerſity of Cambridge, and many others too tedious here to mention, who were born *blind*, and never ſaw the leaſt glance of light; yet God gave them ſuch a light in *knowledge*, that they become the wonder of all ſuch as had the benefit of ſeeing, &c.

"And as *blind perſons*, at firſt, cannot poſſibly have ſo clear an idea of *notes* and *muſical characters*, as they that ſee them, until they are taught by the maſter or tutor; I have (for the good-will I bear to ſuch unfortunate perſons) contrived the following table; that, by *feeling*, they may underſtand notes, and learn any tune that ſhall be ſet them, in their maſter's abſence.

A New MUSIC-TABLE *for ſuch as are* BLIND.



EXPLANATION.

"Let A—B be a ſmooth board, 3 or 4 feet long, 1 inch thick, and 9 inches wide, with 5 ſquare ledges glued thereon, each being half an inch aſunder, half an inch wide, and half an inch high; which riſing ledges repreſent our 5 lines of muſic, and their ſpaces: and the two outward lines, being made a little lower, may ſerve as leger lines, on occaſion. The cyphers repreſent ſo many holes bored into every line and ſpace, half an inch aſunder; wherein *pegs* of different ſhapes are to be ſet, to repreſent the ſeveral ſorts of notes and characters of the tune: which pegs the blind perſon may know by feeling, as well as he does his keys of the organ or harpſichord: ſo that, by keeping his fingers on the 5 lines, he feels the ſeveral pegs as they come on, and are ſet to repreſent the ſeveral ſorts of notes, on both line and ſpace; whilſt his right hand ſtrikes the reſpective key, &c. he firſt knowing the names of all his keys, his lines, ſpaces, and the mark of every peg. Let each peg be about half an inch high, when ſet in very faſt. [N. B. The blind perſon muſt firſt be taught the names of the above lines and ſpaces in both the treble and baſs cliffs; and that he muſt feel his treble with his right hand, and his baſs with the left hand; each being contrary, as you may ſee by the letters of the above table, A and B; and muſt learn each part ſeparate.]

"Of pegs, he muſt have a great number of every ſort, to ſet his tune with, which he may mark as follows:

For a *Semibreve*, 4 top-notches.
Minim, 2 top-notches.
Crotchet, 1 top-notch.
Quaver, one corner cut off.
Semiquaver, 2 corners cut off.
Demiſemiquaver, all 4 corners cut off.
Reſts, a notch in the corner.
A *Flat*, 1 notch on the ſide.
Sharp, 2 notches on the ſide.
Point, 3 notches on the ſide.
Bar, a flat thin top.
Repeat, a ſharp-pointed top, &c. &c. &c.

"But it is beſt for every performer to make and mark his own pegs; and deliver them one by one as they are called for by the perſon that ſets his *tune*."

Thus far our author. We have already complained, that Tanſure's Muſical Notation is imperfect; and perhaps every table or inſtrument of the ſame kind may be liable to the ſame cenſure, as not being comprehenſive of all the characters in the written language of muſic, ſo that the blind reader may find no deficiency in acquiring any leſſon: yet as the cuſhion of Mr Cheeſe appears to have more powers than any other inſtrument for the ſame purpoſe that has hitherto occurred to our obſervation, though attended with many formidable objections, we here inſert it. It may poſſibly, however, be beſt for every blind adept in the muſical art, after being ſufficiently inſtructed in its theoretical and practical principles, to invent for himſelf a table, by which may be expreſſed all the various phenomena of muſic, in which, by varying the forms and poſitions of his pegs, he may habitually aſſociate them with ſounds, durations, reſts, intervals, chords, cadences, da capos, repeats, and all the various graces which give animation and expreſſion to muſical ſounds: for thus, being the immediate creatures of his own imagination, they will more eaſily become familiar to his memory, and be more ſtrongly and readily aſſociated with the phenomena which they are intended to ſignify, than if he had aſſumed the inventions of any other.

56
Cheeſe's machine,
PlXCVIII.
fig. 9.

Mr Cheeſe's deſcription of his machine for teaching muſic to people deprived of ſight, and to enable them to preſerve their compoſitions, in the act of compoſing, without the aſſiſtance of a copyiſt.—"That part of the machine which repreſents the book, or paper, is a ſmall cuſhion ſtuffed, on a little frame; along which, is ſewed a number of pack-thread ſtrings at equal diſtances from each other; theſe repreſent the lines in a muſic book: the five which compoſe the ſtave, are made of large twine; and thoſe which repreſent the leger or occaſional lines, drawn through the heads of the notes, where the muſic exceeds the compaſs of the eſtabliſhed ſtave, are made of ſmall twine, and are on this machine of the ſame length as the others.

"If the practitioner only wiſhes to write harpſichord muſic, the cuſhion may be what length he pleaſes, and about five or ſix inches wide: the ſtrings muſt be ſewed in the following order; beginning with the firſt or loweſt, near the edge of the cuſhion; four ſmall ones, which correſpond with the notes in the baſe of the inſtrument ff, rr, cc, ee: Next five large ones, for the ſtave which correſpond with the lines in the book, or notes in the inſtrument, g. b, d, f, r; one ſmall one, which repreſents the occaſional line between the baſe and treble, or middle c; five large ones for the treble ſtave, which make the notes e, g, b, d, f; three ſmall ones, which repreſent the leger lines when the muſic goes in alt. Theſe provide for the note a in alt, c in alt, and e in alt; in the ſpace above which, next the edge of the cuſhion, the f in alt is wrote, when it is wanting, which completes the compaſs of the inſtrument.

“ Thoſe who only ſing or play on ſingle inſtruments, ſuch as violins, &c. ſhould have their cuſhions not above half the width of thoſe before-mentioned, upon which there ſhould be but one ſtave, and that in the following order:—Two ſmall lines at bottom, five large ones in the middle, and three ſmall ones at top. Neither of the outſide lines of theſe ſmall cuſhions ſhould be ſewed cloſe to the edge, as there are notes ſuppoſed above and below. At either end of theſe ſmall cuſhions, there ſhould be a ſmall wire ſtaple, in order that any number of them may be combined together at pleaſure, by running a rod through the ſtapes: this will enable the practitioner to write what muſicians call Score, in any number of parts he pleaſes; and by that means a thorough knowledge of the great works of Handel, and all other claſſical authors, may be acquired as well without ſight as with it.

“ The characters uſed to write on this machine are pins; ſome with two, three, or more heads; others bent in different forms—ſome, the heads taken off and the top beat flat; ſome of theſe are ſplit; others the heads taken off, and placed near the middle. The bars are pieces of wire crooked at each end; a double bar is made by placing two ſingle ones cloſe together; a double ſharp and double flat in the ſame manner.

“ The characters are kept in a box in the ſame ſtyle as the printer keeps his types; each different compartment of which muſt be marked with a character in writing, ſignifying what each, contained in the ſeveral compartments, is intended to repreſent. That the maſter may be acquainted with them, the ſtudent muſt be taught to diſtinguiſh each of the characters contained in the box by the feel, as well as the names of each line and ſpace upon the cuſhion. When he can do this readily, ſome muſic ſhould be read to him, which it will be well for him to copy on the cuſhion: and when that is filled, let it be laid on the deſk of the harpſichord before him; and then by feeling over a paſſage or ſentence at a time, and afterwards playing it, his playing always commencing with the beginning of the piece, or at ſome particular part of it, this will ſoon enable him to recollect the whole, when the hands are taken off the cuſhion, to play what has been laſt felt. One of thoſe characters, called a direct, muſt be placed againſt the note to be next felt: This will enable the ſtudent to go on again, after playing, without any difficulty. The perſon who reads the muſic, muſt be inſtructed not to call the lines or ſpaces by the letters which diſtinguiſh them, leſt confuſion may enſue, every eighth being the ſame; but muſt read in the following manner: firſt the name of the character muſt be mentioned, whether minim, crotchet, or quaver, &c. then the line or ſpace; as for example, minim on the firſt line, crotchet on the firſt ſpace, quaver on the ſecond, &c. &c. When the muſic exceeds the compaſs of the ſtave, it muſt be particularly mentioned whether above or below, firſt calling the character, then the leger line or ſpace.

“ The technical term at the beginning of each piece, is better remembered than wrote down on the machine: The accidental terms, which are beſt marked by placing ſome character, not much uſed, either above or below the note on which it happens, the ingenious mind will find out a method of doing for itſelf.

“ This machine will not only teach muſic; but calling the characters letters, any one will be enabled to ſpell, read, or write down his ſentiments on any ſubject, and even convey them to his frind without the aſſiſtance of a ſecretary. Arithmetic may be alſo taught upon this machine; as by calling the dot 1, and the pauſe 10, a complete ſet of figures will be formed.

“ *Explanation of the figures.* A, B, C, D, the form of the cuſhion, which in its full ſize is about three feet long, and five inches and three quarters wide, having thereon a repreſentation of muſical notes, ſhown by different pins ſtuck on it. The lines a, b, c, d, e, are of large packthread; and the lines, f, g, h, are of ſwall twine.

“ Pins, nº 1. A ſemibreve. 2. A ſemibreve reſt. 3. A minim. 4. A minim reſt. 5. Dots. 6. A crotchet. 7. A crotchet reſt. 8. A quaver. 9. A quaver reſt. 10. A ſharp. 11. A ſemiquaver, 12. A ſemiquaver reſt. 13. A demiquaver. 14. A demiquaver reſt. 15. A flat. 16. A demiſemiquaver. 17. A demiſemiquaver reſt. 18. A ſemidemiquaver. 19. A ſemidemiquaver reſt. 20. A natural. 21. Bars. 22. A direct. 23. A tye. 24. Baſs. 25. Tenor cliff. 26. Treble cliff. 27. A repeat. 28. Pauſe. 29. This character placed on any line or ſpace, ſignifies as many notes on that line or ſpace as there are doubles on the pins; if turned upwards, it implies the ſame number aſcending; if downward, that number deſcending. 30. A beat or inverted ſhake. 31. A ſhake; and where there is a dot placed over it, ſignifies a turned ſhake. Two dots placed over each other, above the notes, without this character, ſignify a turn only. 32. This character is uſed over the note to ſignify *forte*; and if a dot is placed above it, *fortiſſimo*: if the dot is placed above the note and below the character, it implies *creſcendo*; if the character is placed below the note, it ſignifies *piano*; and if a dot is placed under it, *pianiſſimo*; but if the dot is above the character, and below the note, it ſignifies *diminuendo*. In concertos, the inventor uſes the ſame character placed above the note in the ſame manner, with two dots over it to ſignify *toote*; and below the notes, with two dots under it to ſignify *ſolo*: in vocal muſic, the ſame character above the notes, with three dots over it, ſignifies *ſymphony*; and below the notes, with three dots under it, ſignifies *ſong*.”

It is certain, that when playing concertos, or, if you pleaſe, when performing in *ſcore*, the blind muſt depend upon memory, and upon memory alone: but happily their retentive powers are remarkably ſtrong; and there are few pieces in muſic which will be found either too intricate to be acquired, or too long to be remembered, by a perſon deprived of ſight. Mr Stanley, the gentleman formerly mentioned by Tanſure, performs what is ſtill more aſtoniſhing. If our information, which we cannot doubt, be true, he accompanies any leſſon with a thorough baſs, though he never has heard it before. We have never yet heard of any perſon, though bleſſed with the full uſe of ſight, and with all the advantages accruing from it, who could thus anticipate harmony before the chords were ſounded, and accompany it in a manner ſuitable to its nature.

When he becomes a more profound theoriſt, if he has adopted the notion that muſic and geometry are congenial and inſeparable (which, however, in our judgment is frivolous), he may peruſe Malcom's Eſſay on Muſic, and Treydell's Theory and Practice of Muſic. But if he chooſes to hear the ſame principles delivered without that unneceſſary parade and oſtentation of profundity, let him be inſtructed by D'Alembert (ſee the article Music in this Dictionary); by Rameau in his principles of compoſition; and by Rouſſeau's Muſical Dictionary) the ſubſtance of which is engroſſed in the preſent Work, either under the reſpective detached articles, or in the notes added to the article Music). It is true, that the forms and proportions of inſtruments, the thickneſs, length, and tenſion of muſical ſtrings, may be mathematically adjuſted; their relations one to another may be determined by the coincidence or their vibrations, or by the number and velocity of theſe vibrations when diſſonant; but experience and a good ear are amply ſufficient for theſe purpoſes. Yet, if the neceſſity of geometry in muſic ſhould ſtill remain an indelible article in his creed, he may peruſe Dr. Smith's Philoſophical Principles of Harmony. There has alſo lately been publiſhed an explication of Tartini's theory, intitled, *The Principles and Power of Harmony*; which, after he has made conſiderable progreſs, may be read to him with ſenſible improvement.

57 Apoſtrophe to the public.

Thus we have endeavoured to form an eſtimate of the inconveniences ſuffered, and the advantages poſſeſſed, by the blind; we have attempted to ſhow, of what kind of culture their remaining faculties are ſuſceptible, and what appeared to us the eaſieſt and propereſt means of their improvement. We have illuſtrated not only its poſſibility, but its certainty, by inconteſtable facts, which demonſtrate, even in the eyes of ſcepticiſm and incredulity, to what degrees of eminence, both in the mechanical and liberal arts, the blind may be carried. It now remains to demand a categorical anſwer from ſociety, Whether it is more humane and eligible, that ſuch unhappy perſons ſhould be ſuffered to languiſh out their lives in torpid and miſerable obſcurity, wretched in themſelves and burdenſome to others; or to cultivate and improve their powers in ſuch a manner, as that they may be qualified for internal enjoyment and public utility. Surely there is not a human being, who does not diſgrace the works of God, that can be at any loſs in anſwering this queſtion. Have we not then a right to call the world to an account! have we not a right to demand, why rational beings ſuſceptible of felicity in themſelves, and capable of transfuſing happineſs through the ſocieties with whom they are connected, ſhould be abandoned to a ſtate of inſignificance and miſery? Is it poſſible that men who are every moment ſubjected to the ſame contingencies with which they behold their fellow-creatures afflicted, ſhould not with all their ſouls endeavour to alleviate the misfortunes of their ſuffering brethren? Is the native and hereditary portion of human woe ſo light and ſupportable in itſelf, that we ſhould neglect and deſpiſe thoſe to whom it is embittered by accidental circumſtances of horror and diſtreſs? You who are parents, who feel the ſtrong and powerful pleadings of nature, do not, by a brutal negligence and inſenſibility, render the exiſtence which you have given a curſe to its poſſeſſors. Do not give them reaſon to upbraid your memory; and to anſwer thoſe who aſk what patrimony you have left them, that their ſole inheritance was ignorance, incapacity, and indigence. You men of wealth and eminence, you whom Providence has rendered conſpicuous on the theatre of nature, to whom it has given the nobleſt opportunities of participating the divine beatitude by the exerciſe of univerſal benevolence and genuine patriotiſm; yours is the glorious province of bringing neglected merit from obſcurity, of healing the wounds inflicted by adverſe fortune, and of cultivating theſe talents which may be exerted for your own advantage and the honour of your ſpecies. Thus you ſhall riſe in the heraldry of heaven, and your names diffuſe a luſtre through the extent of ſpace and the archives of eternity. Otherwiſe the temporary glare and parade of your ſituation can produce nothing elſe but a deſpicable mimicry of real and intrinſic greatneſs, and are no more than a ſplendid maſk to cover what in itſelf is infamous or deteſtable.

By way of appendix to the preceding article, we ſhall add one or two very ſingular hiſtories, with which it is hoped our readers will not be diſpleaſed.

An account of ſome remarkable particulars that happened to a lady after having had the confluent kind of ſmall-pox.] "In the courſe of this diſeaſe, during which the lady was attended by the late Sir Hans Sloane, ſeveral threatening ſymptoms appeared, which however were at length overcome; and the patient being thought out of danger, took ſeveral doſes of ſuch purgative medicines as are uſually adminiſtered in the decline of the diſeaſe, without any bad conſequence.

"But in the evening of the day on which ſhe had taken the laſt doſe that was intended to be given her on that occaſion, ſhe was ſuddenly ſeized with pains and convulſions in the bowels; the pain and other ſymptoms became gradually leſs violent as the force of the medicine abated, and by ſuch remedies as were thought beſt adapted to the caſe, they ſeemed at length to be entirely ſubdued.

"They were, however, ſubdued only in appearance; for at eleven o'clock of the forenoon of the next day they returned with great violence, and continued ſome hours; when they went off, and left the muſcles of the lower jaw ſo much relaxed, that it fell down, and the chin was ſupported on the breaſt. The ſtrength of the patient was ſo much exhauſted during this paroxyſm, that ſhe lay near two hours with no other ſigns of life than a very feeble reſpiration, which was often ſo difficult to be diſcerned, that thoſe about her concluded ſhe was dead.

"From this time the fits returned periodically every day, at about the ſame hour. At firſt they ſeemed to affect her nearly in the ſame degree; but at length all the ſymptoms were aggravated, the convulſions became more general, and her arms were ſometimes convulſed alternately; it alſo frequently happened, that the arm which was laſt convulſed remained extended and inflexible ſome hours after the ſtruggles were over. Her neck was often twiſted with ſuch violence, that the face looked directly backwards, and the back part of the head was over the breaſt; and the muſcles of the countenance were alſo ſo contracted and writhed by the ſpaſms, that the features were totally changed, and it was impoſſible to find any reſemblance of her natural aſpect by which ſhe could be known. Her feet were not leſs diſtorted than her head; for they were twiſted almoſt to diſlocation at the inſtep, ſo that ſhe could not walk but on her ancles.

“ To remove or mitigate theſe deplorable ſymptoms, many remedies were tried; and, among others, the cold bath: but either by the natural effect of the bath, or by ſome miſmanagement in the bathing, the unhappy patient firſt became blind, and ſoon afterwards deaf and dumb. It is not eaſy to conceive what could increaſe the miſery of deafneſs, dumbneſs, blindneſs, and frequent paroxyſms of excruciating pain: yet a very conſiderable aggravation was added: for the loſs of her ſight, her hearing, and her ſpeech, was followed by ſuch a ſtricture of the muſcles of her throat, that ſhe could not ſwallow any kind of aliment either ſolid or liquid. It might reaſonably be ſuppoſed that this circumſtance, though it added to the degree of her miſery, would have ſhortened its duration: yet in this condition ſhe continued near three quarters of a year: and during that time was ſupported in a very uncommon manner, by chewing her food only; which having turned often, and kept long in her mouth, ſhe was obliged at laſt to ſpit out. Liquors were likewiſe gargled about in her mouth for ſome time; and then returned in the ſame manner, no part of them having paſſed the throat by an act of deglutition: ſo that whatever was conveyed into the ſtomach, either of the juices of the ſolid food, or of liquids, was either gradually imbibed by the ſpongineſs of the parts, which they moiſtened, or trickled down in a very ſmall quantity along the ſides of the veſſels.

“ But there were other peculiarities in the caſe of this lady, yet more extraordinary. During the privation of her *ſight* and *hearing*, her *touch* and her *ſmell* became ſo exquiſite, that ſhe could diſtinguiſh the different colours of ſilk and flowers, and was ſenſible when any ſtranger was in the room with her.

“ After ſhe became blind, and deaf, and dumb, it was not eaſy to contrive any method by which a queſtion could be aſked her, and an anſwer received. This however was at laſt effected, by talking with the fingers, at which ſhe was uncommonly ready. But thoſe who converſed with her in this manner, were obliged to expreſs themſelves by touching her hand and fingers inſtead of their own.

“ A lady who was nearly related to her, having an apron on, that was embroidered with ſilk of different colours, aſked her, in the manner which has been deſcribed, if ſhe could tell what colour it was? and after applying her fingers attentively to the figures of the embroidery, ſhe replied that it was red, and blue, and green, which was true. The ſame lady having a pink coloured ribbon on her head, and being willing ſtill further to ſatisfy her curioſity and her doubts, aſked what colour that was? her couſin, after feeling ſome time, anſwered that it was pink colour: this anſwer was yet more aſtoniſhing, becauſe it ſhowed not only a power of diſtinguiſhing different colours, but different kinds of the ſame colour; the ribbon was not only diſcovered to be red, but the red was diſcovered to be of the pale kind called a *pink*.

“ This unhappy lady, conſcious of her own uncommon infirmities, was extremely unwilling to be ſeen by ſtrangers, and therefore generally retired to her chamber, where none but thoſe of the family were likely to come. The ſame relation, who had by the experiment of the apron and ribbon diſcovered the exquiſite ſenſibility of her *touch*, was ſoon after convinced by an accident, that her power of *ſmelling* was acute and refined in the ſame aſtoniſhing degree.

“ Being one day viſiting the family, ſhe went up to her couſin's chamber, and after making herſelf known, ſhe intreated her to go down, and ſit with her among the reſt of the family, aſſuring her, that there was no other perſon preſent: to this ſhe at length conſented, and went down to the parlour door; but the moment the door was opened, ſhe turned back, and retired to her own chamber much diſpleaſed: alleging, that there were ſtrangers in the room; and that an attempt had been made to deceive her: it happened indeed that there were ſtrangers in the room; but they had come in while the lady was above ſtairs, ſo that ſhe did not know they were there. When ſhe had ſatisfied her couſin of this particular, ſhe was pacified; and being afterwards aſked how ſhe knew there were ſtrangers in the room, ſhe anſwered by the ſmell.

“ But though ſhe could by this ſenſe diſtinguiſh in general between two perſons with whom ſhe was well acquainted and ſtrangers, yet ſhe could not ſo eaſily diſtinguiſh one of her acquaintance from another without other aſſiſtance. She generally diſtinguiſhed her friends by feeling their hands; and when ſhe came in, they uſed to preſent their hands to her, as a mean of making themſelves known: the make and warmth of hand produced in general the differences that ſhe diſtinguiſhed: but ſometimes ſhe uſed to ſpan the wriſt, and meaſure the fingers. A lady, with whom ſhe was very well acquainted, coming in one very hot day, after having walked a mile, preſented her hand as uſual; ſhe felt it longer than ordinary, and ſeemed to doubt whoſe it was; but after ſpanning the wriſt, and meaſuring the fingers, ſhe ſaid, ‘ It is Mrs M. but ſhe is warmer to-day than I ever felt her before.

“ To amuſe herſelf in the mournful and perpetual ſolitude and darkneſs to which her diſorder had reduced her, ſhe uſed to work much at her needle; and it is remarkable, that her needle-work was uncommonly neat and exact: among many other pieces of her work that are preſerved in the family, is a pin-cuſhion, which can ſcarce be equalled. She uſed alſo ſometimes to write, and her writing was yet more extraordinary than her needle-work: it was executed with the ſame regularity and exactneſs; the character was very pretty, the lines were all even, and the letters placed at equal diſtances from each other: but the moſt aſtoniſhing particular of all, with reſpect to her writing, is, that ſhe could by ſome means diſcover when a letter had by ſome miſtake been omitted, and would place it over that part of the word where it ſhould have been inſerted, with a caret under it. It was her cuſtom to ſit up in bed at any hour of the night, either to write or to work, when her pain or any other cauſe kept her awake.

“ Theſe circumſtances were ſo very extraordinary, that it was long doubted whether ſhe had not ſome faint remains both of hearing and ſight, and many experiments were made to aſcertain the matter; ſome of theſe experiments ſhe accidentally diſcovered, and the diſcovery always threw her into violent convulſions. The thought of being ſupected of inſincerity, or ſuppoſed capable of acting ſo wicked a part as to feign infirmities that were not inflicted, was an addition to her miſery which ſhe could not bear, and which never failed to produce an agony of mind not leſs viſible than thoſe of her body. A clergyman who found her one evening at work by a table with a candle upon it, put his hat between her eyes and the candle, in ſuch a manner that it was impoſſible ſhe could receive any benefit from the light of it if ſhe had not been blind. She continued ſtill at her work, with great tranquillity: till, putting up her hand ſuddenly to rub her forehead, ſhe ſtruck it againſt the hat, and diſcovered what was doing; upon which ſhe was thrown into violent convulſions, and was not without great difficulty recovered. The family were by theſe experiments, and by ſeveral accidental circumſtances, fully convinced that ſhe was totally deaf and blind; particularly by ſitting unconcerned at her work, during a dreadful ſtorm of thunder and lightning, though ſhe was then facing the window, and always uſed to be much terrified in ſuch circumſtances. But Sir Hans Sloane, her phyſician, being ſtill doubtful of the truth of facts which were ſcarce leſs than miraculous, he was permitted to ſatisfy himſelf by ſuch experiments and obſervations as he thought proper; the iſſue of which was, that he pronounced her to be abſolutely deaf and blind.

“ She was at length ſent to Bath, where ſhe was in ſome meaſure relieved; her convulſions being leſs frequent, and her pains leſs acute: but ſhe never recovered her ſpeech, her ſight, or her hearing in the leaſt degree.

“ Many of the letters dated at Bath, in ſome of which there are inſtances of interlineations with a caret, the writer of this narrative hath ſeen, and they are now in the cuſtody of the widow of one of her brothers, who, with many other perſons, can ſupport the facts here related, however wonderful, with ſuch evidence as it would not only be injuſtice, but folly, to diſbelieve.”

An account of a French lady, blind from her infancy, who can read, write, and play at cards, &c.]—“A young gentlewoman of a good family in France, now in her 18th year†, loſt her ſight when only two years old, her mother having been adviſed to lay ſome pigeons blood on her eyes, to preſerve them in the ſmall-pox; whereas, ſo far from anſwering the end, it eat into them. Nature, however, may be ſaid to have compenſated for the unhappy miſtake, by beauty of perſon, ſweetneſs of temper, vivacity of genius, quickneſs of conception, and many talents which certainly much alleviate her misfortune.

“ She plays at cards with the ſame readineſs as others of the party. She firſt prepares the packs allotted to her, by pricking them in ſeveral parts; yet ſo imperceptibly, that the cloſeſt inſpection can ſcarce diſcern her indexes. She ſorts the ſuits, and arranges the cards in their proper ſequence, with the ſame preciſion, and nearly the ſame facility, as they who have their ſight. All ſhe reqires of thoſe who play with her, is to name every card as it is played; and theſe ſhe retains ſo exactly, that ſhe frequently performs ſome notable ſtrokes, ſuch as ſhow a great combination and ſtrong memory.

“ The moſt wonderful circumſtance is, that ſhe ſhould have learned to read and write; but even this is readily believed on knowing her method. In writing to her, no ink is uſed, but the letters are pricked down on the paper; and by the delicacy of her touch, feeling each letter ſhe follows them ſucceſſively, and reads every word with her finger ends. She herſelf in writing makes uſe of a pencil, as ſhe could not know when her pen was dry; her guide on the paper is a ſmall thin ruler and of the breadth of her writing. On finiſhing a letter, ſhe wets it, ſo as to fix the traces of her pencil, that they are not obſcured or effaced; then proceeds to fold and ſeal it, and write the direction: all by her own addreſs, and without the aſſiſtance of any other perſon. Her writing is very ſtraight, well cut, and the ſpelling no leſs correct. To reach this ſingular mechaniſm, the indefatigable cares of her affectionate mother were long employed, who accuſtomed her daughter to feel letters cut in cards or paſte-board, brought her to diſtinguiſh an A from a B, and thus the whole alphabet, and afterwards to ſpell words; then, by the remembrance of the ſhape of the letters, to delineate them on paper; and, laſtly, to arrange them ſo as to form words and ſentences.

“ She has learned to play on the guittar, and has even contrived a way of pricking down the tunes as an aſſiſtance to her memory. So delicate are her organs, that in ſinging a tune, though new to her, ſhe is able to name the notes.

“ In figured dances ſhe acquits herſelf extremely well, and in a minute with inimitable eaſe and gracefulneſs. As for the works of her ſex, ſhe has a maſterly hand; ſhe ſows and hems perfectly well; and in all her works ſhe threads the needles for herſelf however ſmall.

“ By the watch her touch never fails telling her exactly the hour and minute.”

From this account, however, it would appear, that except reading and writing, the French lady has nothing to boaſt of in which ſhe is not excelled by Mr Stanley already mentioned, if we may credit all that is reported of him. The works peculiar to her ſex are gained mechanically; but the *diſtinguiſhing colours*, telling the preciſe time by a watch, naming the notes in muſic, and many other things depending upon the ear and touch, are ſaid to be familiar to him, that his friends ceaſe to think them extraordinary. Attainments ſtill more wonderful are aſcribed to him; as, the naming the number of perſons in a room on entering it; the directing his voice to each perſon in particular, even to ſtrangers when they have once ſpoken; the miſſing any perſon abſent, and telling who that perſon is; and, laſtly, his being able to form juſt conceptions of youth, beauty, ſymmetry, and ſhape.

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† *Annual Regiſter* for 1762.

Pore-Blind, or *Pur-blind*. A perſon who is very ſhort-ſighted is ſaid to be *pur-blind*.

Moon-Blind, denotes horſes that loſe their ſight at certain times of the moon. See Farriery.

Blind-Harry. See *Henry the Minſtrel*.

Blind-Worm. See Anguis.

BLIND, among mineraliſts, a ſpecies of lead-marcaſite, by our miners called mock ore, mock-lead, and wild lead, &c. The German mineraliſts call it *blende*, whence our denomination *blinde*. It anſwers to what in Agricola is called *Galena inanis*.

It uſually lies immediately over the veins of lead-ore, in the mines which produce it, for it is not found in all. When the miners ſee this, they know the vein of ore is very near.

BLINDS, or Blindes, in the art of war, a ſort of defence commonly made of oziers, or branches interwoven, and laid acroſs between two rows of ſtakes, about the height of a man, and four or five feet aſunder, uſed particularly at the heads of trenches, when they are extended in front towards the glacis; ſerving to ſhelter the workmen, and prevent their being overlooked by the enemy.

BLINDING, a ſpecies of corporal puniſhment anciently inflicted on thieves, adulterers, purjurers, and others; and from which the ancient Chriſtians were not exempt. Sometimes lime and vinegar, or barely ſcalding vinegar, was poured into the eyes till their ball were conſumed; ſometimes a rope was twiſted round the head till the eyes ſtarted out. In the middle age, they changed total blindneſs for a great darkneſs or diminution of ſight; which they produced by holding a red-hot iron diſh or baſon before the eyes till their humours were dried and their coats ſhrivelled up.

The inhabitants of the city Apollonia executed it on their watch whom they found aſleep.—Democritus (according to Plutarch, Cicero, and A. Gellius), put out his own eyes, that he might be leſs diſturbed in his mental contemplations, when thus freed from the diſtraction of the objects of ſight.

BLINDNESS, a privation of the ſenſe of ſight, ariſing from a total deprivation of its organs, or an involuntary obſtruction of their functions. See the article Blind.

Total Blindness, is that wherein all ſight or perception, even of light, is wanting, as is the caſe of thoſe who are ſaid to be *ſtone-blind*. A blind man, by the civil law, cannot make a teſtament except under certain modifications; but in every caſe he is diſabled from being a witneſs to a teſtament, on account of his blindneſs.

Partial Blindness, is that wherein ſome faint glimmering is left, as is always the caſe in people who have ripe cataracts, who are never ſo blind but they can diſcern day from night.

Perpetual Blindness, is that which remains alike under all the diverſity of ſeaſons, times, ages, &c.

Tranſient Blindness, is that which gives way of itſelf in due time, as that of whelps, which continues for ſeveral days, ſometimes nine, rarely twelve, after they are littered. The Nogais Tartars, according to father Du Ban the Jeſuit, who lived among them, are born blind, and open not their eyes till ſeveral days.

Periodical Blindness, is that which comes and goes by turns, according to the ſeaſon of the moon, time of day, and the like.

Diurnal Blindness, is called *hemeracopia*.

Nocturnal Blindness, called alſo *nyctalopia*, that which enſues on the ſetting of the ſun in perſons who ſee perfectly in the day, but become quite blind as ſoon as night comes on. Brigg, in Phil. Tranſ. Nº 159. p. 560, where an inſtance of it is given. See a ſingular caſe of this kind related by Dr Samuel Pye, in the Medic. Obſerv. and Inquir. Vol. I. p. 111.

The cauſes of blindneſs are either ordinary, as a decay of the optic nerve (an inſtance whereof we have in the Academy of Sciences, where upon opening the eye of a perſon long blind, the optic nerve was found extremely ſhrunk and decayed, and having no medulla in it); or ſome external violence, vicious conformation, growth of a cataract, *gutta ſerena*, ſmall-pox, or the like. See Medicine-*Index*.

Extraordinary cauſes of blindneſs are malignant ſtenches, poiſonous juices dropped into the eye, baneful vermin, long confinement in the dark, or the like. The ducks which breed under ground, and break out into the Zirchnitzer ſea in Carniola after all great ſtorms, are blind at the firſt eruption; but in ſome time come to their ſight. The author of the Embaſſy of D. Garcias de Sylva Figueroa into Perſia tells us, that in ſeveral parts of that kingdom are found vaſt numbers of blind people of all ages, ſexes, and conditions; by reaſon of a ſpecies of little flies which prick the eyes and lips, and enter the noſtrils, carrying certain blindneſs with them when they light on the eyes.

Blindness, in farriery, is a diſeaſe incident to horſes, eſpecially thoſe of an iron-grey or dapple-grey colour, when ridden too hard or backed too young. It may be diſcovered by the walk or ſtep, which in a blind horſe is always uncertain and unequal, becauſe he dares not ſet down his feet boldly when led in one's hand; though if the ſame horſe be mounted by an expert horſeman, and the horſe of himſelf be mettled, the fear of the ſpur will make him go more freely; ſo that his blindneſs can hardly be perceived. Another mark whereby a horſe may be known to have loſt his ſight is, that upon hearing any body enter the ſtable, he will prick up his ears, and move them backwards and forwards, as miſtruſting every thing, and being in continual alarm by the leaſt noiſe. Dr Lower firſt ſhowed the cauſe of the ordinary blindneſs in horſes, which is a ſpongy excreſcence, growing in one, ſometimes in two, or three places of the *uvea*, which being at length overgrown, covers the pupil when the horſe is brought into the light, though in a dark ſtable it dilates again.

BLINKS, among ancient ſportſmen, denoted boughs broken down from trees, and thrown in the way where deer are likely to paſs, to hinder their running, or rather to mark which way a deer runs, in order to guide the hunter.

BLINKING of beer, in Lincolnſhire, England, ſignifies letting the wort ſtand for ſome time in the vat, till it hath acquired ſome degree of acidity, in order to diſpoſe it to fine, and be the ſooner ready for drinking.

BLISSOM, among huſbandmen, corruptly called *bloſſom*, is the act of a ram when coupling with an ewe.

BLISTER, in medicine, a thin bladder containing a watery humour, whether occaſioned by burns and the like accidents, or by veſicatories applied to different parts of the body for that purpoſe*.—Cantharides, or Spaniſh flies, applied in the form of a plaſter, are chiefly uſed with this intention. See CANTHARIDES.

BLITE, in botany. See BLITUM.

BLITH, a town of Nottinghamſhire, in England, ſeated in W. Long. 0. 55. N. Lat. 53. 25.

BLITUM, BLITE, or *Strawberry Spinach*: A genus of the digynia order, belonging to the monandria claſs of plants, and in the natural method ranking in the 12th order, *Holeraceæ*. The calyx is trifid; no petals; the ſeed is one included in a berry-ſhaped calyx.

Species. 1. The capitatum, with flowers in cluſtered heads at the joints and crown of the ſtalks, is a native of Spain and Portugal, but has been long preſerved in the Britiſh gardens on account of the beauty of its fruit. It is an annual plant, with leaves ſomewhat like that of ſpinach; the ſtalk riſes two feet and an half high; the upper part of the ſtalk hath flowers coming out in ſmall heads at every joint, and is terminated by a little cluſter of the ſame: after the flowers are paſt, the heads ſwell to the ſize of wood ſtrawberries, and when ripe have the ſame appearance, but are not eatable: they are full of a purple juice, which ſtains the hands of thoſe who bruiſe them of a deep purple colour. 2. The virgatum, with ſmall heads growing from the ſides of the ſtalks, is a native of the ſouth of France and Italy. This ſeldom grows more than a foot high: the leaves are ſmaller than the firſt, but of the ſame ſhape: the flowers are produced at the wings of the leaves, almoſt the length of the ſtalk; they are ſmaller, and not ſo deeply coloured as the firſt. 3. The tartaricum, triangular, acutely indented leaves, is a native of the country from which it takes its name. Mr Miller received the ſeeds from Peterſburg. It riſes to very near three feet high; the flowers come out from the ſides of the ſtalks, but are ſmaller than thoſe of the firſt, as is alſo the fruit.

Culture. All theſe plants, being annuals, muſt be propagated by ſeeds; and as they are very hardy, will ſucceed in the common borders, if ſown in March or April, covering the ſeed about half an inch deep with earth, and leaving the plants five or ſix inches aſunder. When they come up, each muſt be ſupported with a ſmall ſtick, or they will be borne down by the weight of the berries.

BLOATING, a puffing up or inflation of the exterior habit of the body, lodged chiefly in the adipoſe cells. It is the ſame with what phyſicians call an *emphyſema*.

BLOCK is uſed for a piece of marble as it comes out of the quarry, before it has aſſumed any form from the hand of a workman.

BLOCK, in the mechanical arts, a large piece of ſolid wood whereon to faſten work or to faſhion it; ſtrength and ſtability being the requiſite properties. In this ſenſe, we ſay a *chopping block*; a *ſugar-finer's block*; a *ſmith's block*, on which his anvil is faſtened; an *executioner's block*, on which the criminal's head is laid to be ſtruck off.

BLOCK, among cutters in wood, is a form made of pear-tree, box, or other hard and cloſe-grained wood, free from knots, on which they cut their figures in relievo with knives, chiſſels, &c.

BLOCK, in falconry, denotes the perch whereon a bird of prey is kept. This is to be covered with cloth.

BLOCKS, in ſea-language, are pieces of wood belonging to ſhips, in which the ſhivers of pulleys are placed, and wherein the running-ropes go. Of theſe ſome are ſingle, ſome double, and ſome have three, four, or five ſhivers in them. They are named and diſtinguiſhed by the ropes they carry, and the uſes they ſerve for.

Mounting BLOCK, an eminence uſually of ſtone, cut in ſteps or notches, ſerving as a help to mount on horſeback. Theſe were much in uſe among the ancients, who were unacquainted with ſtirrups. The Romans erected them at proper ſtations along all their great roads.

BLOCK (Daniel), portrait painter, was born at Stettin in Pomerania in 1580, and gave early proofs of a good genius; which induced his parents to place him as a diſciple with Jacob Scherer, a maſter capable of giving him the beſt directions, to qualify him for proceeding ſucceſsfully in his profeſſion. He chiefly painted portraits, in which (according to Sandrart) he was very eminent, and had the honour to paint the portraits of Chriſtian IV. King of Denmark, and of Guſtavus Adolphus, King of Sweden. The extraordinary merit of this maſter recommended him to the eſteem of the Prince of Macklenburg, who retained him in his ſervice for 44 years; and by order of that Prince he painted the portraits of his whole family at full length, as large as life, and in the antique habit; by which works his reputation was eſtabliſhed effectually. By the agreeable manner of his colouring, and the eaſy attitudes of his figures, his paintings became ſo acceptable to all perſons of rank, that before the decline of life, he had acquired a very large fortune; but unfortunately he loſt it all, in the compaſs of a few hours, by the ſudden irruption of a plundering party, and with great difficulty his own life was preſerved. He died in 1661.

BLOCKADE, in the art of war, the blocking up a place, by poſting troops at all the avenues leading to it, to keep ſupplies of men and proviſions from getting into it; and by theſe means propoſing to ſtarve it out, without making any regular attacks.

To *raiſe a blockade*, is to force the troops that keep the place blocked up from their poſts.

BLOCKLAND (Anthony de Montfort), hiſtory and portrait painter, was born of a noble family at Montfort in 1532. He learned the art of painting in the ſchool of Francis Floris, whoſe manner he always followed; and became an artiſt of great diſtinction, by endeavouring principally to imitate the taſte of the Roman ſchool in deſign and compoſition. His genius was beſt adapted to grand compoſitions, of which he deſigned many; ſome at Delft, but more at Utrecht. His deſigns had grandeur, the airs of his heads were noble, and the profiles of his female figures approached near to the taſte of Parmigiano. Several of his works are in ſo good a guſto, and particularly a Venus, and the

* See the Index ſubjoined to *Medicine*.

the hiſtory of Joſeph and his Brethren, that they ſeem to have been painted by a maſter educated in the ſchool of Florence. He died in 1583.

BLOCZIL, a fortreſs of Over-yſſel, in the United Provinces, ſeated on the river Aa, at the place where it falls into the Zuider Zee. It has a port ſufficient to contain 200 veſſels, and ſerves to defend thoſe ſhips that croſs the ſea. It has ſix good baſtions, and ſeveral other regular fortifications. E. Long. 6. 0. N. Lat. 52. 44.

BLOEMART (Abraham), painter of landſcape, cattle, hiſtory, and portrait, was born at Gorcum in 1564, according to Houbraken; but according to Sandrart, whoſe authority ſeems to claim the preference, he was born in 1567, and lived moſtly at Utrecht. In his youth he applied himſelf diligently to deſign after the works of Francis Floris, and afterwards received inſtructions from ſeveral artiſts of no great repute; but the power of his own genius proved his principal director in the art of painting. He formed a manner peculiar to himſelf, making nature his model for many of the objects he painted, particularly his cattle, in which he excelled. He died in 1647. He left four ſons who were all of them artiſts; but the moſt famous was *Cornelius*, the ſubject of the following article.

BLOEMART (Cornelius), the youngeſt ſon of Abraham, was born in 1603, at Utrecht. The firſt principles of drawing and painting he learned from his father; but his natural inclination for the art of engraving was ſo powerful, that he applied himſelf wholly to the purſuit of it. He firſt ſtudied under Criſpin de Paſs, an engraver much more famous for the neatneſs than the good taſte of his works. Not ſatisfied with what he learned from that artiſt, he went to Rome, in order to perfect himſelf from the works of the greateſt maſters: And in that city (where the far greater part of his engravings were made) he died in a very advanced age.—"The manner of engraving, adopted by this excellent artiſt, appears to me (ſays Mr Strutt) to be not only quite original, but the ſource from which we may trace that ſtyle in which the greateſt and beſt French maſters excelled; thoſe I mean who worked with the graver only. He covered the lights upon his diſtances, and the other parts of his plates which required tinting, with great care. The lights, whether on the diſtant hills, trees, buildings, or figures, in the engravings prior to his time, had been left quite clear, and by ſo many white ſpots ſcattered in various parts of the ſame deſign, the harmony was deſtroyed, the ſubject confuſed, and the principal figures prevented from relieving with any ſtriking effect. By this judicious improvement, Bloemart gave to his prints a more clear and finiſhed appearance, than all the laboured neatneſs even of Jerom Wierix had been able to produce. He drew correctly; but from his ſtyle of engraving, which was executed entirely with the graver, the extremities of his figures are heavy, and his heads are not always equally beautiful or expreſſive. With reſpect to the mechanical part of the works, few indeed have excelled him, either in clearneſs or freedom of execution. His great fault, however, is want of variety. The naked parts of his figures, the draperies, and the back-ground, are equally neat, and engraved preciſely in the ſame manner. Hence the effect is flat; and the fleſh, for want of ſufficient diſtinction, appears cold and ſilvery. His works are juſtly held in high eſtimation. They are very numerous, and many of them difficult to be procured."

BLOIS, a town of France, the capital of Blaiſois, in Orleanois, is ſeated on the banks of the river Loire, partly on a plain, and partly on an eminence, in the midſt of one of the moſt agreeable countries of France. The caſtle is the ornament of this city. At the firſt view it ſeems to be two diſtinct buildings; but it is joined by a paſſage cut out of the rock. Joining to this, on the weſt-ſide, is the tower of *Chateu Regnaud*, ſo called becauſe that lordſhip may be diſcovered from hence, though 20 miles diſtant. At the eaſt-end of this is another ſmall tower, which is partly ancient and partly modern. That part of the caſtle which was built by the duke of Orleans, in the room of that which he demoliſhed in 1632, is a ſuperb edifice, but unfiniſhed. The court, before it, where the church of St Saviour is built, is very large, and was formerly uſed for tournaments. The moſt remarkable thing in this caſtle is a fine long gallery, adorned with many curious and uncommon pieces; it is in the midſt of two gardens, one or which is full of fruit-trees, and the other of paterres, fountains, caſcades, and marble ſtatues brought from Italy. Beyond theſe, there is a large park, where there is game in abundance. On all the gates of the city there is the image of the Virgin Mary, who, they believe freed them from the plague in 1631. There are ſeveral pariſh-churches, chapters, and religious houſes for both ſexes. The church of St Solenne is the cathedral, and is the handſomeſt in the city. The front of the Jeſuits church is decorated with three orders of architecture, the Doric, Ionic, and Corinthian; but there is only the Doric on the inſide. The town-houſe is a tolerable building, and ſtands in a ſtreet which terminates at the quay, where there is a public walk that has a fine proſpect on the Loire, over which there is a bridge that leads to the ſuburbs of Vienna. There are a few houſes on the bridge, and a tower at each end to guard the entrance. About three quarters of a mile from the city the water runs down the clefts of a rock into a large aqueduct, by which it is conveyed to a reſervoir near the walls, and from hence diſtributed by leaden pipes to the ſeveral parts of the city. The country about Blois produces corn, wine, cattle, and game of every kind, and the waters a great quantity of fiſh. The meadows are ſo rich and fertile, that the cows yield excellent milk, good in conſumptive caſes, and which affords the beſt cream in the kingdom. About a league from Blois, there are mineral ſprings, which have the ſame virtues as thoſe of Forges. The trade of Blois is chiefly in wine and brandy; but they alſo make ſome ſerges and ſtuffs at this place. Several kings have kept their courts at Blois; for which reaſon they ſpeak the French language in perfection, and the inhabitants are accounted witty and polite. E. Long. 1. 30. N. Lat. 47. 35.

BLOMARY, or BLOOMARY, in metallurgy, the firſt forge through which iron paſſes, after it is melted out of the ore.

BLOEMEN (Peter Van), a celebrated painter, born at Antwerp, was brother to John Francis Van Bloemen, called by the Italians ORIZONTI, and lived for ſeveral years at Rome along with his brother. As ſoon as he found himſelf competently ſkilled in colouring and penciling, as well as in deſigning, he returned to his native city, where, in the year 1699, he was appointed director of the academy. The compoſition of this maſter is rich, and his pictures are generally filled with a number of figures. His ſubjects are, the marchings of ſquadrons of cavalry, encampments, artillery, battles, Italian fairs, markets, and feſtivals; in which he ſhowed great correctneſs in his deſign and in his drawing; and an elegance in the manner of dreſſing his figures; whom he frequently repreſented in oriental habits. He deſigned horſes in an admirable ſtyle; and in his battles gave them abundance of ſpirit, graceful attitudes, and an expreſſion that was full of life and nature. His landſcapes are enriched with elegant architecture, with baſſo-relievos, and mutilated ſtatues, in a noble taſte; and rendered ſtill more pleaſing by a good tone of colour, by animals of different kinds, and excellent figures.—His beſt works are admired in all parts of Europe, and afford large prices: but it is to be obſerved, that ſome of his pictures ſeem rather to be too much laboured or ſtiff, and (according to the artiſts phraſe) ſmell of the palette; and thoſe are proportionably leſs eſtimable.

Bloemen (John Francis Van). Vid. **Orizonti.**

Bloemen (Norbert Van), brother of the preceding, was a painter of portraits and converſations; but in merit was very inferior to his brothers, although he had a good deal of employment.

BLOND (Chriſtopher le), painter of portraits in miniature and all kinds of ſubjects on paper, was born in 1670. Very few circumſtances relative to his education or life are mentioned by any writers till he was known at Rome in the year 1716, being at that time painter to the Count Martinetz, ambaſſador at the court of Rome. By the ſolicitation of Overbeke he was induced to go to Amſterdam, and in that city was employed to paint ſmall portraits for bracelets, rings, and ſnuff-boxes; of which, although they were painted in water-colours, yet the colouring was as lively and natural as if they had been painted in oil. However, as he found his ſight much impaired by the minuteneſs of his work, he diſcontinued water-colour painting, and attempted the uſe of oil with a reaſonable degree of ſucceſs. After he had reſided for ſome years in the Low Countries, he went to England, and ſet up a new method of printing mezzotinto plates in colours ſo as to imitate the pictures of which they were copies. In this manner he executed in England ſeveral large plates, from pictures of the greateſt maſters, and diſpoſed of the prints by lottery. But thoſe who obtained the prizes (Mr Strutt ſays) appear not to have held them in any very great eſtimation. "The prints (he adds) certainly poſſeſs ſome merit, excluſive of their novelty; but, in general, the colours are flat and dirty; the effect is neither ſtriking nor judiciouſly managed; and the drawing is frequently very incorrect, eſpecially in the extremities of his figures." Mr Pilkington ſpeaks of them with greater approbation. "The artiſt (he ſays) imitated his models with ſo much ſkill, ſuch exact reſemblance, ſuch correctneſs of outline, ſuch ſimilarity of colour and expreſſion, that at firſt they amazed every beholder who viewed them at a proper diſtance; and many of thoſe prints are ſtill extant, which are much eſteemed by perſons of good taſte." And Mr Walpole obſerves, that ſome heads, coloured progreſſively, according to their ſeveral gradations, bear witneſs to the ſucceſs and beauty of his invention. He had another merit to the public, with which few inventors begin; for he communicated his ſecret in a thin quarto, intitled *Coloritto*, or "The harmony of colouring in painting reduced to mechanical practice, under eaſy precepts and infallible rules." His method was performed by ſeveral mezzotinto plates for one piece, each expreſſing different ſhades and parts of the piece in different colours. He was not, however, it is ſaid, the originial inventor of that manner of managing colours, but took it from Laſtman and others, who, with much greater regularity of morals, equal capacities, and more diſcreet conduct, had before undertaken it without ſucceſs. Let Blond, whoſe head was continually full of ſchemes, next ſet on foot a project for copying the cartoons of Raphael in tapeſtry, and made drawings from the pictures for that purpoſe. Houſes were built and looms erected at the Mulberry Ground at Chelſea; but the expences being too great, or contributions not equal to the firſt expectations, the ſcheme was ſuddenly defeated, and Le Blond diſappeared, to the no ſmall diſſatisfaction of thoſe who were engaged with him. From hence he went to Paris, where, Baſan informs us, he was in the year 1737; and in that city he died, 1740, in an hoſpital. Le Blond was alſo author of a treatiſe, in French, on ideal beauty. It was publiſhed in 1732, and has ſince been tranſlated into Engliſh.

BLONDEL (David), a proteſtant miniſter, diſtinguiſhed by his ſkill in eccleſiaſtical and civil hiſtory, was born at Chalons ſur Marne, and was admitted miniſter at a ſynod of the iſle of France, in 1614. He wrote, 1. A defence of the reformed churches of France. 2. A work againſt the decretal epiſtles. 3. *De Epiſcopis et Preſbyteris*; and other pieces. Bayle informs us that he had a very ſingular way of ſtudying; he lay on the ground, and had round about him the books which he wanted for the work he was about. He died in 1655, aged 64.

Blondel (Francis), regius profeſſor of mathematics and architecture, was employed in ſeveral negociations, arrived at the dignity of marſhal de camp and counſellor of ſtate, and had the honour of being choſen to teach the dauphin the mathematics; he was alſo made member of the Academy of Sciences at Paris, and director of the Academy of Architecture. He died at Paris in 1688, aged 68. He wrote, 1. Notes on the architecture of Savot. 2. A courſe of architecture and mathematics. 3. The art of throwing bombs. 4. A new manner of fortifying places. 5. A compariſon between Pindar and Horace; and other works.

BLONDUS (Flavius), an hiſtorian born at Forli, in Italy, in 1388, was ſecretary to Eugenius IV. and other popes. He compoſed a great many books; and, among others, a hiſtory from the year 400 to 1440. He died in 1463.

BLONIEZ, a town of Poland, in the province of Warſovia. E. Lon. 20. 35. N. Lat. 52. 0.

BLOOD, a red liquor circulating through the veſſels of the human body and the bodies of the larger animals, which appears immediately and eſſentially neceſſary to the preſervation of life.

Though there is no living creature as yet known whoſe

1 No animal without ſome liquid equivalent to blood.

whoſe life doth not immediately depend upon the circulation of ſome kind of fluid through its veſſels, yet unleſs ſuch fluid is of a red colour, it does not obtain the name of *blood*; and therefore ſuch creatures as have a colourleſs or milky liquor circulating through their veſſels, are called *exſanguious animals*.

2 Blood of different thickneſs in different animals.

3 That of bulls anciently uſed as a poiſon.

The blood has a very different degree of thickneſs or viſcidity in different animals, and even in the ſame animal at different times. Though it is in all caſes endowed with a conſiderable degree of tenacity, yet in ſtrong animals that tenacity is remarkably greater than in weak ones; and hence the blood of bulls was made uſe of by the ancients as a poiſon, its extreme viſcidity rendering it totally indigeſtible by the powers of the human ſtomach. It is well known alſo by phyſicians, that there are ſome ſtates of the human body in which the blood becomes vaſtly tenacious, ſo as in a great meaſure to refuſe any intimate connection with water; and others, in which its craſis is almoſt totally diſſolved, ſo as to appear, when drawn out of the body, like a fluid and half putrid maſs. See MEDICINE-*Index*.

4 Appearance of the blood when drawn from a vein.

The common appearance of the blood when drawn from a vein in the human body is well known. It firſt ſeems an homogeneous red liquor; then it conſolidates into one unform maſs; in a little time, a yellowiſh watery liquor begins to ſeparate from it, which is more or leſs in quantity according to the ſtate in which the blood happens to be; the red maſs, in the mean time, contracts greatly in its dimenſions, and increaſes in ſolidity. But this increaſe of ſolidity is likewiſe proportional to the ſtate of the blood at the time: in ſtrong people, if attacked with a violent inflammatory diſeaſe, the ſolid part is exceedingly tough, inſomuch that Dr Huxham ſays he has ſometimes found it almoſt like a piece of fleſh itſelf; whereas, in other diſeaſes, the ſolid part is very ſoft and tender, breaking in pieces with the ſlighteſt touch. The ſpontaneous ſeparation of the blood into craſſamentum, ſerum, and coagulable lymph, hath been already taken notice of under ANATOMY, nº 126.

5 Blood chemically analyſed.

6 Contains an acid, according to ſome chemiſts.

7 Experiment in confirmation of this.

The attention of phyſiologiſts hath been very much engaged by inquiries into the nature and compoſition of the blood, and accordingly it hath been examined in all poſſible ways. By a chemical analyſis, it diſcovers the ſame principles with other animal ſubſtances; giving over in diſtillation a great quantity of phlegm, a volatile ſpirit, with much fetid oil; after which, there remains a charred matter, that, burnt in an open fire, leaves a white earth ſimilar to calcined hartſhorn. Some eminent chemiſts, Mr Homberg particularly have aſſerted that blood contains an acid as well as an alkali, but that the former does not ariſe till towards the end of the diſtillation: but what is very ſingular, and indeed muſt throw no ſmall ſuſpicion on the whole account, is, that the acid and alkali, notwithſtanding their great tendency on all other occaſions to unite with each other, do here remain ſeparate, ſo that the liquor may be even rediſtilled without their forming any neutral compound. An experiment in confirmation of this is recorded in the memoirs of the Royal Academy for 1712. Six pounds of human blood diſtilled to dryneſs with a gentle heat, were reduced to a pound and an half: after which, the maſs was urged with a graduated fire, till the retort at laſt became red hot. The produce was 17 ounces of liquor; 12 of which were a red and very empyreumatic volatile ſpirit, the other five were oil. The caput mortuum was a light coal weighing four ounces and a half. On rectifying the volatile ſpirit in a ſmall retort, about an ounce of red fetid liquor remained, which had a very acid ſmell, and turned the juice of turnſole red. Mr Homberg now imagined, that the acid contained in the blood of animals could not diſengage itſelf perfectly by theſe diſtillations without addition. He therefore determined to diſtil human blood with an admixture of ſome other ſubſtance; but as earths contain a ſalt, which might render the operation uncertain, he determined to uſe only the caput mortuum of a former diſtillation of the ſame ſubſtance. For this purpoſe, four pounds of the coagulum of human blood being well mixed with a large quantity of this reſiduum, and the whole dried in the ſun, it was put into a retort, and diſtilled with a fire raiſed, towards the end of the operation, to the utmoſt violence. The oil being ſeparated from the volatile ſpirit, the latter was rectified; and the conſequence was, that there came over four pounds of a red acid liquor, that turned the tincture of turnſole very red. All the diſtillations of the aqueous liquors already mentioned, obtained by ſimilar proceſſes, being mixed together, and ſeparated from their yet remaining oil, by careful dilution with water and filtration, they were at length diſtilled together; the liquor that came over was clear as water, and its firſt quantities contained a great deal of volatile ſalt, but the laſt two ounces were found to be as ſour as diſtilled vinegar.—The ſame products were obtained from the blood of carnivorous animals, as well as from that of animals feeding ſolely upon vegetables.

8 Dr Lewis's account of the blood.

In Dr Lewis's notes on Newman's Chemiſtry we have the following account of the blood, and the parts into which it may be reſolved. "Recent blood is equally fluid, and in taſte ſomewhat ſaline. Viewed by a microſcope, it appears compoſed of numerous red globules ſwimming in a tranſparent fluid. On ſtanding for a little time, it ſeparates into a thick craſſamentum and fluid ſerum. By agitation, it continues fluid: A conſiſtent polypous matter adheres to the ſtirrer, which, by repeated ablution with water, becomes white.—Received from the vein in warm water, it depoſits a quantity of tranſparent filamentous matter, the red portion continuing diſſolved in the water. On evaporating the fluid, a red powdery ſubſtance is left.—It congeals by froſt, and becomes fluid again by warmth; after liquefaction, it quickly putrefies.—Fluid and florid blood expoſed to a temperate air, putrefies ſooner than ſuch as is more denſe. Inſpiſſated to dryneſs, it leaves a dark-coloured maſs, amounting, at a medium, to about one-fourth of the weight of the blood, of a bitter ſaline taſte, eaſily inflammable, burning with a bluiſh flame. The exſiccated blood is not ſoluble in acid or alkaline liquors; but gives ſome tincture to water and to ſpirit of wine, and is more powerfully acted upon by dulcified ſpirit of nitre. Recent blood is coagulated by the mineral acids, and by moſt of the combinations of them with earthy and metallic bodies. With vegetable acids, and with ſolutions of neutral ſalts, it mingles equably without coagulation. Alkalis, both fixed and volatile, render it more fluid, and preſerve it from coagulating.

"The ſerum of blood is more ſaline than the craſſamentum,

ſamentum, and does not ſpeedily putrefy. It freezes ſomewhat more difficultly than pure water; and its aqueous part evaporates, by a gentle warmth, ſomewhat more readily, leaving about one-twelfth of the weight of the ſerum of a ſolid yellowiſh pellucid matter. Expoſed to heat, a little greater than that of the human body, it coagulates into a ſolid maſs, without any conſiderable evaporation. Both this coagulum and the inſpiſſated ſerum are readily inflammable in the fire, not diſſoluble in water, or in ſpirit of wine, in acid or in alkaline liquors."

9 Texture of the blood, according to Lewenhoeck.

But the texture of the blood diſcoverable by a microſcope, hath engaged the attention of the learned much more than the chemical analyſis ever did. Lewenhoeck was the firſt who diſcovered, or fancied he diſcovered, that the blood, as it exiſts in the body of an animal, conſiſts of a quantity of red globular particles ſwimming in a large quantity of tranſparent liquor. Each of theſe globules, he imagined, was compoſed of ſix ſmaller ones packed together. While the ſix continued to adhere, their colour was red; but when ſeparated, they became yellow, and thus formed what is called the *ſerum*. He even pretended to have diſcovered that each of the ſerous globules conſiſted of ſix ſmaller ones, and that theſe when broken down conſtituted ſome more ſubtile and penetrating liquor than the ſerum, &c. This was for a long time received almoſt univerſally as an undoubted fact; and many theories were built upon it, and elaborate calculations made, of which (we hope) no account needs now be given, as the falſity of theſe pretended diſcoveries is generally allowed.

10 According to Father de Torre.

Father de Torre, with microſcopes which he pretended were capable of magnifying to an incredible degree, found that the red particles of the blood were of an annular figure, with a perforation in the middle; and that the ring itſelf was formed of ſeveral joints. Some of theſe extraordinary magnifiers, however, being ſent over to England, thoſe who were appointed by the Royal Society to make trial of them found them totally uſeleſs, ſo that the credit of Father de Torre's diſcoveries muſt have reſted principally on his own evidence.

11 According to Mr Hewſon.

The falſity of his hypotheſis, as well as that of Lewenhoeck, was detected by the late Mr Hewſon, whoſe microſcopical experiments on the blood being the lateſt that have appeared, we ſhall tranſcribe the following particular account of them given by himſelf in a letter to Dr Haygarth phyſician in Cheſter.——"The red particles of the blood, improperly called *globules* are flat in all animals, and of very different ſizes in different animals. In man they are ſmall, as flat as a ſhilling, and appear to have a dark ſpot in the middle. In order to ſee them diſtinctly, I dilute the blood with freſh ſerum. My predeceſſors not having thought of this, could not ſee them diſtinctly. And Lewenhoeck in particular, imagining a round figure fitteſt for motion, concluded they muſt be round in the human body; though he and others allowed that in frogs, &c. where they viewed them diſtinctly from the blood being thinner, they were flat. Now I prove that they are flat in all animals. In the human blood, where theſe particles are ſmall, it is difficult to determine what that black ſpot is which appears in the centre of each. Some have concluded that it was a perforation: but in a frog, where it is ſix times as large as in a man, it is eaſy to ſhow that it is not a perforation, but on the contrary is a little ſolid, which is contained in the middle of a veſicle. Inſtead, therefore, of calling this part of the blood red *globules*, I ſhould call it red *veſicles*; for each particle is a flat veſicle, with a little ſolid ſphere in its centre.

"I find that the blood of all animals contains veſicles of this ſort. In human blood there are millions of them; and they give it the red colour. But in inſects they are white, and leſs numerous in proportion than in man and quadrupeds. As they are flat in all animals, I ſuſpect that ſhape is a circumſtance of importance, but can be altered by a mixture with different fluids. And I find that it is by a determinate quantity of neutral ſalt contained in the ſerum, that this fluid is adapted to preſerving theſe veſicles in their flat ſhape: for, if they be mixed with water, they become round, and diſſolve perfectly; but add a little of any neutral ſalt to the water, and they remain in it, without any alteration in their ſhape, and without diſſolving.

"Now, when it is conſidered, that the blood of all animals is filled with theſe particles, we muſt believe that they ſerve ſome very important purpoſe in the animal œconomy; and ſince they are ſo complicated in their ſtructure, it is improbable they ſhould be made by mechanical agitation in the lungs or blood-veſſels, as has been ſuſpected, but probably have ſome organs ſet apart for their formation. This I ſhall endeavour to prove, when I have explained their ſtructure a little more particularly, and mentioned the manner in which I exhibit it. I take the blood of a toad or frog, in which they are very large; I mix it with the ſerum of human blood to dilute it; I find them appear all flat; ſo they do in the blood-veſſels of this animal, as I have diſtinctly ſeen in the web between its toes, whilſt the animal was alive and fixed in the microſcope. Their appearance in theſe animals is not unlike ſlices of cucumber. I next mix a little of the blood with water, which immediately makes them all round, and then begins to diſſolve them whilſt they are round. I incline the ſtage of the microſcope, ſo as to make them roll down it; and then I can diſtinctly ſee the ſolid in the middle fall from ſide to ſide like a pea in a bladder. A neutral ſalt added to them at this time brings them back to their flat ſhape: but if the ſalt be not added, the water gradually diſſolves away the veſicle; and then the little ſphere is left naked. Such is the compoſition of theſe particles. I have exhibited theſe experiments to a conſiderable number of my acquaintance, who all agree in their being ſatisfactory.

"The microſcope I uſe is a ſingle lens, and therefore as little likely to deceive us as a pair of ſpectacles, which, as is allowed by all who uſe them, do not disfigure objects, but only repreſent them larger.

"From farther experiments, I am convinced, that the uſe of the thymus and lymphatic glands is to make the middle ſolid pieces: and I can prove it in as ſatisfactory a manner as you can do the uſe of any viſcus in the human body; that is, by opening theſe glands, and examining the fluid contained in their cells, which I find to be full of theſe little ſolids. I moreover find, that the lymphatic veſſels take them up from thoſe glands, and convey them into the blood-veſſels which carry them to the ſpleen, in whoſe cells they have the veſicles laid over them; ſo that the thymus and lymphatic glands make the central particles, and the ſpleen makes the veſicles that ſurround them. That this is the uſe of the ſpleen appears from examining the lymph which is returned from its lymphatic veſſels; for that lymph, contrary to what is obſerved in other parts of the body, is extremely red.

"But beſides having theſe glands ſet apart for making the red veſicles of the blood, I find that they are alſo made in the lymphatic veſſels in different parts of the body, whoſe coats have blood-veſſels properly conſtructed for this ſecretion. So that the thymus and lymphatic glands are no more than appendages of the lymphatic ſyſtem, for making the middle particles; and the ſpleen an appendage to the lymphatic veſſels, for making the veſicles which contain theſe middle particles.

"I conjecture that it is the coagulable lymph which is converted into this red part of the blood, from a curious fact that has long been known; namely, that the blood in the ſplenic vein does not coagulate when expoſed to the air, as the blood of other veins does; ſo that it ſeems to be robbed of its coagulable lymph in paſſing through the ſpleen.

"It is very remarkable, that the ſpleen can be cut out of an animal, and the animal do well without it. I made the experiment on a dog, and kept him a year and a half without obſerving his health to be in the leaſt impaired. From this ſome have concluded the ſpleen to be an uſeleſs weight; which is abſurd, when we conſider that all animals with red blood have it. Therefore it is more conſiſtent with what we know of the animal œconomy, to conclude, that ſince an animal can do well without it, there is probably ſome part of the body that can ſupply its place.

"Inſects have veſicles conſtructed in a ſimilar way to ours, but differing in colour. But inſects have neither ſpleen, thymus, nor lymphatic glands; and therefore in them probably theſe veſicles are entirely fabricated in the lymphatic veſſels. But to us, and other of the more perfect animals, beſides the lymphatic veſſels, nature has given thoſe glands, that a proper quantity of thoſe important veſicles might be better ſecured to us; juſt as ſhe has given us two ears, the better to ſecure us hearing through life, though we can hear perfectly well with one."

12 Objection to his hypotheſis.

This letter, we apprehend, contains the ſtrength of Mr Hewſon's evidence for his hypotheſis; on which we ſhall only remark, that if the red globules are prepared in the manner abovementioned, and the lymphatic veſſels are excretories of thoſe glands where the red particles are formed; then if there is any veſſel where all thoſe excretories unite, as mentioned ANATOMY, nº 106, in that veſſel the lymph ought to appear very red, on account of the accumulated quantity of red globules brought thither from all parts of the body. But no ſuch redneſs ſeems ever to have been taken notice of by any anatomiſt: this therefore muſt be an objection to Mr Hewſon's hypotheſis; and ſuch an one, perhaps, as will not be eaſily removed.

13 Opinion of Dr Wilſon.

Many other hypotheſes have been invented concerning the formation of the red blood, and various opinions delivered concerning its red colour. In a lecture delivered at Newcaſtle in 1773, by Dr Wilſon of that place, he aſſerts "that it is ſelf-evidently the office of the veins to elaborate the fluids into that form and compoſition which we know by the name of *red blood*." The ſelf-evidence here, however, is by no means apparent to us; nor doth he at all point it out in an intelligible manner.

14 Of Dr Cullen.

—Dr Cullen, in his phiſiological part of The Inſtitutions of Medicine, acknowledges, that we know but little of the formation of any of the animal fluids; and concerning the microſcopical obſervations, &c. on the blood, gives his opinion in the following words, § ccliv. "The red globules have been conſidered as an oily matter, and from thence their diſtinct and globular appearance has been accounted for: but there is no direct proof of their oily nature; and their ready union with, and diffuſibility in, water, renders it very improbable. As being microſcopical objects only, they have been repreſented by different perſons very differently. Some have thought them ſpherical bodies, but diviſible into ſix parts, each of which in their ſeparate ſtate were alſo ſpherical; but other perſons have not obſerved them to be thus diviſible. To many obſervers they have appeared as perfectly ſpherical; while others judge them to be oblate ſpheroids, or lenticular. To ſome they have appeared as annular, and to others as containing a hollow veſicle. All this, with ſeveral other circumſtances relating to them, very variouſly repreſented, ſhow ſome uncertainty in microſcopical obſervations; and it leaves me, who am not converſant in ſuch obſervations, altogether uncertain with reſpect to the preciſe nature of this part of the blood. The chemical hiſtory of it is equally precarious; and therefore what has been hitherto ſaid of the production and changes happening to theſe red globules, we chooſe to leave untouched.

15 He accounts for the colour of the blood from the number of red particles contained in it.

—We ſuppoſe that the red globules, when viewed ſingly, have very little colour; and that it is only when a certain number of them are laid one upon another, that the colour appears of a bright red: but this alſo hath its limits; ſo that when the number of globules laid on one another is conſiderable, the colour becomes of a darker red. Upon this ſuppoſition, the colour of the maſs of blood will be brighter or darker as the colouring part is more or leſs diffuſed among the other parts of the maſs; and we think this appears to be truly the caſe from every circumſtance that attends the changes which have been at any time obſerved in the colour of the blood."

16 Colour of the blood accounted for from the action of the air.

Concerning the uncertainty of microſcopical, as well as chemical experiments, we ſhall not diſpute; though the concluſions againſt them ſeems carried too far. But with regard to the colour of the blood, we apprehend it hath been known, almoſt, if not altogether, ſince the diſcovery of the circulation, that the florid or dark colour depends on the preſence or abſence of air, and not upon any number of globules.—Thus the blood returning from the veins is of a dark colour. Though diluted with the freſh chyle from the ſubclavian vein, it continues of the ſame dark colour till it paſſes thro' the lungs, upon which it inſtantly aſſumes a very florid red; but it can never be proved that the globules in the pulmonary vein are at all leſs numerous than in the pulmonary artery.—That this change of colour may be effected by the air through membranes much thicker than we can ſuppoſe the veſſels of the lungs to be, hath been demonſtrated by Dr Prieſtley's experiments mentioned under the article *DEPHLOGISTICATED Air*; but whether the change is occaſioned by the mere ſeparation of phlogiſton from the blood, or by the abſorption of ſome other principle in its ſtead, is not yet determined, though the latter is indeed acknowledged by Dr Prieſtley himſelf to be the more probable opinion. He even ſuppoſes the redneſs to be owing to a portion of dephlogiſticated air abſorbed in the lungs; but under the above article it is ſhown that this fluid cannot be abſorbed by any liquid without decompoſition. It muſt therefore be the elaſtic principle of this air which is abſorbed, while the other combined with part of the phlogiſton emitted by the blood is converted into fixed air.

17
Uſes of the blood in animals.

18
The vital principle thought by ſome to reſide in the blood.

19
Mr Hunter's arguments in favour of this opinion

This leads us to conſider the uſes to which the blood is ſubſervient in the animal œconomy, and the changes that happen to it in reſpiration. The uſes of this fluid are ſo various, and of ſuch an important nature, that ſome have not ſcrupled to affirm the blood to be actually poſſeſſed of a living principle, and that the life of the whole body is derived from it. This opinion was firſt broached by the celebrated Harvey, the diſcoverer of the circulation: but in this he was never much followed; and the hypotheſis itſelf, indeed, has been pretty much laid aſide and neglected, till of late that it was revived by Mr J. Hunter, profeſſor of anatomy in London. This gentleman ſupports his opinion by the following arguments: 1. The blood unites living parts, in ſome circumſtances, as certainly as the yet recent juices of the branch of one tree unite it with that of another. Were either of theſe fluids to be conſidered as extraneous or dead matters, he thinks they would act as ſtimuli, and no union would take place in the animal or vegetable kingdom. This argument, Mr Hunter imagines, is ſtill farther eſtabliſhed by the following experiment. Having taken off the teſticle from a living cock, he introduced it into the belly of a living hen. Many weeks afterwards, upon injecting the liver of the hen, he injected the teſticle of the cock; which had come in contact with the liver, and adhered to it. He alleges, that in the nature of things, there is not a more intimate connection between life and a ſolid, than between life and a fluid. For, although we are more accuſtomed to connect it with the one than the other, yet the only real difference which can be ſhown between a ſolid and a fluid is, that the particles of the one are leſs moveable among themſelves than thoſe of the other. Beſides, we often ſee the ſame body fluid in one caſe and ſolid in another. 2. The blood becomes vaſcular like other living parts. Mr Hunter affirms, that, after amputations, the coagula in the extremities of arteries may be injected by injecting theſe arteries; and he has a preparation in which he thinks he can demonſtrate veſſels riſing from the centre of what had been coagulum of blood, and opening into the ſtream of the circulating blood. 3. Blood taken from the arm in the moſt intenſe cold which the human body can bear, raiſes the thermometer to the ſame height as blood taken in the moſt ſultry heat. This he conſiders as a ſtrong proof of the blood's being alive; as living bodies alone have the power of reſiſting great degrees both of heat and cold, and of maintaining in almoſt every ſituation, while in health, that temperature which we diſtinguiſh by the name of *animal heat*. 4. Blood is capable of being acted upon by a ſtumulus. In proof of this, he obſerves, that it coagulates from expoſure, as certainly as the cavities of the abdomen and thorax inflame from the ſame cauſe. The more it is alive, that is, the more the animal is in health, it coagulates the ſooner on expoſure; and the more it has loſt of its living principle, as in the caſe of violent inflammations, the leſs it is ſenſible to the ſtimulus produced from its being expoſed, and it coagulates the later. 5. The blood preſerves life in different parts of the body. When the nerves going to a part are tied or cut, the part becomes paralytic, and loſes all power of motion; but it does not mortify. If the artery be cut, the part dies, and mortification enſues. What keeps it alive in the firſt caſe? Mr Hunter believes it is the living principle which alone can keep it alive; and he thinks that this phenomenon is inexplicable on any other ſuppoſition, than that life is ſupported by the blood. 6. Another argument he draws from a caſe of a fractured os humeri he had occaſion to obſerve. A man was brought into St George's hoſpital for a ſimple fracture of the os humeri, and died about a month after the accident. As the bones had not united, Mr Hunter injected the arm after death. He found that the cavity between the extremities of the bones was filled up with blood which had coagulated. This blood was become vaſcular. In ſome places it was very much ſo. He does not maintain that all coagulated blood becomes vaſcular: and indeed the reaſon is obvious; for it is often thrown out and coagulated in parts where its becoming vaſcular could anſwer no end in the ſyſtem: as, for example, in the cavities of aneuriſmal ſacs. If it be ſuppoſed, that in ſuch caſes as that juſt now mentioned, the veſſels are not formed in the coagulum, but come from the neighbouring arteries, he thinks it equally an argument that the blood is alive; for the ſubſtance into which veſſels ſhoot muſt be ſo. The very idea, that ſuch a quantity of dead matter as the whole maſs of blood, circulates in a living body, appears to him abſurd.

20
Nervous ſyſtem alone thought by ſome to contain the vital principle.

The ſyſtem which at preſent ſtands oppoſed to that of Mr Hunter, conſiders the brain and nervous ſyſtem as the fountain of life; and that, ſo far from receiving its life from the blood, the nervous ſyſtem is capable of inſtantaneouſly changing the craſis of the blood, or any other animal fluid; and though the nervous ſyſtem cannot continue its actions for any length of time if the action of the blood-veſſels is ſuſpended, yet the heart and blood-veſſels cannot act for a ſingle moment without the influence of the nervous fluid. Hence, ſay they, it is plain we muſt ſuppoſe the nervous ſyſtem, and not the blood, to contain properly the life of the animal, and conſequently to be the principal vital organ. The ſecretion of the vital fluid from the blood by means of the brain, is, by the ſupporters of this hypotheſis, denied. They ſay, that any fluid ſecreted from the blood muſt be aqueous, inelaſtic, and inactive; whereas the nervous fluid is full of vigour, elaſtic, and volatile in the higheſt degree. The great neceſſity for the circulation of the blood through all parts of the body, notwithſtanding the preſence of the nervous fluid in the ſame parts, they ſay is, becauſe ſome degree of tenſion is neceſſary to be given to the fibres, in order to fit them for the influx of the nervous fluid; and this tenſion they receive from the repletion of the blood-veſſels, which are every where diſperſed along with the nerves.

To follow this diſpute through every argument that hath been, or that may be uſed by both parties, would prove tedious, and to us appears in a great meaſure unneceſſary, as the following ſhort conſiderations ſeem to decide the matter abſolutely againſt the patrons of the nervous ſyſtem. In the firſt place, then, if we can prove the life of the human body to have exiſted in, or to have been communicated from a fluid to the nervous ſyſtem, the analogical argument will be very ſtrongly in favour of the ſuppoſition that the caſe is ſo ſtill. Now, that the caſe once was ſo, is moſt evident; for the human body, as well as the body of every other living creature, in its firſt ſtate, is well known to be a gelatinous maſs, without muſcles, nerves, or blood-veſſels. Nevertheleſs, this gelatinous matter, even at that time, contained the nervous fluid. Of this there can be no doubt, becauſe the nerves were formed out of it, and had their power originally from it; and what is remarkable, the brain is obſerved to be that part of the animal which is firſt formed. Of this gelatinous fluid we can give no other account, than that it was the nutritious matter from which the whole body appears to be formed. At the original formation of man, and other animals, therefore, the nutritious matter was the ſubſtratum of the whole body, conſiſting of muſcles, nerves, blood-veſſels, &c. nay more, it was the immediate efficient cauſe of the nervous power itſelf. Why ſhould it not be ſo now as well as then? Again, in the formation of the embryo, we ſee a vital principle exiſting as it were at large, and forming to itſelf a kind of regulator to its own motions, or a habitation in which it chooſes to reſide, rather than to act at random in the fluid. This habitation, or regulator, was undoubtedly the nervous ſyſtem, and continues ſo to this moment; but at the ſame time, it is no leſs evident that a nutritious fluid was the immediate origin of theſe ſame nerves, and of that very nervous fluid. Now we know, that the fluid which in the womb nouriſhes the bodies of all embryo animals, is neceſſarily equivalent to the blood which nouriſhes the bodies of adult ones; and conſequently, as ſoon as the blood became the only nutritious juice of the body, at that ſame time the vital or nervous fluid took up its reſidence there, and from the blood diffuſed itſelf along the nerves, where it was regulated exactly according to the model originally formed in the embryo. Perhaps it may be ſaid, that the vital power, when once it hath taken poſſeſſion of the human or any other body, requires no addition or ſupply, but continues there in the ſame quantity from firſt to laſt. If we ſuppoſe the nervous power to be immaterial, this will indeed be the caſe, and there is an end of reaſoning upon the ſubject; but if we call this power a volatile and elaſtic fluid, it is plain that there will be more occaſion for recruits to ſuch a power than to any other fluid of the body, as its volatility and elaſticity will promote its eſcape in great quantities through every part of the body. It may alſo be objected, that it is abſurd to ſuppoſe any fluid, or mechanical cauſe, capable of putting matter in ſuch a form as to direct its own motions in a particular way: but even of this we have a poſitive proof in the caſe of the electric fluid. For if any quantity of this matter has a tendency to go from one place to another where it meets with difficulty, thro' the air for inſtance, it will throw ſmall conducting ſubſtances before it, in order to facilitate its progreſs. Alſo, if a number of ſmall and light conducting ſubſtances are laid between two metallic bodies, ſo as to form a circle, for example; a ſhock of electricity will deſtroy that circle, and place the ſmall conducting ſubſtances nearer to a ſtraight line between the two metals, as if the fluid knew there was a ſhorter paſſage, and reſolved to take that, if it ſhould have occaſion to return *. Laſtly, it is univerſally allowed, that the brain is a ſecretory organ, made up of an infinite number of ſmall glands, which have no other excretories than the medullary fibres and nerves. As a conſiderable quantity of blood is carried to the brain, and the minute arteries end in theſe ſmall glands, it follows, that the fluid, whatever it is, muſt come from the blood. Now, there is no gland whatever, in the human, or any other body, but will diſcharge the fluid it is appointed to ſecrete, in very conſiderable quantity, if its excretory is cut. Upon the cutting of a nerve, therefore, the fluid ſecreted by the brain ought to be diſcharged; but no ſuch diſcharge is viſible. A ſmall quantity of glairy matter is indeed diſcharged from the large nerves; but this can be no other than the nutritious juice neceſſary for their ſupport. This makes it plain, even to demonſtration, that the fluid ſecreted in the brain is *inviſible* in its nature; and as we know the nervous fluid hath its reſidence in the brain, it is very probable, to uſe no ſtronger expreſſion, that it is the peculiar province of the brain to ſecrete this fluid from the blood, and conſequently that the blood originally contains the vital principle.

21
Deciſive arguments in favour of Mr Hunter's opinion.

22
Vivifying ſpirit ſuppoſed to be derived from the air.

After it is allowed that the blood contains the vital principle, it becomes another queſtion not very eaſily ſolved, Whence is this vital principle derived?—For this we can only diſcover two ſources; namely, the chyle or aliment from which the blood is prepared, and reſpiration. The latter hath been commonly held as the principal ſource of the vital principle; and, for a long time, it was generally thought that there was a kind of vivifying ſpirit in the air, which being abſorbed by the blood at each inſpiration, communicated to that fluid the quality neceſſary for preſerving animal life. As a proof of this it was urged, that life cannot be ſupported without reſpiration, and that air which hath been often breathed ceaſes to be capable of ſupporting life; becauſe when once it has been totally deprived of its vivifying ſpirit, it can communicate none to the blood in any ſubſequent reſpirations.—This doctrine, however, hath been denied, and generally thought to be exploded by modern diſcoveries. Dr Hales brings ſeveral experiments againſt it; of which the following may ſerve for a ſpecimen, and which we ſhall give in his own words.

23
This doctrine for ſome time generally denied.

24
Dr Hales's experiment againſt a vivifying ſpirit.
Statical Eſſays, Vol. I. p. 255.

"I tied a middle-ſized dog alive on a table, and, having laid bare his wind-pipe, I cut it aſunder juſt below the larynx, and fixed faſt to it the ſmall end of a common foſſet: the other end of the foſſet had a large bladder tied to it, which contained 162 cubic inches; and to the other end of the bladder was tied the great end of another foſſet whoſe orifice was covered with a valve which opened inwards, ſo as to admit any air that was blown into the bladder, but none could return that way; yet, for further ſecurity, that paſſage was alſo ſtopped by a ſpigot.

"As ſoon as the firſt foſſet was tied faſt to the wind-pipe, the bladder was blown full of air through the other foſſet: when the dog had breathed the air in the bladder to and fro for a minute or two, he then breathed very faſt, and ſhowed great uneaſineſs, as being almoſt ſuffocated.

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* See *Electricity*.

"Then with my hand I preſſed the bladder hard, ſo as to drive the air into his lungs with ſome force; and thereby make his abdomen riſe by the preſſure of the diaphragm, as in natural breathings; then taking alternately my hand off the bladder, the lungs with the abdomen ſubſided: I continued in this manner to make the dog breathe for an hour; during which time, I was obliged to blow freſh air into the bladder every five minutes, three parts in four of that air being either abſorbed by the vapours in the lungs, or eſcaping through the ligatures upon my preſſing hard on the bladder.

"During this hour, the dog was frequently near expiring, whenever I preſſed the air but weakly into his lungs; as I found by his pulſe, which was very plain to be felt in the great crural artery near the groin, which place an aſſiſtant held his finger on moſt part of the time: but the languid pulſe was accelerated ſo as to beat faſt, ſoon after I dilated the lungs much by preſſing hard upon the bladder; eſpecially when the motion of the lungs was promoted by preſſing alternately the abdomen and the bladder, whereby both the contraction and dilation of the lungs was increaſed.

"And I could by this means rouſe the languid pulſe whenever I pleaſed, not only at the end of every five minutes, when more air was blown into the bladder from a man's lungs, but alſo towards the end of the five minutes, when the air was fulleſt of fumes.

"At the end of the hour, I intended to try whether I could have by the ſame means kept the dog alive ſome time longer, when the bladder was filled with the fumes of burning brimſtone; but being obliged to ceaſe for a little time from preſſing the air into his lungs, while matters were preparing for this additional experiment, in the mean time the dog died, which might otherwiſe have lived longer if I had continued to force the air into the lungs.

"Now, though the experiment was ſo frequently diſturbed, by being obliged to blow more air into the bladder 12 times during the hour; yet ſince he was almoſt ſuffocated in leſs than two minutes, by breathing of himſelf to and fro the firſt air in the bladder, he would have died in leſs than two minutes when one fourth of the old air remained in the bladder, immediately to taint the new air admitted from a man's lungs; ſo that his continuing to live through the whole hour, muſt be owing to the forcible dilation of the lungs by compreſſing the bladder, and not to the vivifying ſpirit of the air."

25 Dr Prieſtley's opinion.

Dr Prieſtley at firſt concluded from his own obſervations, and no doubt very juſtly, that air which hath been often breathed becomes pernicious by its accumulated phlogiſton, ſtimulating the lungs, and making the animal fall into convulſions. Reſpiration, therefore, he ſuppoſed to be a phlogiſtic proceſs, in which the blood parts with its ſuperfluous phlogiſton. He did not ſay, that the blood receives nothing in exchange; but rather that it may receive ſome nitrous principle, which gives it the red colour: but as to a vivifying-ſpirit, he doth not appear to have the leaſt idea of any ſuch thing being received at that time. Nay, in his firſt volume, p. 277. he expreſsly adopts the other hypotheſis, namely, that the vital principle is received from the chyle. "My conjecture (ſays he) is, that animals have a power of converting phlogiſton, from the ſtate in which they receive it in their nutriment, into that ſtate in which it is called the *electrical fluid*; that the brain, beſides its other proper uſes, is the great laboratory and repoſitory for this purpoſe; that by means of the nerves this great principle, thus exalted, is directed into the muſcles, and forces them to act in the ſame manner as they are forced into action when the electric fluid is thrown into them *ab extra*."

26 Dr Hales's experiment inconcluſive.

Theſe theories were oppoſed in the former edition of this work. With regard to Dr Hales's opinion, that the want of elaſticity, or preſſure, is the reaſon why phlogiſticated air cannot ſupport animal life, we apprehended it to be totally inconcluſive, becauſe it doth not at all appear that phlogiſticated air wants elaſticity; on the contrary, from Dr Prieſtley's experiments it appears to be more elaſtic than common air. Beſides, we know that the elaſticity of every fluid muſt always be in proportion to the preſſure upon it, as reaction is always equal to action. Suppoſing therefore the elaſticity of any portion of air to be deſtroyed, the preſſure of the ſuperincumbent atmoſphere will reduce it into a proportionably leſs bulk, and then it is equally elaſtic with the reſt; for if it was not, it would behove it ſtill to yield under the preſſure. Hence we may ſee, that as the bladder made uſe of in Dr Hale's experiment was by no means ſufficient to keep off the preſſure of the external atmoſphere, the death of the dog could not be fairly aſcribed to want of elaſticity in the tainted air. When he applied more force than the natural elaſticity of the air, he kept the dog *alive*, as he calls it, for an hour; but we can by no means allow a mechanical circulation of the blood to be life, any more than we can allow a dead body to be alive on account of the motion of its arm or any other member by mechanical means. The experiment, however, is valuable, becauſe it ſhows that reſpiration is one of the immediate mechanical agents by which the circulation of the blood is carried on; but in order to prove that the dog was really kept alive by this means, he ought to have recovered from the effects of the experiment. Had Dr Hales tried a ſimilar experiment on himſelf, by taking the foſſet in his mouth, cloſing his noſtrils, and cauſing another perſon compreſs the bladder, we have not the leaſt doubt that he would have then felt ſuch a method of breathing not to be a way of preſerving life, but of deſtroying it.

27 Cauſe of the diminution of air by phlogiſton, &c.

As to Dr Prieſtley's concluſions, it was argued, that "though he found air diminiſhed by admitting phlogiſton to it, Dr Prieſtley finds the mere acceſſion of any material ſubſtance can never diminiſh, but muſt increaſe, its bulk. The diminution, therefore, on the acceſſion of phlogiſtion, is an evident proof that ſome part of the air is actually taken away. That the phlogiſton received is not incorporated with the air is likewiſe evident, as well as that it takes up ſpace in the tainted air, becauſe, by agitation in water, the phlogiſtic matter ſeparates from the air, and enters into the water. The conſequence of this is, that the air is ſtill farther diminiſhed in bulk; and what remains is pure air, fit for ſupporting animal life, and of being farther diminiſhed by phlogiſton as before. It appears alſo certain, that phlogiſton is not endowed with any inherent power by which it can expand itſelf; otherwiſe it would fly off *in vacuo*, which it never is known to do. Another circumſtance we muſt alſo attend to is, that the action of phlogiſton ſeems to be entirely confined to a particular part of the atmoſphere; namely, that, which is now ſo well known by the name of *fixed air*. This it entirely deprives of its elaſtic principle, ſo that it is actually no longer air, but becomes a ſolid ſubſtance, making a part, and that no inconſiderable one, of innumerable terreſtrial ſubſtances, as chalk, lime-ſtone, &c."

That the juſtneſs of the concluſion about to be drawn from Dr Prieſtley's experiments may be more apparent, the phenomena were ſummed up in the two following propoſitions. "1. Phlogiſton cannot act by itſelf without the aſſiſtance of air. 2. The emiſſion of phlogiſton is attended with the total deſtruction of the elaſticity of a certain quantity of fixed air, which then ceaſes to be fluid. Hence we affirm, that it is not the phlogiſtic ſubſtance which acts upon the air, but the elaſtic principle in the fixed air contained in the common atmoſphere that acts on the phlogiſtic ſubſtance. This elaſtic principle, entering the phlogiſtic body, diſplaces a quantity of phlogiſton equivalent to its own quantity, and takes its place; and hence proceeds the firſt diminution of the air, not from an acceſſion of phlogiſton, but from an eſcape of the elaſtic principle belonging to fixed air. The phlogiſton and fixed particles of the air now hang looſe like ſmoke or vapour, and are ready to be attracted by any thing capable of imbibing them; and hence proceeds the ſecond diminution by agitation in water.

28 Why a phlogiſtic ſubſtance parts with its phlogiſton.

26 Proof of a reception of the vivifying principle from the air.

"Now to apply this reaſoning to the point in queſtion: The blood is found to emit phlogiſton from the lungs at every exſpiration; therefore we affirm it hath received a proportional quantity of elaſtic vapour which it had not before. Again: The air expelled from the lungs is found to contain much of the fixable part floating looſe, and capable of being attracted by lime-water, &c.; therefore we ſay, this elaſtic principle hath come from that part of the atmoſphere. But, to put the matter beyond doubt, the very inſpection of arterial and veinous blood will ſhow, that the firſt hath a quantity of elaſtic matter in it which the laſt wants: and as the brain as well as all other parts of the body are ſupplied with arterial blood, we think it abundantly evident, that this elaſtic principle is abſolutely and eſſentially neceſſary to life; that it is continually expended thereon; and that it may be ſaid with the utmoſt propriety, that every time we draw the air into our lungs, we receive a portion of vivifying or vital ſpirit from it into our blood. Add to all this, that many ſubſtances which are commonly obſerved to phlogiſticate air, appear to receive an elaſtic ſpirit by ſo doing. Putrefying bodies ſwell: they would not do ſo *in vacuo*; and therefore we muſt conclude, that they receive this elaſtic principle which ſwells them from the external air, and experience ſhows that it is communicated by this fixable part of the atmoſphere.

"The foregoing reaſoning, which to us appeared ſufficiently concluſive, leads to a very important diſcovery in natural philoſophy, *viz.* That it is to the atmoſphere, and to that particular part of it which goes by the name of *fixed air*, that we are every moment indebted for that vital ſpirit which animates our bodies, and is the immediate bond of union betwixt our immaterial ſpirit and this viſible world. It may be aſked indeed, If fixed air is capable of ſupplying this ſpirit in ſuch plenty, how comes it to be ſo inſtantaneouſly fatal when breathed? The reply to this, however, is obvious: it communicates too great a degree of elaſticity to the blood; whence the circulation is ſtopped, and inſtant death enſues. That this is really the caſe, appears from the following account of the ſymptoms obſerved on the diſſection of perſons who have been ſuffocated by this kind of air.

30 Objection anſwered.

Edinburgh Medical Comment. Vol. III. p. 256.

31 Appearances on the diſſection of thoſe ſuffocated by fixed air.

"1. The veſſels of the brain are gorged with blood, and the ventricles of that viſcus are filled ſometimes with a frothy, ſometimes with a bloody ſeroſity. 2. The trunk of the pulmonary artery is much diſtended, and the lungs appear nearly in a natural ſtate. 3. The right ventricle and auricle of the heart, the venæ cavæ, and jugular veins, are full of frothy blood. 4. Bloody ſeroſity is often found in the bronchiæ. 5. The trunk of the pulmonary veins, and the left auricle, are either empty, or almoſt empty, of blood. 6 The blood found in the places that have been mentioned, is generally fluid, and as it were in a diſſolved ſtate. It is eaſily extravaſated into the cellular texture, of the head particularly, becauſe it is in this part that it abounds moſt. 7. The epiglottis in ſuffocated perſons is raiſed, and the glottis open and free. 8. The tongue is much ſwelled, and can hardly be contained within the mouth. 9. The eyes protrude, and preſerve their luſtre to the ſecond or third day. They are often even brighter than natural. 10. The body preſerves its heat for a long time. Nay the heat is ſometimes greater than it is during life, or at leaſt conſiſtently with health. 11. The limbs are flexible for a long time after death. 12. The face is more ſwelled, and often more red than uſual. 13. The neck and upper extremities are ſometimes ſo much ſwelled, that they appear to be inflamed. Theſe ſwellings, however, do not, like œdematous ones, preſerve the impreſſions of the finger.

32 Fixed air ſuppoſed the cauſe of animal heat

"This account ſeemed ſo much in favour of what we had already advanced concerning the action of fixed air, that no obſervation was made upon it farther than that this elaſtic principle would ſeem alſo to be the cauſe of animal-heat; for as the blood evidently received a vaſt quantity of elaſtic fluid, it alſo received a much greater proportion of heat than uſual."

33 This theory corrected.

Such was the mode of reaſoning adopted at that time, derived from the diſcoveries which had been made in *Aerology*. Succeeding diſcoveries, however, have made it evident, that fixed air is not one of the natural component parts of our atmoſphere, but that it conſiſts of two different fluids; one of which is commonly called *phlogiſticated*, the other *dephlogiſticated*, air. It is the latter which ſupplies the vital principle; and the above reaſoning ſtill holds good, only ſubſtituting the words *dephlogiſticated air* for *fixed air*. The poiſonous quality of the latter ſeems alſo ſtill to depend on its too eaſy decompoſition; by which means the elaſtic principle is diſcharged into the blood in ſuch quantity as to burſt the ſmall veſſels, as has already been obſerved. This is ſhown indeed by the remedies moſt proper for the recovery of thoſe who have ſuffered from the noxious qualities of fixed air. Theſe conſiſt in evacuation, and eſpecially ſprinkling the body with cold water, in order to take off the ſuperfluous heat, and produce an univerſal contraction of the veſſels.

It now remains only to give ſome account of the means by which the circulation of the blood is carried

54
Circulation of the blood how carried on.

35
New hypotheſis by Dr Wilſon.

on in the living body. From the time of Harvey till very lately, this was ſuppoſed to be chiefly the muſcular power of the heart and arteries, which by ſome phyſiologiſts have been thought to be prodigiouſly great; and accordingly many calculations, requiring no ſmall degree of mathematical knowledge to underſtand them, have been made of the forces requiſite to perform this circulation. Other phyſiologiſts, however, have thought proper to take in ſeveral auxiliary helps, as the motion of the muſcles, reſpiration, &c. and from Dr Hales's experiment abovementioned it appears that reſpiration hath a conſiderable influence in this matter. It cannot, however, be the ſole cauſe, ſeeing the circulation is carried on in animals which do not reſpire.—In 1773, Dr Wilſon, in the lecture already quoted, ſuggeſted a new principle of motion, which we believe was never uſed before to account for the circulation of animal fluids. It is ſhortly this: "As the fluids of the human body do all of them ſuffer a continual waſte, and conſequently require a conſtant ſupply in proportion, we muſt look upon their going out of the body to be the end of their motion, and on their entering into the body to be the beginning of it; and hence we are to look for the origin of all the motion of the fluids in that part of the ſyſtem where the new ſupplies are taken in. This is the prima viæ, where the lacteals abſorb a fluid from the digeſted aliment, and convey it into the blood. The power by which this is accompliſhed, is neceſſarily independent of the heart, as having not the leaſt connection with it. It has been ſaid to be the ſame with that which cauſes fluids riſe in capillary tubes; but though very probably the powers in both caſes may be the ſame, there is this remarkable difference between them, that in the capillary tubes the fluids only riſe to a certain height, and will not riſe at all unleſs the tubes are empty. In the lacteals they riſe in veſſels already full, and continue to do ſo. Neither is the force whereby this abſorption is performed to be accounted little; ſeeing the ſupply by the chyle muſt conſtantly be equal to the waſte which is continually taking place in the fluids already contained in the veſſels. We ſee alſo, with what force an abſorption of this kind ſometimes takes place in other caſes; thus ropes will abſorb water with ſuch ſtrength as to raiſe immenſe weights faſtened to them, and which no mechanical injection of water into ſmall tubes could poſſibly accompliſh. What is already ſaid of the lacteals applies alſo to the lymphatics; and from thence we are almoſt tempted to conclude, that the caſe is the ſame with the ſanguiferous veins alſo; that though there may be a continuation of ſome arteries into the veins correſponding with them, yet that for the moſt part theſe veſſels extravaſate the blood into ſmall cavities, which is then taken up by the abſorbent power of the veins, and returned to the heart.

"If, however, the veſſels continued abſolutely full, it would be impoſſible that any motion could be carried on in them; and to continue and regulate the circulation, the heart with its cavities is provided. Let us ſuppoſe, that by the abovementioned power the veins are all full, and the auricles or chambers into which the veins empty themſelves are full alſo: where is the collected ſtream in the veins to go next? There is no room for more in the auricle. What muſt be done? The auricle contracts and empties itſelf. The conſequence is a ſudden vacuum equal to what the auricle could contain; the turgid veins, urged by the abſorbing power abovementioned, ruſh their contents into the auricle to fill up the vacuum again, and all behind moving in the veinous direction advances forward with ſo much force, that the veins near the heart ſuſtain a pulſation from the regurgitation of this impetuous ſtream, when the auricle ſhuts upon it to empty itſelf. In ſhort, the full auricle occupies a determinate quantity of ſpace in the breaſt: when it is emptied, there is a nonreſiſting vacuum of ſo much ſpace as was full before, and thither there is a mechanical niſus from the remoteſt filament of a vein over the whole body, which becomes conſpicous in the torrent that ruſhes every other moment from the mouth of the vena cava into this vacuum."

This is a ſhort abſtract of Dr Wilſon's new theory of the circulation. According to him, this abſorbing power of the veins is the principal agent, while the heart and arteries do no more than empty themſelves of the blood with which they are filled by the veins. Even this cauſe, however, he ſays, would not be ſufficent to carry on the circulation for a ſingle moment, without the preſence of another which he calls *life*, and does not conſider as abſolutely unmechanical, tho' we cannot reduce it either to mechanical rules or ideas. But as we apprehend all ſpeculations concerning ſuch cauſes muſt be arbitrary and without foundation, we forbear to give any account of the Doctor's opinions on this ſubject.

36
Blood contains no air while in the bodies of animals:

It hath been a general opinion, that blood, as it exiſts in the bodies of animals, contains a conſiderable quantity of common air; and indeed it is certain, that blood, after it has been drawn from the veins of any animal, and afterwards placed under the receiver of an air-pump, yields a very conſiderable quantity of air upon exhauſting the receiver: but if a portion of any blood-veſſel is tied up ſo as to prevent the eſcape of its contents, and then cut out of the body and placed under a receiver, it will not ſwell, or ſhow the leaſt ſign of its containing any quantity of air whatever.

37
Medicinal and other uſes of blood.

Blood was formerly held in great eſteem as a medicine for ſome particular diſeaſes. Baths of the blood of infants have been recommended as an infallible remedy for the elephantiaſis, &c.; and the blood of goats and ſome other animals was uſed by the Galeniſts, and is recommended even by Dr Mead in pleuriſies: but the firſt abominable medicine, as well as the other, is now deſervedly exploded. The principal uſe of blood in the arts is for making Pruſſian blue, or ſometimes for clarifying certain liquors; it is alſo recommended in agriculture as an excellent manure for fruit-trees. A mixture of blood with lime makes an exceedingly ſtrong cement; and hence it is of uſe in the preparation of ſome chemical lutes, the making floors*, &c.—As a food, it has been diſputed whether blood really affords any nouriſhment or not. The beſt judges now, however, are generally agreed that it is very nutritious; and tho' out of the body, like the white of an egg, it is very inſoluble, yet, like that too, in the body it is commonly of eaſy digeſtion. It is, however, highly alcaleſcent in hot climates; on which account the prohibition of it to the Iſraelites was very proper. Even in this country, when blood was uſed as food in great quantity, the ſcurvy was more frequent than at other times: but

* See *Architecture*, n°. 116.

but to a moderate uſe of it here no ſuch objection takes place.

In ſome countries we are told, that the barbarians were accuſtomed to intoxicate themſelves by drinking the warm blood of animals; and as it has been ſhown that this fluid is the immediate reſervoir of the vital principle, it ſeems by no means improbable that it may be poſſeſſed of an inebriating quality. Some expreſſions in Scripture ſeem to countenance this hypotheſis.

Religious uſes of BLOOD. Among the ancients blood was uſed for the ſealing and ratifying covenants and alliances, which was done by the contracting parties drinking a little of each others blood; and for appeaſing the manes of the dead, in order to which blood was offered on their tombs as part of the funeral ceremony.

The blood of victims was anciently the portion of the gods; and accordingly was poured or ſprinkled on the altars in oblation to them.

The prieſts made another uſe of blood, viz. for divination: the ſtreaming of blood from the earth, fire, and the like, was held a prodigy or omen of evil.

The Roman prieſts were not unacquainted with the uſe of blood in miracles: they had their fluxes of blood from images, ready to ſerve a turn; witneſs that ſaid to have ſtreamed from the ſtatue of Minerva at Modena, before the battle at that place. But we know not whether in this their ſucceſſors have not gone beyond them. How many relations in eccleſiaſtical writers of Madonas, crucifixes, and wafers, bleeding? At leaſt the liquefaction of the blood of St Januarius at Naples, repeated annually for ſo many ages, ſeems to tranſcend by far all the frauds of the Grecian or Roman prieſthood. But the chemiſts at laſt got into the ſecret; and we find M. Neuman at Berlin to have performed the miracle of the liquefaction of dried blood, with all the circumſtances of the Neapolitan experiment.

Among the ſchoolmen we find a famous diſpute, under Pope Pius II. whether the blood of Chriſt, which fell from him in the three days paſſion, retained or loſt the hypoſtatic union; and conſequently whether it was the proper object of adoration. The Dominicans maintained the former, the Franciſcans the latter. It ſeems the Dominican doctrine gained the aſcendant, as being fitted to favour the profits of the monks; who becoming poſſeſſed ſome way or other of a few drops of this precious liquor, were ſecured of ample offerings from the deluded laity, who flocked to pay their homage to the ſacred relic. Joſeph of Arimathea is ſaid to have firſt brought into Britain two ſilver veſſels filled with the blood of Chriſt, which by his order was buried in his tomb. King Henry III. had a cryſtal, containing a portion of the ſame blood, ſent him by the maſter of the temple at Jeruſalem, atteſted with the ſeals of the patriarch; which treaſure the king committed to the church of St Peter Weſtminſter, and obtained from the biſhops an indulgence of ſix years and 116 days to all that ſhould viſit it. Mat. Paris even aſſures us, that the king ſummoning his nobles and prelates to celebrate the feaſt of St Edward in St Peter's church, was chiefly *pro veneratione ſancti ſanguinis Chriſti nuper adepti*, "in veneration of the holy blood of Chriſt lately acquired." Divers others of the monaſteries were poſſeſſed of this profitable relic; as the college of Bon Hommes at Aſhridge, and the abbey of Hales to whom it was given by Henry, ſon of Richard Duke of Cornwall, and King of the Romans. To it reſorted a great concourſe of people for devotion and adoration; till in 1538, as the Reformation took place, it was perceived to be only honey clarified and coloured with ſaffron, as was ſhown at Paul's croſs by the biſhop of Rocheſter. The like diſcovery was made of the blood of Chriſt, found among the relics in the abbey of Feſcamp in Normandy, pretended to have been preſerved by Nicodemus, when he took the body from the croſs, and given to that abbey by William duke of Normandy; it was buried by his ſon Richard, and again diſcovered in 1171, and attended with different miracles; but the cheat, which had been long winked at, was at length expoſed, the relation of which is given by Speed.

Avenger of BLOOD, among the Jews, was next of kin to the perſon murdered, who was to purſue the murderer.

Eccleſiaſtical judges retire, when judgment is to be given in *caſes of blood*, by reaſon the church is ſuppoſed to abhor blood: it condemns no perſon to death; and its members become irregular, or diſabled from their functions, by the effuſion of blood.

Field of BLOOD, in Syriac *aceldama*, was a field purchaſed by the Jews with the thirty pieces of ſilver which had been given to Judas for betraying his Maſter, and which he had reſtored. It ſtill ſerves for a burial-ground, in which all pilgrims who die in their pilgrimage at Jeruſalem are interred.

BLOOD-Hound, in zoology, the *canis ſagax* of Linnæus*, *le chien courant* of Buffon, the *ſleuthounde* of the Scots: The hound or dog, with long, ſmooth, and pendulous ears.—It was a dog of great uſe, and in high eſteem with our anceſtors: its employ was to recover any game that had eſcaped wounded from the hunter, or been killed or ſtole out of the foreſt. It was remarkable for the acuteneſs of its ſmell; tracing the loſt beaſt by the blood it had ſpilt; from whence the name is derived. This ſpecies could, with the utmoſt certainty, diſcover the thief by following his footſteps, let the diſtance of his flight be ever ſo great, and through the moſt ſecret and thickeſt coverts: nor would it ceaſe its purſuit till it had taken the felon. They were likewiſe uſed by Wallace and Bruce during the civil wars. The poetical hiſtorians of the two heroes frequently relate very curious paſſages on this ſubject; of the ſervice theſe dogs were of to their maſters, and the eſcapes they had from thoſe of the enemy. The blood-hound was in great requeſt on the confines of England and Scotland; where the borderers were continually preying on the herds and flocks of their neighbours. The true blood-hound was large, ſtrong, muſcular, broad-breaſted, of a ſtern countenance, of a deep tan-colour, and generally marked with a black ſpot over each eye.

BLOOD-Shotten. See OPHTHALMIA.

BLOOD-Spavin. See FARRIERY, §. xxxii. 2.

Spitting of BLOOD, or *Hæmoptöe* See MEDICINE-*Index*.

Whole and Half BLOOD; a kinſman of the *whole blood* is he that is derived from the ſame couple of anceſtors; whereas a perſon of *half blood* deſcends from either of them ſingly by a ſecond marriage.

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* See *Canis*.

Blood of Chriſt, the name of a military order inſtituted at Mantua in 1608. The number of knights was reſtricted to 20, beſides the grand maſter. Their device was, *Domine, probaſti me*; or, *Nihil hoc, triſte, recepto*: "Lord, thou haſt proved me;" or, "Fortified by this, no evil can prevail."

Precious Blood, a denomination given to a reformed congregation of Bernardine nuns at Paris, firſt eſtabliſhed under that name in 1661.

Dragon's Blood. See Dragon.

Blood-Stone. See Hæmatites.

Blood-Veſſel. See Anatomy, nº 123, &c. and Plate XXXIII.

Blood-Wite, in ancient law writers, ſignifies *blood*, and a cuſtomary amercement paid as a compoſition for the ſhedding or drawing of blood. The word is alſo written *blodwite*, *blodwita*, *blodwyta*, *bloodwit*, *blodwit*, *bloudwit*, and *bluidwit*. It is formed from the ancient Saxon *blud*, "blood," and *vite* or *wite*, "a fine or penalty." The word alſo denotes an exemption from this penalty granted by the king to certain perſons and communities as a ſpecial favour. King Henry II. granted to all tenants within the honour of Wallingford—*Ut quieti ſint de hidagio et blodwite et bredwite.*

Blood-Wort, in botany. See Rumex.

Blood (Thomas), generally known by the appellation of *Colonel Blood*, was a diſbanded officer of Oliver Cromwell's, famous for his daring crimes and his good fortune. He was firſt diſtinguiſhed by engaging in a conſpiracy to ſurpriſe the caſtle of Dublin; which was defeated by the vigilance of the Duke of Ormond, and ſome of his accomplices were executed. Eſcaping to England, he meditated revenge againſt Ormond; and actually ſeized him one night in his coach at St. James's-ſtreet, where he might have finiſhed his purpoſe if he had not ſtudied refinements in his vengence. He bound him on horſeback behind one of his aſſociates, reſolving to hang him at Tyburn, with a paper pinned to his breaſt: but when they got into the fields, the duke, in efforts for liberty, threw himſelf and the aſſaſſin, to whom he was faſtened, to the ground; and while they were ſtruggling in the mire, he was reſcued by his ſervants; but the authors of this attempt were not then diſcovered. A little after, in 1671, Blood formed a deſign of carrying off the crown and regalia from the tower; a deſign, to which he was prompted, as well by the ſurpriſing boldneſs of the enterprize, as by the views of profit. He was very near ſucceeding. He had bound and wounded Edwards the keeper of the jewel-office, and had got out of the tower with his prey; but was overtaken and ſeized, with ſome of his aſſociates. One of them was known to have been concerned in the attempt upon Ormond; and Blood was immediately concluded to be the ringleader. When queſtioned, he frankly avowed the enterprize; but refuſed to diſcover his accomplices. "The fear of death (he ſaid) ſhould never engage him either to deny a guilt or betray a friend." All theſe extraordinary circumſtances made him the general ſubject of converſation; and the king was moved with an idle curioſity to ſee and ſpeak with a perſon ſo noted for his courage and his crimes. Blood might now eſteem himſelf ſecure of pardon; and he wanted not addreſs to improve the opportunity. He told Charles, that he had been engaged, with others, in a deſign to kill him with a carabine above Batterſea, where his majeſty often went to bathe: that the cauſe of this reſolution was the ſeverity exerciſed over the conſciences of the godly, in reſtraining the liberty of their religious aſſemblies: that when he had taken his ſtand among the reeds, full of theſe bloody reſolutions, he found his heart checked with an awe of majeſty; and he not only relented himſelf, but diverted his aſſociates from their purpoſe: that he had long ago brought himſelf to an entire indifference about life, which he now gave for loſt; yet could he not forbear warning the king of the danger which might attend his execution: that his aſſociates had bound themſelves by the ſtricteſt oaths to revenge the death of any of their confederacy; and that no precaution nor power could ſecure any one from the effects of their deſperate reſolutions. Whether theſe conſiderations excited fear or admiration in the king, they confirmed his reſolution of granting a pardon to Blood; but he thought it a requiſite point of decency firſt to obtain the Duke of Ormond's conſent. Arlington came to Ormond in the king's name, and deſired that he would not proſecute Blood, for reaſons which he was commanded to give him. The duke replied, that his majeſty's commands were the only reaſon that could be given; and being ſufficient, he might therefore ſpare the reſt. Charles carried his kindneſs to Blood ſtill farther: he granted him an eſtate of L. 500 a-year in Ireland; he encouraged his attendance about his perſon; he ſhowed him great countenance; and many applied to him for promoting their pretenſions at court. And while old Edwards, who had bravely ventured his life, and had been wounded, in defending the crown and regalia, was forgotten and neglected, this man, who deſerved only to be ſtared at and deteſted as a monſter, became a kind of favourite.—Blood enjoyed his penſion about 10 years, till being charged with fixing an imputation of a ſcandalous nature on the Duke of Buckingham, he was thrown into priſon, where he died Auguſt 24. 1680.

BLOODY, ſomething belonging to or abounding with blood.

Bloody-Flux. See Medicine-*Index*.

Bloody-Hand, is when a treſpaſſer is apprehended in a foreſt with his hands or other parts bloody; which is a circumſtance of his having killed the deer, though he be not found chaſing or hunting them.

Bloody-Rain. See Rain.

Bloody-Sweat. Many inſtances of this are recorded, in which it has been owing to bodily diſorder, or extreme mental agitation and agony. See particularly Ariſtotle's Hiſt. Animal. lib. iii. cap. 19. apud Oper. tom. i. Thuanus Hiſt. Temp. &c. lib. ii. apud Oper. tom. i. Melanges d'Hiſtoire et de Literature, &c. per M. V. Marville, tom. iii. p. 149. Acta Phyſico-Med. Norimbergæ, vol. i. p. 84. and vol. viii. p. 428.

Bloody-Urine. See Medicine-*Index*.

BLOOM, a maſs of iron after having undergone the firſt hammering called *blomary*. It has yet to undergo many hammerings before it become iron fit for the ſmith's uſe, and be firſt made what they call the *ancony*. See Ancony.

BLOOT (Peter), a Flemiſh painter, whoſe works are not frequently ſeen in Britain; nor are they eaſily purchaſed in Holland, being carefully preſerved in private collections, and are highly eſteemed.

The ſubjects he choſe to paint were always taken from the loweſt life; ſuch as boors drinking, feaſting, dancing, or quarrelling; ſhepherds piping, and ſometimes the marriages of villagers. He was a faithful, and indeed too ſervile an imitator of nature; never departing from the actions, attitudes, or draperies of his models. He ſhowed a good knowledge of the chiaroſcuro, and perſpective; he had a delicate manner of penciling, and his colouring was mellow; but he had no idea of elegance: yet his pictures have in many reſpects great merit, and his defects ſeem rather imputable to the taſte of his country than to his own genius; ſome of his works being, for the lightneſs of the touch, the neatneſs of handling, and tranſparence of colour, equal to the beſt of his time. He died in 1667.

BLOSSOM, in a general ſenſe, denotes the flower of any plant. See the article Flower.

Blossom, in a more proper ſenſe, is reſtrained to the flowers of trees, which they put forth in the ſpring as the forerunners of their fruit, otherwiſe called their *bloom*. The office of the bloſſom is partly to protect, and partly to draw nouriſhment to, the embryo, fruit, or ſeed.

Blossom, or *Peach-coloured*, in the manege, a term applied to a horſe that has his hair white, but intermixed all over with ſorrel and bay hairs. Such horſes are ſo inſenſible and hard, both in the mouth and the flanks, that they are ſcarce valued; beſides they are apt to turn blind.

BLOSSOMING of Plants, the act of blowing, or putting forth flowers of bloſſoms, called alſo *flowering*. The bloſſoming of the Glaſtenbury thorn piouſly on Chriſtmas-day-morning, is a vulgar error; owing to this, that the plant, beſides its uſual bloſſoming in the ſpring, ſometimes puts forth a few white tranſient bloſſoms in the middle of winter. For the bloſſoming of the roſe of Jericho on the ſame day as it is commonly held in England, or in the time of midnight maſs, as is held in France, is ſomewhat more than error, being really a fraud on one ſide, and a ſuperſtition on the other. This roſe, whoſe leaves are only cloſed and ſhrivelled up in winter, will, at any time, upon ſetting its pedicle in water, expand and bloſſom a-new; becauſe the pedicle being ſpongy imbibes the fluid apace, and thus fills and ſwells out the ſhrivelled leaves: which property ſome monks have turned to good account.

BLOTELING or Blooteling (Abraham), an engraver who flouriſhed about the year 1672. He was a native of Amſterdam, and deſigned as well as engraved. From the ſtyle of his etchings, which have great merit, he is ſuppoſed to have frequented the ſchool of the Viſſchers. He went into England about the year 1672, or 1673, at the time the French invaded Holland; but he did not reſide there long. He not only etched, but alſo ſcraped ſeveral mezzotintos, which were much eſteemed. Vertue informs us, that whilſt he was in England, he received 30 guineas for an etching of the duke of Norfolk. From hence he returned to Amſterdam, where, in all probability, he died. In the year 1685, he publiſhed at Amſterdam the *gems* of Leonardo Auguſtino, and etched the plates himſelf.

BLOUNT (Thomas), a learned Engliſh writer of the 17th century, born at Bordeſley in Worceſterſhire. He had not the advantage of an univerſity education; but, by the ſtrength of genius and great application, made a conſiderable progreſs in literature. Upon the breaking out of the popiſh plot in the reign of king Charles II. being much alarmed on account of his being a zealous Roman-catholic, he contracted a palſy; and died in December 1679, aged 61. He wrote, 1. The academy of eloquence, containing a complete Engliſh Rhetoric. 2. Gloſſographica, or a dictionary interpreting ſuch hard words, whether Hebrew, Greek, Latin, Italian, &c. that are now uſed in our refined Engliſh tongue, &c. 3. Boſcobel; or the hiſtory of his majeſty's eſcape after the battle of Worceſter. 4. A law dictionary. 5. Animadverſions upon Sir Richard Baker's chronicle. 6. *Fragmenta Antiquitatis*; and other works.

Blount (Sir Henry), an Engliſh writer, born at his father's ſeat in Hertfordſhire in 1602. After a regular education, he ſet out on his travels in 1634; and getting acquainted with a janizary at Venice, he accompanied him into the Turkiſh dominions: having been abroad two years, he returned and publiſhed a relation of his travels in the Levant, which went thro' ſeveral editions. He was knighted by Charles I. and was at the battle of Edge-hill, at which time he is ſuppoſed to have had the charge of the young princes; but, after the king's death, was employed by the parliament, and by Cromwell. Yet after the reſtoration of the royal family he was appointed high ſheriff of the county of Hertford, and from that time lived as a private gentleman above 20 years. He publiſhed, 1. An account of his travels. 2. Six comedies written by John Lilly, under the title of *Court Comedies*. 3. The exchange walk, a ſatire; and 4. An epiſtle in praiſe of tobacco. He died October 9th, 1682.

Blount (Sir Thomas Pope), baronet, an eminent writer, and the eldeſt ſon of the former, was born at Upper Holloway, in the county of Middleſex, September 12th, 1649. He was educated under the eye of his father; and always diſtinguiſhed himſelf as a lover of liberty, a ſincere friend to his country, and a true patron of learning. He was advanced to the degree of baronet by king Charles II. in whoſe reign he was elected burgeſs for St Alban's in two parliaments, and was knight of the ſhire in three parliaments after the Revolution. He wrote in Latin, 1. A critique on the moſt celebrated writers. 2. Eſſays on ſeveral ſubjects. 3. A natural hiſtory, extracted out of the beſt modern writers; and 4. Remarks upon poetry, with characters and cenſures of the moſt conſiderable poets, whether ancient or modern. He died June 30th, 1697.

Blount (Charles), younger brother of Sir Thomas Pope Blount, had alſo an excellent capacity, and was an eminent writer. His *Anima Mundi*, or *an Hiſtorical narration of the opinions of the ancients, concerning man's ſoul after this life, according to unenlightened nature*, gave great offence, and was complained of to the biſhop of London. But the work which rendered him moſt known, was his tranſlation of Philoſtratus's *Life of Apollonius Tyanæus*, publiſhed in 1680; which was ſoon ſuppreſſed, as an attack on revealed religion. Another work of the ſame complexion he publiſhed the ſame year, called *Great is Diana of* the *Epheſians*, &c. in which, under colour of expoſing ſuperſtition, he ſtruck at revelation. In 1684, he printed a kind of *Introduction to Polite Literature*. In the warmth of his zeal for the Revolution, he wrote a pamphlet to prove king William and queen Mary conquerors; which was condemned to be burnt by both houſes of parliament. The cloſe of his life was very unhappy. For, after the death of his wife, he became enamoured of her ſiſter, who was only ſcrupulous againſt their union on account of their prior connection by the marriage; on which he writ a letter on the ſubject, as the caſe of a third perſon, with great learning and addreſs. But the archbiſhop of Canterbury and other divines deciding againſt him, and the lady on this growing inflexible, it threw him into a frenzy in which he ſhot himſelf, in 1693. After his death, his miſcellaneous pieces were collected and publiſhed.

BLOW (Dr John), a famous muſician and compoſer, was a native of North Collingham in the county of Nottingham; and was one of the firſt ſet of children after the reſtoration, being bred up under Captain Henry Cook. He was alſo a pupil of Hingeſton, and after that of Dr Chriſtopher Gibbons. On the 16th day of March, 1673, he was ſworn one of the gentlemen of the chapel in the room of Roger Hill; and in July, 1674, upon the deceaſe of Mr Pelham Humphrey, was appointed maſter of the children of the chapel. In 1685, he was made one of his majeſty's private muſic; and in 1687, was appointed almoner and maſter of the choriſters of the cathedral church of St Paul. Blow was not a graduate of either univerſity: but archbiſhop Sancroft, in virtue of his own authority in that reſpect, conferred on him the degree of doctor in muſic. Upon the deceaſe of Purcell in 1695, he became organiſt of Weſtminſter-abbey. In the year 1699, he was appointed compoſer to his majeſty, with a ſalary. Blow was a compoſer of anthems while a chapel-boy, and on the ſcore of his merit was diſtinguiſhed by Charles II. The king admired very much a little duet of Cariſſimi to the words 'Dite o Cieli,' and aſked of Blow if he could imitate it. Blow modeſtly anſwered he would try; and compoſed in the ſame meaſure, and the ſame key of D with a minor third, that fine ſong, 'Go, perjured man.' The *Orpheus Britannicus* of Purcell had been publiſhed by his widow ſoon after his deceaſe; and contained in it ſome of that author's fineſt ſongs: the favourable reception it met with was a motive with Blow to the publication in the year 1700, of a work of the ſame kind, entitled *Amphion Anglicus*, containing compoſitions for one, two, three, and four voices, with accompaniments of inſtrumental muſic, and a thorough-baſs figured for the organ, harpſichord, or theorbolute. To this book are prefixed commendatory verſes by ſundry perſons; and among them an ode, in the ſecond ſtanza of which are the following lines:

> 'His *Gloria Patri* long ago reach'd Rome,
> 'Sung and rever'd too in St Peter's dome;
> 'A canon will outlive her jubilees to come.'

The canon here meant is that fine one to which the Gloria Patri in Dr Blow's gamut ſervice is ſet. Dr Blow ſet to muſic an ode for St Cecilia's day, in 1684, the words by Mr Oldham, publiſhed together with one of Purcell on the ſame occaſion performed the preceding year. He alſo compoſed and publiſhed a collection of leſſons for the harpſichord or ſpinnet, and an ode on the death of Purcell, written by Mr Dryden. There are alſo extant of his compoſition ſundry hymns printed in the *Harmonia Sacra*, and a great number of catches in the latter editions of the muſical companion.—This great muſician died in the year 1708, and lies buried in the north aile of Weſtminſter-abbey. On his monument is the canon above mentioned, engraven on a book with an inſcription above it.

Blow, in a general ſenſe, denotes a ſtroke given either with the hand, a weapon, or inſtrument. In fencing, blows differ from thruſts, as the former are given by ſtriking, the latter by puſhing.

Military Blow, *alapa militaris*, that given with a ſword on the neck or ſhoulder of a candidate for knighthood, in the ceremony of dubbing him. The cuſtom ſeems to have taken its riſe from the ancient ceremony of manumiſſion. In giving the blow, the prince uſed the formula *Eſto bonus miles*, "Be a valiant ſoldier;" upon which the party roſe a complete knight, and qualified to bear arms in his own right.

Blow, in law. See Battery.

Fly-Blows, the ova of flies depoſited on fleſh, or other ſubſtances proper for hatching them.

Blow-Pipe, in chemiſtry and mineralogy, an inſtrument by which the blaſt of the breath may be directed upon the flame of a lamp or candle, in ſuch a manner as to vitrify any ſmall portion of mineral ſubſtance; and thus the proceſs of aſſaying in the dry way may be performed in a very ſhort time, where either want of inſtruments or opportunity prevent other methods from being uſed.

1
The blow-pipe uſeful to chemiſts.

Mr Bergman obſerves that this inſtrument is extremely uſeful to chemiſts, as many experiments are daily neglected, either becauſe they require furnaces and a large apparatus of veſſels; from the want of time to examine them in the ordinary way; or from the quantity required in the common way for examination, when the matter may be too ſcarce or too dear. In all theſe caſes the blow-pipe may be advantageouſly uſed; as, 1. Moſt of the experiments which can be performed in the large way may alſo be done with the blow-pipe. 2. The experiments which in the large way require many hours, may in this method be finiſhed in a few minutes; and, 3. The ſmalleſt particle is ſufficient. The only defect is, that the proportions cannot be determined with any preciſion; and therefore where the experiments can be tried on a large ſcale, it is always to be preferred. "But the firſt inquiry to be made," ſays our author, "is, *what* a ſubſtance contains, not *how much*; and I have learned by the experience of many years, that theſe trials in ſmall ſuggeſt the proper methods of inſtituting experiments in large. Theſe experiments beſides have ſome advantage over thoſe conducted in crucibles, *viz.* we can ſee all the phenomena from beginning to end, which wonderfully illuſtrates the ſeries of operations and their cauſes. Experiments made in crucibles are often fallacious, as the ſubſtance of the veſſel itſelf is corroded. We ſuppoſe that lime or magneſia melted with fixed alkali are united with it in the way of ſolution;

2
In what caſes it may be advantageouſly employed.

lution; but the globule, when well fuſed in the ſpoon, by its tranſparency permits us plainly to ſee that, except the ſiliceous part, it is only mechanically mixed. The moſt intenſe degree of heat may in this way be obtained in a few minutes, which can ſcarcely be done in a crucible in many hours."

3
When the inſtrument was firſt introduced.

4
Bergman's deſcription of the blow-pipe.

Plate XCIX.

Fig. 3, 5.

The blow-pipe was firſt introduced into the chemical apparatus about 50 years ago by the celebrated Swediſh metallurgiſt Dr Andreas Swab, and the inſtrument was afterwards greatly improved by Meſſrs Cronſtedt, Rinman, &c. and Dr Engeſtroem has an expreſs treatiſe upon the ſubject. Mr Bergman propoſes that the tube ſhould be made of pure ſilver, to prevent it from being injured by ruſt; with the addition of a ſmall quantity of platina, to give a neceſſary hardneſs. It conſiſts of three parts, which may be occaſionally joined: A handle (fig. 3.) terminating in a truncated conical apex *a a*, which may by twiſting be ſo adapted to the aperture *b* (fig. 4.) as to ſhut it more cloſely than can be done by a ſcrew. It was an improvement of former chemiſts to have a hollow ball on the tube to collect the moiſture of the breath, which if ſuffered to accumulate would greatly diminiſh the intenſity of the flame. Inſtead of this Mr Bergman made uſe of the little box (fig. 4.) formed of an eliptical plate, ſo bended through the centre that the oppoſite ſides become parallel, and are joined round by a plate equal in breadth to *c c*. Such a box collects the moiſture of the breath as well as the ſphere, and is beſides attended with the advantage of a compreſſed figure and ſmaller circumference. The aperture *b* is ſomewhat conical, and hollowed out of the ſolid piece; and has no margin turned inward, leſt the efflux of the fluid collected after long blowing, or the cleanſing of the internal parts, ſhould in any degree be prevented. The tube (fig. 5.) is very ſmall, and its ſhorter conical end *e e* exactly fitted to the aperture *f*, ſo that no air can eſcape except through the orifice *g*. Many of thoſe tubes ſhould be provided with orifices of different diameters, to be applied on different occaſions: the orifice *g* itſelf ought to be ſmooth and circular, otherwiſe the cone of flame hereafter to be mentioned will be divided. The bands (*hh ii*) prevent the conical apices (*aa, ee*) from being thruſt in too far, and alſo ſerve another purpoſe; for when theſe apices are, by repeated attrition, at laſt ſo much diminiſhed as to fall out ſpontaneouſly, by filing away a little of the bands they may again be made tight. The figures repreſent the whole apparatus of the proper ſize.

5
How to ſupply it with a conſtant ſtream of air.

9
Dr Berkenhout's improvement.

The greateſt difficulty attending the uſe of the blow-pipe is the ſupplying it with a conſtant ſtream of air by means of the breath; for to ſuch as are unaccuſtomed to it, it appears a contradiction to think of blowing a ſtream of air out by the mouth, at the ſame time that we are drawing it in by the noſtrils to ſupply the neceſſary functions of reſpiration. An uninterrupted ſtream of air, however, is abſolutely neceſſary: and, "to ſucceed in this operation (ſays Mr Bergman) without inconvenience, ſome labour and practice are neceſſary. The whole artifice, however, conſiſts in this, that while the air is inſpired through the noſtrils, that which is contained in the mouth be forced out through the tube by the compreſſion of the cheeks. To ſome perſons this is extremely difficult; but frequent trials will eſtabliſh the habit; ſo that a continual ſtream of air can be ſupplied for a quarter of an hour or more, without any other inconvenience than the laſſitude of the lips compreſſing the tube. A very great and obvious improvement, however, is ſtill ſuggeſted by Dr Berkenhout, viz. to apply the tube to the wind-bag of a bag-pipe; which being firſt blown full, may eaſily be kept ſo; and being compreſſed by the arm, will produce a blaſt either ſtrong or weak as we have a mind. It will be a ſtill farther improvement to ſupply this bag by means of a ſmall bellows inſtead of blowing into it with the mouth: for thus the air will be more free from moiſture, and alſo fitter for the ſupport of flame, in other reſpects; as there is always a conſiderable quantity of fixed air produced at every reſpiration, which, acccording that quantity, muſt unfit the air for keeping up the flame, and conſequently render the heat leſs intenſe.

7
A candle proper for producing the flame.

Fig. 5, 6.

8
Two kinds of flame produced by the blow-pipe.

With regard to the flame proper to be choſen, Mr Bergman directs a ſlender candle, either of wax or tallow (fig. 6.), with a cotton wick (*k l*). The burned top muſt be cut at ſuch a length, that the remainder may be bent a little (*l m*). The orifice (*g*) is to be held above and near to this arch, perpendicular to (*l m*), and the air equably expreſſed. The flame being forced to one ſide by the violence of the blaſt, exhibits two diſtinct figures; the internal figure (*l n*), conical, blue, and well defined; at the apex of this, *n*, the moſt violent heat is excited; the external flame (*l o*), browniſh, vague, and indetermined; which is ſpoiled of its phlogiſton by the ſurrounding atmoſphere, and occaſions much leſs heat at its extremity (*o*) than the interior flame does.

9
Dr Black's directions concerning this inſtrument.

10
Blow-pipe uſeful in ſoldering, &c.

Dr Black, as well as all other eminent chemiſts, greatly recommend the uſe of the blow-pipe for chemical experiments on minerals. The conſtruction recommended by him differs not from that already deſcribed; only he ſays, that it may be made of tin, a cheaper material than ſilver; though formerly they were made of glaſs. The ſmall ſtream of air iſſuing from the extremity of the tube, being more intimately mixed with the flame, and agitated with it, occaſions a more complete conſumption of the vapour ariſing from the candle, and makes it produce much more heat; ſo that any ſmall body expoſed to the extremity of the flame is heated to a ſurpriſing degree. Several artiſts who work in metals, as the goldſmiths, &c. find this inſtrument uſeful in ſoldering ſmall pieces of metal together; and it is alſo uſed by the chemiſts in examining the effects of violent heat upon ſmall bodies. Some of the artiſts who uſe it much, ſupply the ſtream of air with a pair of bellows placed under the table, with a pipe riſing up through it, and to which the blow-pipe is fixed. In the examination of ores, the more ſimple inſtrument is preferred; and by a little practice it is eaſy to blow a continued ſtream of air with the mouth, by keeping it always full, and drawing in the air by the noſtrils, which anſwers the ſame purpoſe as the upper part of a double bellows. Mr Cronſtedt uſed the blow-pipe much in making the experiments on which his ſyſtem of mineralogy is founded, blowing air through a bit of charcoal: and though the ſpecimens are ſmall, we can ſee the changes they undergo as well as if they were larger; and the eye can be aſſiſted by a magnifying glaſs.

Plate XCIX

Blow-Pipe

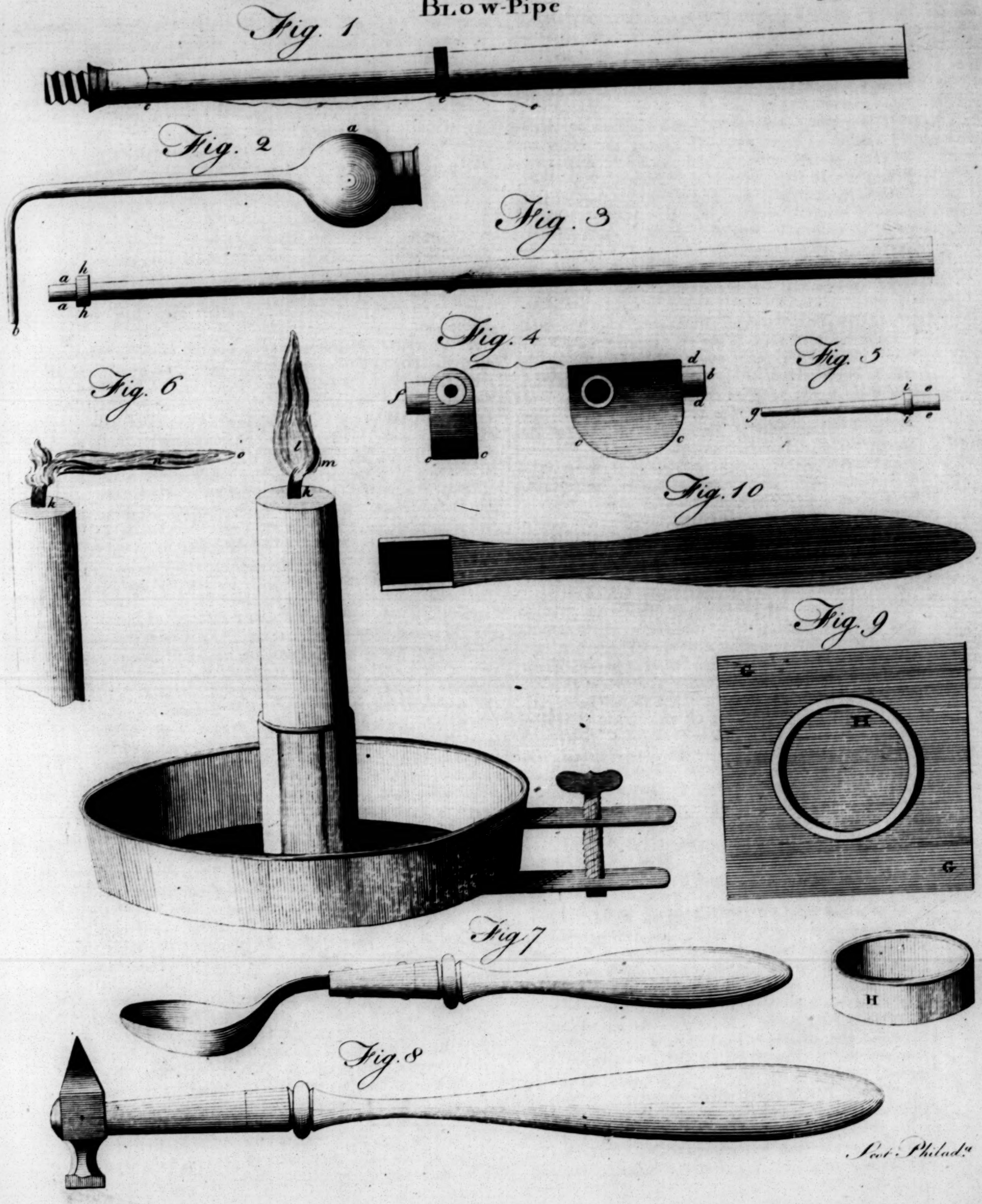
Fig. 1
c
e
o
Fig. 2
a
b
Fig. 3
a
h
a
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Fig. 4
f
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c
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Fig. 5
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i
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Fig. 6
k
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m
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Fig. 10
Fig. 9
G
H
G
Fig. 7
H
Fig. 8

Scot. Philad^{a}

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11 Why the blow-pipe raiſes ſuch an intenſe heat.

The reaſon of the intenſe heat produced by the blow-pipe is, that in the ordinary way of burning, the air acts only upon the external ſurface of the fuel, ſo that it is not ſo completely inflamed.

12 Mr Cronſtedt's blow-pipe.

The blow-pipe uſed by Mr Cronſtedt is compoſed of two parts; and this for the facility both of making, carrying it along, and cleanſing it in the inſide when neceſſary. The two parts are repreſented ſeparate †, and of the true ſize; the figure of the inſtrument, when theſe are put together, may be eaſily conceived. The globe *a* (fig. 2.) is hollow, and made on purpoſe to condenſe the vapours, which always happen to be in the blow-pipe when it has been uſed ſome time: if this globe was not there the vapours would go directly with the wind out into the flame, and thereby cool the aſſay. The hole in the ſmall end *b*, through which the wind comes out, ought not to be larger than the ſize of the fineſt wire. This hole may now and then happen to be ſtopped up by ſomething coming into it, ſo as to hinder the force of the wind: one ought therefore to have a piece of the fineſt wire, to clear it with when required; and, in order to have this wire the better at hand, it may be faſtened round the blow-pipe, in ſuch a manner as is repreſented in fig. 1: *c* is the wire faſtened round the blow-pipe, and afterwards drawn through a ſmall hole at *e*, made in the ring *f*, to keep it more ſteady. In order to determine the moſt convenient proportions of this inſtrument, ſeveral blow-pipes of different ſizes, both bigger and ſmaller, have been tried: the former have required too much wind; and the latter, being too ſoon filled with the wind, have returned it back again upon the lungs: both theſe circumſtances hindered greatly the experiments, and are perhaps even prejudicial to the health. The ſize here given is found to anſwer beſt; and though the hole muſt be as ſmall as abovementioned, yet the ſides of the pipe at the point muſt not be thinner, nor the point narrower, than here repreſented, elſe it will be too weak, and not give ſo good a flame. It is alſo to be obſerved, that the canal throughout the pipe, but particularly the hole at the ſmall end, muſt be made very ſmooth, ſo that there be no inequalities in it; the wind would elſe be divided, and conſequently the flame made double. That blow-pipe is to be reckoned the beſt, through which can be formed the longeſt and moſt pointed flame from off a common-ſized candle. Theſe blow-pipes are commonly made of braſs or ſilver.

13 Of the ſupports proper for the matter ſubjected to the flame of the blow-pipe.

There are two different kinds of matter made uſe of for the ſupport of thoſe ſubſtances uſually examined by the blow-pipe: the one is charcoal of fir, or beech, cut into the form of a parallelopiped; the other a ſilver, or, which is better, a golden ſpoon fitted with a wooden handle. The former is generally uſed, excepting where phlogiſton is to be avoided, or the ſubject of examination is apt to be abſorbed by the charcoal. The golden ſpoon ſhould be much leſs than the figure (7.) as the bulk of the ſupport prevents the heat from being raiſed to a proper degree. To prevent the fine light particles from being carried off by the blaſt, a ſmall cavity ſhould be hollowed out in the charcoal; in which, being partly protected by another ſmaller piece of charcoal, they may be expoſed to the apex of the flame.

14 Intenſe heat excited by dephlogiſticated air.

Were it poſſible to procure a ſufficient quantity of dephlogiſticated air, experiments with the blow-pipe could be rendered ſtill more important than they are, as we might by this means be able to fuſe and vitrify ſubſtances *per ſe*, which we are now ſcarce able to do with the moſt powerful fluxes. The difficulty of procuring this kind of air, however, has as yet, in a great meaſure, excluded the uſe of it from chemiſtry, though M. le Blond, *Medicin Naturaliſt du Roi*, in a letter to the editor of the *Journal de Phyſique* for February, 1787, propoſes, inſtead of blowing through the tube, to adapt to the wide end of it a leathern bag, the ſize of an ox's bladder, filled with pure air. Were this bag made to communicate, by means of a pair of ſmall bellows, with a reſervoir, containing a conſiderable quantity of this dephlogiſticated air, there is no doubt that many chemical operations might by its means be very advantageouſly performed: and we are already aſſured, that, by the uſe of this kind of air, platina itſelf may be melted. As deflogiſticated air, however, has not yet come into uſe, we can only expect ſuch effects as may be produced by a violent blaſt of common atmoſpheric air; and for this purpoſe we muſt accommodate ourſelves with proper fluxes. The following are recommended by Mr Bergman.

15 Properties of the phoſphoric acid as a flux.

1. The phoſphoric acid, or rather the microcoſmic ſalt, as it is called, which contains that acid partly ſaturated with mineral, partly with volatile alkali, and loaded beſides with much water and a gelatinous fat. This ſalt, when expoſed to the flame, boils and foams violently, with a continual crackling noiſe, until the water and volatile alkali have flown off; afterwards it is leſs agitated, ſending forth ſomething like black ſcoriæ ariſing from the burned gelatinous part: theſe, however, are ſoon diſpelled, and exhibit a pellucid ſphericle encompaſſed by a beautiful green cloud, which is occaſioned by the deflagration of the phoſphorus ariſing from the extrication of the acid by means of the inflammable matter. The clear globule which remains, upon the removal of the flame, continues longer ſoft than that formed by borax; and therefore is more fit for the addition of the matter to be diſſolved. The volatile alkali is expelled by the fire; therefore an exceſs of acid remains in what is left behind, which readily attracts moiſture in a cool place.

16 Of the mineral alkali

2. The mineral alkali, or ſal ſodæ, when put upon charcoal, melts ſuperficially, penetrates the charcoal with a crackling noiſe, and then diſappears. In the ſpoon it yields a permanent and pellucid ſphericle as long as it is kept fluid by the blue apex of the flame; but when the heat is diminiſhed, it becomes opaque, and aſſumes a milky colour. It attacks ſeveral earthy matters, particularly thoſe of the ſiliceous kind, but cannot be employed on charcoal for the reaſons aſſigned above.

17 Of borax.

3. Cryſtallized borax, expoſed to the flame urged by the blow-pipe or charcoal, firſt becomes opaque, white, and exceſſively ſwelled, with various protuberances, or branches proceeding out from it. When the water is expelled, it eaſily collects itſelf into a maſs, which, when well fuſed, yields a tranſparent ſphericle, retaining its tranſparency even after cooling. If calcined borax be employed, the clear ſphericle is obtained the ſooner.

Having thus provided every thing neceſſary, the following directions are next to be attended to.

18 Directions with regard to the candle.

1. A common tallow candle, not too thick, is generally preferable to a wax candle, or to a lamp. The ſnuff muſt not be cut too ſhort, as the wick ſhould bend towards the object.

2. The weaker exterior flame muſt firſt be directed upon the object, until its effects be diſcovered; after which the interior flame muſt be applied.

19 With regard to the matter expoſed to the flame.

3. We muſt obſerve with attention whether the matter decrepitates, ſplits, ſwells, vegetates, boils, &c.

4. The piece expoſed to the flame ſhould ſcarce ever exceed the ſize of a pepper-corn; but ought always to be large enough to be taken up by the forceps (fig. 10.). When the particle is too large, part of it muſt neceſſarily be without the focus; and thus cool both the ſupport and the part immerſed in the blue apex *n* (fig. 6.). It may, however, be broken into pieces ſufficiently ſmall by means of the hammer (fig. 8.), upon the ſteel plate (fig. 9.); any of the ſmall parts being prevented from flying off by the ring H.

5. A ſmall piece ſhould be added ſeparately to each of the fluxes: concerning which it muſt be obſerved, whether it diſſolves wholly, or only in part; whether this be effected with or without efferveſcence, quickly or ſlowly; whether the maſs be divided into a powder, or gradually and externally corroded; with what colour the glaſs is tinged; and whether it becomes opaque, or remains pellucid.

Having given theſe directions, our author (Mr Bergman) proceeds next to conſider the ſubjects proper to be examined by the blow-pipe. Theſe he divides into four claſſes: 1. Saline; 2. Earthy; 3. Inflammable; and 4. Metallic.

20 Properties of ſalts when expoſed to the action of the blow-pipe.

I. The *Salts*, though diſtinguiſhed by their taſte and ſolubility in water, differ ſo much in degree, that it is impoſſible to diſtinguiſh them abſolutely from the earths by any natural boundaries. Many of them, when expoſed to the flame, eaſily melt by the water of cryſtallization they contain. After this is diſſipated, they ſplit; and by a more intenſe heat are readily fuſed: others are deprived of their water without any fuſion; and then melt once by a heat more or leſs intenſe, according to their nature; and ſome fly off with the heat.

21 Of the acid of arſenic.

22 Of molybdæna.

23 Of borax.

24 Of tartar.

25 Of the acid of ſugar.

26 Of the acid of phoſphorus.

27 Volatile alkali.

Acids in general cannot bear the action of the blow-pipe, ſuch at leaſt as are eaſily kept in a fluid ſtate. It is otherwiſe, however, with ſome of thoſe which appear ſolids. The acid of arſenic upon charcoal attracts the inflammable matter, generates white arſenic, and flies off in vapours. In the ſpoon it melts without emitting ſmoke, unleſs it can acquire phlogiſton either from the ſupport on which it is placed, or the flame of the candle. The acid of molybdæna, according to our author, ſeems to be the baſis of ſome metal, as it has a ſpecific gravity of 3,461, poſſeſſes the property of tinging fluxes, and decompoſing the phlogiſticated alkali; he adds, "Is this the acid of tin?" This acid is abſorbed by charcoal; and in the ſpoon emits a white ſmoke, which on touching the apex of the interior flame, aſſumes a beautiful blue colour, and again grows white upon expoſure to the exterior flame. It tinges microcoſmic ſalt of a fine green; borax aſſumes an aſh-colour by reflection, but has a dark violet when we look through it. The acid of borax, commonly called *ſal ſedativus*, eaſily liquefies, in the ſame manner with borax itſelf, but does not ſwell ſo much as that ſalt does. It leaves a fixed pellucid globule. Acid of tartar liquefies on the firſt contact of the exterior flame, ſwells, foams, grows black, and ſends forth a ſmoke and blue flame, leaving a ſpongy coal, the greateſt part of which is ſoon converted into aſhes of a calcareous nature. The combuſtion, however, muſt be ſlow, and the weakeſt part of the flame only employed, in order to obſerve theſe changes diſtinctly. By the contact of the exterior flame, cryſtallized acid of ſugar is firſt made of an opaque white, then melts, and, laſtly, flies off without leaving any reſiduum. Acid of phoſphorus eaſily melts into a pellucid globule, which afterwards deliquiates in the air. Cryſtallized vegetable alkali firſt becomes opaque, and decrepitates long and violently; then melts into a globule, which remains in the ſpoon; but expands on charcoal, and is abſorbed with a crackling noiſe. The volatile alkali liquefies a little, and is then diſſipated.

28 Of the decrepitating neutral ſalts.

29 Of ſalt of amber.

Several of the neutral ſalts flow twice, according to the quantity of water they contain in their cryſtals. The decrepitating ſalts are broken and diſperſed by a ſudden heat. Of this kind are vitriolic tartar, vitriolic ſal ammoniac, common ſalt, and ſal digeſtivus. Thoſe which have a volatile alkali for their baſis, fly off in a very ſhort time.—By the application of the external flame, ſalt of amber laid on charcoal liquefies and ſmokes, the contact of the internal flame ſets it on fire, and it continues to burn with a blue flame till it totally diſappears. The ſame thing takes place when it is put in the ſpoon, excepting when it contains too great a quantity of oil, which indeed very frequently happens. In this caſe ſome traces of coal are to be met with. The ſpurious ſalt of amber preſents different phenomena according to the ſubſtances made uſe of in adulterating it.

30 Detonating ſalts.

The detonating ſalts, into which the nitrous acid always enters as a component part, liquefy in the ſpoon, and are not decompoſed on the charcoal until it takes fire; they are then decompoſed with violent flame and noiſe, but which is different in degree according to the baſis with which the nitrous acid is united. Thus the nitrous acid combined with vegetable alkali burns with a blue flame, but with the mineral and volatile alkali has a yellow one.

31 Carbonaceous ſalts.

The carbonaceous ſalts yield ſpongy coals by the combuſtion of their acid, which by ignition becomes white, leaving their alkaline baſis pure behind them. Theſe are the acid of tartar, crude tartar, ſalt of ſorrel, and tartarized mineral and vegetable alkali.

32 Hepatic ſalts.

The hepatic ſalts, when put on charcoal, melt into a red or yellow maſs, which diffuſes an hepatic ſmell, eſpecially when moiſtened by an acid. To this claſs belong all thoſe fixed in the fire which contain the vitriolic acid, and which when ſaturated with phlogiſton produces ſulphur; ſuch as vitriolated tartar, and Glauber's ſalt.

33 Earthy ſalts

Few of the earthy ſalts flow ſufficiently thin to be reduced into a perfect globule; nor do they all actually enter into fuſion, though the water of cryſtallization excites a great foam by its going off. Thoſe which contain the vitriolic acid efferveſce violently with borax and microcoſmic ſalt, but are diſſolved with difficulty by the ſalt of ſoda.

34 Intumeſcent ſalts.

The intumeſcent ſalts. 1. Vitriolated magneſia, commonly called *Epſom ſalt*, ſwells, foams, and may be melted by being repeatedly expoſed to the flame. 2.

Alum is ſomewhat different : for finally all ebullition ceaſes, and the maſs remains incapable of further change by fire than to ſplit. When hot, it is variegated with blue ſpots. 3. A combination of lime with acetous acid ſwells much like alum, but ſcarcely adheres to the charcoal. 4. Nitrated magneſia ſwells with a crackling noiſe, but without any detonation. 5. To this claſs alſo belongs the combination of marine acid with magneſia.

35 Gypſum fuſible by the blow-pipe.

Gypſum eluded the utmoſt force of Mr Pott's furnace, but may be fuſed in a moment by expoſing a ſection of the lamella to the blue flame. Though naturally pellucid, it inſtantly becomes opaque ; and the water it contains flies off without any ebullition.

36 Subſtances ſoluble in borax and microcoſmic ſalt.

The following ſubſtances are ſoluble in borax and microcoſmic ſalt with efferveſcence.

1. Lime, magneſia, alum, and combination of lime with acetous acid.

2. The metallic ſalts which do not decrepitate. Some of theſe containing either a large quantity of water in their cryſtals, or obſtinately retaining their acid, flow in the fire, while others only foam. Moſt of them recover, in part at leaſt, their metallic appearance, eſpecially when they touch the coal, leaving at the ſame time a ſhapeleſs ſcoria. By the addition of borax, the ſcoriæ are diſſolved, and the regulus better collected ; the fluxes are tinged in the ſame manner as by the metallic calces.

3. The decrepitating metallic ſalts ; lead combined with nitrous acid, and antimony with that of tartar.

4. Volatile metallic ſalts which have mercury for their baſis. Thoſe which contain marine acid in general fly off more quickly than thoſe in which the metal is combined with any other menſtruum.

5. Detonating metallic ſalts, as ſilver, mercury, lead, and biſmuth united with nitrous acid.

6. The intumeſcent metallic ſalts, vitriolated and nitrated copper, iron and cobalt vitriolated, and nitrated zinc. Theſe ſwell with noiſe and a certain degree of ebullition on the firſt contact of the flame, but afterwards remain unchanged.

7. The fuſible metallic ſalts, as ſilver and lead combined with vitriolic acid, and zinc combined with marine acid.

8. Antimony combined with acid of tatar, a carbenaceous metallic ſalt.

37 Beautiful green flame from copper combined with marine acid

9. Metallic ſalts communicating a certain colour to the flame. Blue vitriol, and ſolution of copper in nitrous acid, produce a greenneſs ; but ſolution of copper in ſpirit of ſalt acts with much more efficacy. The green cryſtals of this firſt grow red by the contact of the external flame ; afterwards they liquefy and grow black, making the flame at firſt of a deep blue, which afterwards verges to a green. The flame thus tinged expands much, and remains in that ſtate until the whole of the ſalt be diſſipated. This green ſalt, added to microcoſmic ſalt in fuſion, immediately ſhows a beautiful flame : the clear globule is tinged green, and does not grow opaque or brown, unleſs a large quantity of the microcoſmic ſalt be added ; a circumſtance which takes place much ſooner on adding a ſmall quantity of borax.

38 Calcareous earth.

II. *Earthy Subſtances*.— 1. Crude calcareous earth efferveſces a little with mineral alkali, and is divided into ſmall particles, but ſparingly diſſolved. When overburned, it ſeems not to be divided or diminiſhed. The former diſſolves in borax with efferveſcence ; but the latter ſcarcely produces any bubbles. The ſame phenomena take place with microcoſmic acid, only the efferveſcene is ſomewhat greater. A very ſmall piece of calcareous earth is eaſily diſſolved in borax and microcoſmic ſalt yielding quite pellucid ſphericles : but if more earth be gradually added, the flux, ſaturated at length, retains the diſſolved matter indeed while in perfect fuſion, but on removing it from the flame, the part which was taken up by the heat alone ſoon ſeparates. Hence clouds firſt begin to appear, and at length the whole globule becomes opaque, but recovers its tranſparency again by fuſion. If the melted pellucid globule, however, which would grow opaque by cooling, be plunged while hot into melting tallow, water, or other ſubſtances likewiſe hot (for cold generally cracks it), ſo as to grow ſuddenly hard, it retains its tranſparency ; the particles being as it were fixed in that ſtate which is neceſſary to tranſparency.

39 Terra ponderoſa.

2. Terra ponderoſa, expoſed alone to the flame, becomes cauſtic, ſoluble in water, and loſes its property of efferveſcing with acids. It efferveſces a little, and is ſenſibly diminiſhed by ſalt of ſoda ; diſſolves with a ſlight efferveſcence in borax, as well as in microcoſmic ſalt, but efferveſces ſomewhat more violently in the latter.

40 Magneſia.

3. Magneſia by itſelf loſes its aerial acid, and with it the property of efferveſcing with acids. In ſalt of ſoda, it is ſcarcely diminiſhed, but efferveſces a little. It diſſolves in borax alſo, with a ſlight efferveſcence ; and likewiſe in microcoſmic ſalt, but with a greater efferveſcence.

41 Clay.

4. Common clay contains a number of heterogeneous particles, particularly ſiliceous earth, of which the quantity is generally one half of the whole. When pure clay therefore is required, the earth of alum digeſted in an alkaline lixivium, and well waſhed, muſt be employed. This earth, on expoſure to the flame, grows hard, contracts in bulk, but does not melt. It efferveſces a little in ſal ſodæ, but is ſparingly diſſolved. In borax it diſſolves with a very conſiderable efferveſcence, and with a ſtill greater in microcoſmic acid.

42 Siliceous earth.

5. Siliceous earth, by itſelf, is not fuſed. In ſal ſodæ it diſſolves with remarkable efferveſcence; and if the ſiliceous earth diſſolved exceeds the weight of the flux, it yields a pellucid glaſs. This, and all the other operations with ſal ſodæ, muſt be performed in a ſpoon. In borax it diſſolves ſlowly, without any efferveſcence ; and in a ſimilar manner, only ſtill more ſlowly, in microcoſmic acid.

43 Of various other earths and ſtones.

Mr Bergman next enumerates the various earths of all different kinds which he had ſubjected to the blow-pipe ; and of theſe he found that the following did not without the utmoſt difficulty ſhow any ſigns of fuſion : *viz*. Pure aſbeſtos, refractory clay, pure mica, ſapphire, flint, and ſteatite. The four laſt are indurated by fire. Of the ſame kind are the chryſolite and emerald, chalcedony, cornelian, hydrophanus, ſiliceous, jaſper, onyx, opal, and quartz. The reſt are fuſible either by themſelves or with the addition of proper fluxes. On theſe, he obſerves, in general, that when the efferveſcence is to be examined, only a very little piece of the matter is to be added to the flux: as the moſt ſubtile powder contains air, which being expelled by the heat, forms an appearance of efferveſcence. 2. The ſolution is often accelerated by lime, ſpathum ponderoſum, gypſum, and other additions. 3. Gypſum alone is often an excellent flux. With an equal quantity of mineral fluor it is eaſily reduced to a pellucid globule, which grows white and opaque on cooling. The ſpathum ponderoſum alſo unites with mineral fluor; but the maſs does not becomes pellucid.

44
Of inflammable ſubſtances.

III. Moſt *Inflammable Subſtances*, when expoſed to the apex of the flame, begin to liquefy, unleſs they have a great quantity of earth in their compoſition; which, however, does not generally prevent their inflammation. When they are once inflamed, the blaſt ought to be ſtopped until they have burned away either alone or with a flux; after which the reſiduum is to be examined by the flame. The moſt remarkable appearances exhibited by inflammable ſubſtances, when examined by the blow-pipe, are the following:

45
Ambergris.

1. Ambergris burns with a white, ſmoky, and odoriferous flame, until it be totally conſumed; but when impure, it is extinguiſhed, leaving behind a black maſs which ſoon grows white by ignition, and conſiſts partly of calcareous powder.

46
Amber.

2. Tranſparent amber exhibits almoſt the ſame appearance, but vaniſhes totally by heat in the ſpoon: ſo that in this way we can ſcarcely form any judgment of the reſiduum; which, however, is eaſily obtained from opaque amber.

47
Aſphaltum, &c.

3. Pure aſphaltum burns with ſmoke, and is totally conſumed without any reſiduum. 4. Mountain pitch leaves black ſcoriæ, ſhining, and of a brittle nature. 5. Bituminous ſchiſt and lithanthrax, beſides their matrix, leave an oily coal, or even ſpongy ſcoriæ, if the reſiduum liquefies at all.

48
Sulphur.

6. Common ſulphur readily melts alone, and grows red; after which it takes fire, and is conſumed with a blue flame and a moſt penetrating and ſuffocating odour.

49
Molybdæna.

7. Molybdæna contains a portion of common ſulphur united to a peculiar acid. It does not take fire, and ſuffers but little change on the charcoal; but on being expoſed to the flame in the ſpoon, it depoſites a white ſmoke in direction of the blaſt. This ſmoke grows blue by the contact of the interior flame, but loſes its colour by the exterior one. It undergoes little change by borax or the microcoſmic ſalt, but diſſolves in ſalt of ſoda with violent efferveſcence. It grows red and tranſparent by fuſion; and when cold, aſſumes a dilute red colour and opaque, with an hepatic ſmell.

50
Plumbago.

8. Plumbago emits ſmoke on burning, but which is only perceptible the inſtant the flame ceaſes. It differs from molybdæna in not depoſiting any white powder, and particularly in not being taken up by ſalt of ſoda. It is not changed by borax or microcoſmic ſalt.

51
Inflammable ores.

Inflammable ores take fire with difficulty; ſome are ſcarcely changed, while others are conſumed or fly off, leaving the metallic calx behind.

52
Of the fluxes.

The fluxes in general are tinged by phlogiſton; but unleſs this be fixed by ſome metallic calx, it is eaſily deſtroyed by burning.

53
Of the perfect metals.

IV. The perfect *Metals* loſe no part of their phlogiſton even in the moſt intenſe heat; and when calcined in the moiſt way, recover their former nature by ſimple fuſion. The imperfect metals are calcined by fire, eſpecially by the exterior flame; and then, in order to their being reduced, indiſpenſably require the contact of the phlogiſtic ſubſtance.

54
Of the different degrees of fuſibility of the metals.

With reſpect to fuſibility, the two extremes are mercury and platina; the former being ſcarce ever ſeen in a ſolid form, and the latter almoſt as difficult of fuſion. The metals therefore may be ranked in this order, according to their degrees of fuſibility. 1. Mercury. 2. Tin. 3. Biſmuth. 4. Lead. 5. Zinc. 6. Antimony. 7. Silver. 8. Gold. 9. Arſenic. 10. Cobalt. 11. Nickel. 12. Iron. 13. Manganeſe. 14. Platina.

55
Manganeſe and platina do not yield to the blow-pipe.

The two laſt do not yield to the blow-pipe, and indeed forged iron does not melt without difficulty; but caſt iron perfectly.

56
General appearance of metals before the blow-pipe.

Metals in fuſion affect a globular form, and eaſily roll off the charcoal, eſpecially when of the ſize of a grain of pepper. Smaller pieces therefore ought either to be uſed, or they ſhould be placed in hollows made in the charcoal. On their firſt melting they aſſume a poliſhed ſurface, an appearance always retained by the perfect metals; but the imperfect are ſoon obſcured by a pellicle formed of the calx of the metal. The colours communicated by the calces vary according to the nature of the metal from which the calx is produced. Some of the calces eaſily recover their metallic form by ſimple expoſure to flame upon the charcoal; others are reduced in this way with more difficulty; and ſome not at all. The reduced calces of the volatile metals immediately fly off from the charcoal. In the ſpoon they exhibit nitrous globules; but it is very difficult to prevent them from being firſt diſſipated by the blaſt.

57
Fluxes proper to be uſed with metals.

The metals are taken up by the fluxes: but as mineral alkali yields an opaque ſpherule, it is not to be made uſe of. Globules of borax diſſolve and melt any metallic calx; and unleſs too much loaded with it, appear pellucid and coloured. A piece of metal calcined in the flux produces the ſame effect, but more ſlowly. A portion of the calx generally recovers its metallic form, and floats on the melted matter like one or more excreſcences. In proportion as the globule is more loaded it extends itſelf more on the charcoal, and at length cannot aſſume a globular form; for the metallic additament augments the attraction for phlogiſton.

58
Reduction of the calces of perfect metals.

The calces of the perfect metals are reduced by borax in the ſpoon, and adhere to it at the point of contact, and there only. The microcoſmic ſalt acts like borax, but does not reduce the metals. It attacks them more powerfully on account of its acid nature; at the ſame time it preſerves the ſpherical form, and therefore is adapted in a peculiar manner to the inveſtigation of metals.

59
Colours acquired by the fluxes.

The tinge communicated to the flux frequently varies, being different in the fuſed and in the cooled globule; for ſome of the diſſolved calces, while fuſed, ſhow no colour, but acquire one while cooling; but others, on the contrary, have a much more intenſe colour while in the ſtate of fluidity. Should the tranſparency be injured by too great a concentration of colour, the globule, on compreſſing it with the forceps, or drawing it out into a thread, will exhibit a thin and tranſparent maſs: but if the opacity ariſes from ſuperſaturation, more flux muſt be added; and as the fluxes attract the metals with unequal forces, the latter precipitate one another.

Metals when mineralized by acids have the properties

60 Of metals mineralized by acids.

ties of metallic ſalts; when mineralized by fixed air, they poſſeſs the properties of calces, that volatile ſubſtance being eaſily expelled without any efferveſcence; but when combined with ſulphur, they poſſeſs properties of a peculiar kind. They may then be melted, or even calcined upon the charcoal, as alſo in a golden or ſilver ſpoon. The volatile parts are diſtinguiſhed by the ſmell or ſmoke; the fixed reſidua by the particles reduced or precipitated upon iron, or from the tinge of the fluxes.

61 Of gold.

Gold in its metallic ſtate fuſes on the charcoal, and is the only metal which remains unchanged. It may be deprived of its phlogiſton in the moiſt way by ſolution in aqua regia; but to calcine it alſo by fire, we muſt purſue the following method: To a globule of microcoſmic ſalt let there be added a ſmall piece of ſolid gold, of gold leaf, purple mineral, or, which is beſt of all, of the cryſtalline ſalt formed by a ſolution of gold in aqua regia containing ſea-ſalt. Let this again be melted, and added while yet ſoft to turbith mineral, which will immediately grow red on the contact. The fuſion being afterwards repeated, a vehement efferveſcence ariſes; and when this is conſiderably diminiſhed, let the blaſt be ſtopped for a few moments, again begun, and ſo continued until almoſt all the bubbles diſappear. After this the ſpherule, on cooling, aſſumes a ruby colour; but if this does not happen, let it be juſt made ſoft by the exterior flame, and upon hardening this tinge generally appears. Should the proceſs fail at firſt, owing to ſome minute circumſtances which cannot be deſcribed, it will ſucceed on the ſecond or third trial. The ruby-coloured globule, when compreſſed by the forceps while hot, frequently becomes blue; by ſudden fuſion it generally aſſumes an opal colour, which by refraction appears blue, and by reflection of a brown red; if further urged by the fire, it loſes all colour, and appears like water; but the redneſs may be reproduced ſeveral times by the addition of turbith mineral. The flux is reddened in the ſame manner by the addition of tin inſtead of turbith; but it has a yellowiſh hue, and more eaſily becomes opaque; while the redneſs communicated by turbith mineral has a purple tinge, and quite reſembles a ruby. Borax produces the ſame phenomena, but more rarely; and in all caſes the ſlighteſt variation in the management of the fire will make the experiment fail entirely.

62 Ruby colour from copper.

The ruby colour may alſo be produced by copper; whence a doubt may ariſe, whether it be the gold or the remains of the copper that produces this effect. Mr Bergman thinks it probable that both may contribute towards it, eſpecially as copper is often found to contain gold.

63 Of golden pyrites.

This precious metal cannot directly be mineralized by ſulphur; but by the medium of iron is ſometimes formed into a golden pyrites. Here, however, the quantity of gold is ſo ſmall, that a globule can ſcarcely be extracted from it by the blow-pipe.

64 Of platina.

Grains of native platina are not affected by the blow-pipe, either alone or mixed with fluxes: which, however, are frequently tinged green by it: but platina, precipitated from aqua regia by vegetable or volatile alkali, is reduced by microcoſmic ſalt to a ſmall malleable globule. Our author has been able to unite ſeven or eight of theſe into a malleable maſs; but more of them produced only a brittle one. Platina ſcarcely loſes all its iron unleſs reduced to very thin fuſion.

65 Of ſilver in its metallic ſtate.

Silver in its metallic ſtate eaſily melts, and reſiſts calcination. Silver leaf faſtened by means of the breath, or a ſolution of borax, may eaſily be fixed on it by the flame, and through the glaſs it appears of a gold colour; but care muſt be taken not to crack the glaſs. Calcined ſilver precipitated from nitrous acid by fixed alkali is eaſily reduced. The microcoſmic acid diſſolves it ſpeedily and copiouſly; but, on cooling, it becomes opaque and of a whitiſh yellow, which is alſo ſometimes the caſe with leaf-ſilver. Copper is diſcovered by a green colour, and ſometimes by that of a ruby, unleſs we chooſe rather to impute that to gold. The globules can ſcarcely be obtained pellucid, unleſs the quantityof calx be very ſmall; but a longer fuſion is neceſſary to produce an opacity with borax. The globule, loaded with diſſolved ſilver during the time of its fuſion in the ſpoon, covers a piece of copper with ſilver, and becomes itſelf of a pellucid green: antimony quickly takes away the milky opacity of diſſolved luna cornea, and ſeparates the ſilver in diſtinct grains. Cobalt and moſt of the other metals likewiſe precipitate ſilver on the ſame principles as in the moiſt way, viz. by a double elective attraction. The metal to be diſſolved remains untouched as long as it retains its phlogiſton; but is taken up when a ſufficient quantity of that principle has ſhifted to the precipitate and reduced it.

66 Mineralized by various ſubſtances.

This metal, when mineralized by marine and vitriolic acids, yields a natural luna cornea, which produces a number of ſmall metallic globules on the charcoal: it diſſolves in microcoſmic ſalt, and renders it opaque; and is reduced, partially at leaſt, by borax. Sulphurated ſilver, called alſo the glaſſy ore of that metal, fuſed upon charcoal, eaſily parts with the ſulphur it contains; ſo that a poliſhed globule is often produced, which, if neceſſary, may be depurated by borax. The ſilver may alſo be precipitated by the addition of copper, iron, or manganeſe. When arſenic makes part of the compound, as in the red ore of arſenic, it muſt firſt be freed from the ſulphur by gentle roaſting, and finally entirely depurated by borax. It decrepitates in the fire at firſt.

Copper, together with ſulphur and arſenic mixed with ſilver, called the white ore of ſilver, yields a regulus having the ſame alloy.

Galena, which is an ore of lead containing ſulphur and ſilver, is to be freed in the ſame manner from the ſulphur; after which the lead is gradually diſſipated by alternately melting and cooling, or is ſeparated in a cupel from the galena, by means of the flame. Our author has not been able to precipitate the ſilver diſtinct from the lead, but the whole maſs becomes malleable; and the ſame is true of tin, but the maſs becomes more brittle.

67 Of mercury.

Pure mercury flies off from the charcoal with a moderate heat, the fixed heterogeneous matter remaining behind. When calcined it is eaſily reduced and diſſipated, and the fluxes take it up with efferveſcence; but it is ſoon totally driven off. When mineralized by ſulphur it liquefies upon the charcoal, burns with a blue flame, ſmokes, and gradually diſappears; but on expoſing cinnabar to the fire on a poliſhed piece of copper, the mercurial globules are fixed upon it all round.

68 Lead in its metallic ſtate.

69 Mineralized by different ſubſtances.

Lead in its metallic ſtate, readily melts, and continues to retain a metallic ſplendor for ſome time. By a more intenſe heat it boils and ſmokes, forming a yellow circle upon the charcoal. It communicates a yellow colour, ſcarce viſible, to the fluxes; and when the quantity is large, the globule, on cooling, contracts more or leſs of a white opacity. It is not precipitated by copper when diſſolved; nor do the metals precipitate it from ſulphur in the ſame order as from the acids. When united to aerial acid, it grows red on the firſt touch of the flame: when the heat is increaſed, it melts, and is reduced to a multitude of ſmall globules. When united with phoſphoric acid, it melts and yields an opaque globule but is not reduced. With fluxes it ſhows the ſame appearances as calx of lead. When mineralized by ſulphur, lead eaſily liquefies, and, being gradually deprived of the volatile part, yields a diſtinct regulus, unleſs too much loaded with iron. It may be precipitated by iron and copper

70 Of copper.

71 Mineralized.

A ſmall piece of copper either ſolid or foliated, ſometimes communicates a ruby colour to fluxes, eſpecially when aſſiſted by tin or turbith mineral. If the copper be a little more or further calcined, it produces a green pellucid globule, the tinge of which grows weaker by cooling, and even verges towards a blue. By long fuſion with borax, the colour is totally deſtroyed upon charcoal, but ſcarcely in the ſpoon. When once deſtroyed, this colour can ſcarcely be reproduced by nitre; but it remains fixed with microcoſmic ſalt. If the calx or metal to be calcined be added in conſiderable quantity during fuſion, it acquires an opaque red on cooling, though it appears green while pellucid and fuſed; but by a ſtill larger quantity it contracts an opacity even while in fuſion, and upon cooling, a metallic ſplendor. Even when the quantity of copper is ſo ſmall as ſcarcely to tinge the flux, a viſible pellicle is precipitated upon a piece of poliſhed iron added to it during ſtrong fuſion, and the globule in its turn takes the colour of poliſhed iron; and in this way the ſmalleſt portions of copper may be diſcovered. The globule made green by copper, when fuſed in the ſpoon with a ſmall portion of tin, yields a ſpherule of the latter mixed with copper, very hard and brittle: in this caſe the precipitated metal pervades the whole of the maſs, and does not adhere to the ſurface. Cobalt precipitates the calx of copper diſſolved in the ſpoon by a flux, in a metallic form, and imparts its own colour to glaſs, which nickel cannot do. Zinc alſo precipitates it ſeparately, and rarely upon its own ſurface, as we can ſcarcely avoid melting it. When mineralized by the aerial acid, copper grows black on the firſt contact of the flame, and melts in the ſpoon; on the charcoal, the lower part, which touches the ſupport, is reduced. With a ſuperabundance of marine acid, it tinges the flame of a beautiful colour; but with a ſmall quantity ſhows no appearance of the metal in that way. Thus the beautiful cryſtals of Saxony, which are cubic, and of a deep green, do not tinge the flame, though they impart a pellucid greenneſs to microcoſmic ſalt. An opaque redneſs is eaſily obtained with borax; but Mr Bergman could not produce this colour with microcoſmic ſalt. Copper ſimply ſulphurated, when cautiouſly and gently roaſted, by the exterior flame, yields at laſt, by fuſion, a regulus ſurrounded with a ſulphurated cruſt. The maſs roaſted with borax, ſeparates the regulus more quickly.

If a ſmall quantity of iron happens to be preſent, the piece to be examined muſt firſt be roaſted; after which it muſt be diſſolved in borax, and tin added to precipitate the copper. The regulus may alſo be obtained by ſufficient calcination and fuſion, even without any precipitant, unleſs the ore be very poor. When the pyrites contain copper, even in the quantity of the one-hundredth part of their weight, its preſence may be detected by theſe experiments: Let a grain of pyrites, of the ſize of a flax-ſeed, be roaſted, but not ſo much as to expel all the ſulphur; let it then be diſſolved by borax, a poliſhed rod of iron added, and the fuſion continued until the ſurface when cooled loſes all ſplendor. As much borax is required as will make the whole of the ſize of a grain of hemp-ſeed. Slow fuſion is injurious, and the precipitation is alſo retarded by too great tenuity; but this may be corrected by the addition of a little lime. Too much calcination is alſo inconvenient; for by this the globule forms ſlowly, is ſomewhat ſpread, becomes knotty when warm, corrodes the charcoal, deſtroys the iron, and the copper does not precipitate diſtinctly. This defect is corrected by a ſmall portion of crude ore. When the globule is properly melted, according to the directions already given, it ought to be thrown into cold water immediately on ſtopping the blaſt, in order to break it ſuddenly. If the copper contained in it be leſs than one-hundredth part, one end of the wire only has a cupreous appearance, but otherwiſe the whole.

72 Gahn's method of examining the ores of copper.

Dr Gahn has another method of examining the ores of copper; namely, by expoſing a grain of the ore, well freed from ſulphur by calcination, to the action of the flame driven ſuddenly upon it by intervals. At thoſe inſtants a cupreous ſplendor appears on the ſurface, which otherwiſe is black; and this ſplendor is more quickly produced in proportion as the ore is poorer. The flame is tinged green by cupreous pyrites on roaſting.

73 Of iron.

Forged iron is calcined, but can ſcarcely be melted; and liquefies on being fuſed. It cannot be melted by borax, though it may by microcoſmic ſalt; and then it becomes brittle. Calcined iron becomes magnetic by being heated on the charcoal, but melts in the ſpoon. The fluxes become green by this metal; but in proportion as the phlogiſton is more deficient they grow more of a browniſh yellow. On cooling, the tinge is much weakened; and, when originally weak, vaniſhes entirely. By too much ſaturation the globule becomes black and opaque. The ſulphureous pyrites may be collected into a globule by fuſion, and is firſt ſurrounded by a blue flame; but as the metal is eaſily calcined, and changes into black ſcoriæ, neither by itſelf nor with fluxes does it exhibit a regulus. It grows red on roaſting.

74 Of tin.

Tin eaſily melts before the blow-pipe, and is calcined. The fluxes diſſolve the calx ſparingly; and, when ſaturated, contract a milky opacity. Some ſmall particles of this metal diſſolved in any flux may be diſtinctly precipitated upon iron. Cryſtallized ore of tin, urged by fire upon the charcoal, yields its metal in a reguline ſtate.

75 Biſmuth. Biſmuth preſents nearly the ſame appearances as lead; the calx is reduced on the coal, and fuſed in the ſpoon. The calx, diſſolved in microcoſmic ſalt, yields a browniſh yellow globule, which grows more pale upon cooling, at the ſame time loſing ſome of its tranſparency. Too much calx renders the matter perfectly opaque. Borax produces a ſimilar maſs in the ſpoon; but on the coal a grey one, which can ſcarcely be freed from bubbles. On fuſion the glaſs ſmokes and forms a cloud about it. Biſmuth is eaſily precipitated by copper and iron.

76 Combined with ſulphur. Sulphurated biſmuth is eaſily fuſed, exhibiting a blue flame and ſulphureous ſmell. Cobalt, when added, by means of ſulphur, enters the globule; but the ſcoria ſoon ſwells into diſtinct partitions; which when further urged by fire throws out globules of biſmuth. Sulphurated biſmuth, by the addition of borax, may be diſtinctly precipitated by iron or manganeſe.

77 Nickel. Regulus of nickel when melted is calcined, but more ſlowly than other metals. The calx imparts an hyacinthine colour to fluxes, which grows yellow on cooling, and by long continued fire may be deſtroyed. If the calx of nickel be contaminated by ochre of iron, the latter is firſt diſſolved. Nickel diſſolved is precipitated on iron, or even on copper; an evident proof that it does not originate from either of theſe metals. Sulphurated nickel is no where found without iron and arſenic: the regulus is obtained by roaſting, and fuſing with borax, though it ſtill remains mixed with ſome other metals.

78 Arſenic. Regulus of arſenic takes fire by a ſudden heat, and not only depoſites a white ſmoke on charcoal, but diffuſes the ſame all around. The calx ſmokes with a ſmell of garlic, but does not burn. The fluxes grow yellow, without growing opaque, on adding a proper quantity of calx, which is diſpelled by a long continuance of the heat. This ſemi-metal is precipitated in a metallic form by iron and copper, but not by gold. Yellow arſenic liquefies, ſmokes, and totally evaporates: when heated by the external flame, ſo as neither to liquefy nor ſmoke, it grows red and yellow again upon cooling. When it only begins to melt it acquires a red colour, which remains after cooling. Realgar liquefies more eaſily, and is beſides totally diſſipated.

79 Cobalt. Regulus of cobalt melts, and may partly be depurated by borax, as the iron is firſt calcined and taken up. The ſmalleſt portion of the calx tinges the flux of a deep blue colour, which appears of a violet by refraction, and this colour is very fixed in the fire. Cobalt is precipitated upon iron from the blue globule, but not upon copper. When calx of iron is mixed with that of cobalt in a flux, the former is diſſolved. This ſemi-metal takes up about one third of its weight of ſulphur in fuſion, after which it can hardly be melted again. It is precipitated by iron, copper, and ſeveral other metals. The common ore yields an impure regulus by roaſting. The green cobalt, examined by our author, tinges the microcoſmic ſalt blue; but at the ſame time ſhows red ſpots indicating copper.

80 Zinc. Zinc expoſed to the blow-pipe melts, takes fire, ſending forth a beautiful bluiſh green flame, which however is ſoon extinguiſhed by a lanuginous calx; but if the reguline nucleus included in this lanuginous matter (commonly called flowers of zinc) be urged by the flame, it will be now and then inflamed, and as it were explodes and flies about. With borax it froths, and at firſt tinges the flame. It continually diminiſhes, and the flux ſpreads upon the charcoal; but in fuſed microcoſmic ſalt it not only froths, but ſends forth flaſhes with a crackling noiſe. Too great heat makes it explode with the emiſſion of ignited particles. The white calx, or flowers, expoſed to the flame on charcoal, becomes yellowiſh, and has a kind of ſplendor, which vaniſhes when the flame ceaſes. It remains fixed, and cannot be melted. The fluxes are ſcarcely tinged; but when ſaturated by fuſion, grow opaque and white on cooling. Clouds are formed round the globules of a nature ſimilar to that of the metallic calx. Diſſolved zinc is not precipitated by any other metal. When mineralized by aerial acid, it has the ſame properties as calcined zinc. In the pſeudo-galena ſulphur and iron are preſent. Theſe generally, on the charcoal, ſmell of ſulphur, melt, and tinge the flame more or leſs, depoſiting a cloud all around. Thoſe which have no matrix, are tinged by thoſe which contain iron, and acquire by ſaturation a white opaque colour, verging to brown or black, according to the variety of compoſition.

81 Antimony. Regulus of antimony fuſed and ignited on the charcoal, affords a beautiful object; for if the blaſt of air be ſuddenly ſtopped, a thick white ſmoke riſes perpendicularly, while the lower part round the globule is condenſed into cryſtalline ſpiculæ, ſimilar to thoſe called *Argentine flowers*. The calx tinges fluxes of an hyacinthine colour; but on fuſion ſmokes, and is eaſily diſſipated, eſpecially on the charcoal, though it alſo depoſites a cloud on it. The diſſolved metal may be precipitated by iron and copper, but not by gold. Crude antimony liquefies on the charcoal, ſpreads, ſmokes, penetrates it, and at laſt diſappears entirely except a ring which it leaves behind.

82 Manganeſe. Regulus of manganeſe ſcarcely yields to the flame. The black calx tinges the fluxes of a bluiſh colour; borax, unleſs ſaturated, communicates more of a yellow colour. The colour may be gradually diſſolved altogether by the interior flame, and again reproduced by a ſmall particle of nitre, or the exterior flame alone. Combined with aerial acid, it is of a white colour, which changes by agitation to black. In other reſpects it ſhows the ſame experiments as the black calx.

BLOWING, in a general ſenſe, denotes an agitation of the air, whether performed with a pair of bellows, the mouth, a tube, or the like. Butchers have a practice of blowing up veal, eſpecially the loins, as ſoon as killed, with a pipe made of a ſheep's ſhank, to make it look larger and fairer.

Blowing of Glaſs, one of the methods of forming the various kinds of works in the glaſs manufacture. It is performed by dipping the point of an iron blowing pipe in the melted glaſs, and blowing through it with the mouth, according to the circumſtances of the glaſs to be blown. See Glass.

Blowing of Tin, denotes the melting its ore, after being firſt burnt to deſtroy the mundic.

Machines for Blowing the Air into Furnaces. See the article Furnace.

Blowing, among gardeners, denotes the action of flowers, whereby they open and diſplay their leaves. In which ſenſe, blowing amounts to much the ſame with flowering or bloſſoming.

The regular blowing ſeaſon is in the ſpring; though ſome plants have other extraordinary times and manners of blowing, as the Glaſtenbury thorn. Divers flowers alſo, as the tulip, cloſe every evening, and blow again in the morning. Annual plants blow ſooner or later as their ſeeds are put in the ground; whence the curious in gardening ſow ſome every month in ſummer, to have a conſtant ſucceſſion of flowers. The blowing of roſes may be retarded by ſhearing off the buds as they put forth.

BLUBBER, denotes the fat of whales and other large ſea-animals, whereof is made train-oil. It is properly the *adeps* of the animal: it lies immediately under the ſkin, and over the muſcular fleſh. In the porpoiſe it is firm and full of fibres, and inveſts the body about an inch thick. In the whale, its thickneſs is ordinarily ſix inches; but about the under lip, it is found two or three feet thick. The whole quantity yielded by one of theſe animals ordinarily amounts to 40 or 50, ſometimes to 80 or more, hundred weight. The uſe of blubber to the animal ſeems to be partly to poiſe the body, and render it equiponderant to the water; partly to keep off the water at ſome diſtance from the blood, the immediate contact whereof would be apt to chill it; and partly alſo for the ſame uſe that clothes ſerve us, to keep the fiſh warm, by reflecting or reverberating the hot ſteams of the body, and ſo redoubling the heat; ſince all fat bodies are, by experience, found leſs ſenſible of the impreſſions of cold than lean ones. Its uſe in trade and manufactures is to furniſh train-oil, which it does by boiling down. Formerly this was performed aſhore, in the country where the whales were caught: but of late the fiſhers do not go aſhore; they bring the blubber home ſtowed in caſks, and boil it down.

Sea-Blubber. See MEDUSA.

BLUE, one of the ſeven colours into which the rays of light divide themſelves when refracted through a glaſs priſm.—For an account of the particular ſtructure of bodies by which they appear of a blue colour, ſee the article CHROMATICS.—The principal blues uſed in painting are Pruſſian blue, bice, Saunders blue, azure, or ſmalt, verditer, &c.; for the preparation of which, ſee *Colour-Making*.—In dyeing, the principal ingredients for giving a blue colour, are indigo and woad. See DYEING.

Blue Colour of the Sky. See SKY.

Blue Bird. See MOTACILLA.

Blue Fiſh. See CORYPHENA.

Blue Japan. Take gum-water, what quantity you pleaſe, and white-lead a ſufficient quantity; grind them well upon a porphyry: then take iſinglaſs ſize what quantity you pleaſe, of the fineſt and beſt ſmalt a ſufficient quantity; mix them well: to which add, of your white-lead, before ground, ſo much as may give it a ſufficient body. Mix all theſe together to the conſiſtence of a paint.

Blue-John, among miners, a kind of mineral which has lately been fabricated into vaſes and other ornamental figures. It is of the ſame quality with the cubical ſpar, with reſpect to its fuſibility in the fire. It loſes its colour, and becomes white in a moderate heat: the weight of a cubic foot of the blueſt kind is 3180 ounces, and that of the leaſt blue is 3140 ounces. This ſubſtance began firſt to be applied to uſe about 18 years ago at one of the oldeſt mines in Derbyſhire, called *Odin mine*, probably from its being dedicated to Odin the great god of the northern nations, at the foot of a high mountain called *Mam-Tor* in Caſtleton. Here the greateſt quantities are ſtill found; the largeſt pieces are ſold for 9 l. a ton, the middle-ſized for 6l. and the leaſt for 50s.

Pruſſian Blue. See CHEMISTRY-*Index*.

BLUING, the act or art of communicating a blue colour to bodies otherwiſe deſtitute thereof. Landreſſes blue their linen with ſmalt; dyers their ſtuffs and wools with woad or indigo.

Bluing of Metals is performed by heating them in the fire, till they aſſume a blue colour; particularly practiſed by gilders, who blue their metals before they apply the gold and ſilver leaf.

Bluing of Iron, a method of beautifying that metal ſometimes practiſed; as for mourning buckles, ſwords, and the like. The manner is thus: Take a piece of grind-ſtone or whet-ſtone, and rub hard on the work, to take off the black ſcurf from it: then heat it in the fire; and as it grows hot, the colour changes by degrees, coming firſt to light, then to a darker gold colour, and laſtly to a blue. Sometimes alſo they grind indigo and ſallad-oil together; and rub the mixture on the work with a woollen rag, while it is heating, leaving it to cool of itſelf. Among ſculptors we alſo find mention of bluing a figure of bronze, by which it is meant the heating of it, to prepare it for the application of gold-leaf, becauſe of the bluiſh caſt it acquires in the operation.

BLUFF-HEAD, among ſailors. A ſhip is ſaid to be bluff-headed that has an upright ſtern.

BLUNDERBUSS, a ſhort fire-arm with a wide bore, capable of holding a number of bullets at once.

BLUSHING, a ſuffuſion or redneſs of the cheeks, excited by a ſenſe of ſhame, on account of conſciouſneſs of ſome failing or imperfection.

Bluſhing is ſuppoſed to be produced from a kind of conſent or ſympathy between ſeveral parts of the body, occaſioned by the ſame nerve being extended to them all. Thus the fifth pair of nerves being branched from the brain to the eye, ear, muſcles of the lips, cheeks, palate, tongue, and noſe; a thing ſeen or heard that is ſhameful, affects the cheeks with bluſhes, driving the blood into the minute veſſels thereof, at the ſame time that it affects the eye and ear. For the ſame reaſon it is, as Mr Derham obſerves, that a ſavoury thing ſeen or ſmelt affects the glands and parts of the mouth: if a thing heard be pleaſing, it affects the muſcles of the face with laughter; if melancholy, it exerts itſelf on the glands of the eyes, and occaſions weeping, &c. And to the ſame cauſe Dr Willis aſcribes the pleaſure of kiſſing.

BOA, or BOAE-*arum*, (anc. geog.), an iſland on the coaſt of Illyricum, over againſt Tragurium. A place of baniſhment for condemned perſons; now called *Bua*, an iſland in the Adriatic, joined to the continent and to Tragurium, now *Tran*, by a bridge.

BOA, in zoology, a genus of ſerpents, belonging to the order of amphibia. The characters of this genus are, that the belly and tail are both furniſhed with ſcuta. The ſpecies are ten, *viz.* 1. The contortrix, has 150 ſcuta on the belly, and 40 on the tail: the head is broad, very convex, and has poiſon-bags in the mouth, but no fang, for which reaſon its bite is not reckoned poiſonous: the body is aſh-coloured, interſperſed with large duſky ſpots; and the tail is about a third of the length of the body. This ſerpent is found in Carolina. 2. The canina, has 203 ſcuta on the belly, and 77 on the tail; it is greeniſh, and variegated with white belts. It is a native of America, and lodges in the hollow trunks of trees, and is about two feet long. The bite of the canina is not poiſonous. 3. The hipnale is of a dull yellow colour, and is found in Aſia. It has 179 ſcuta on the belly, and 120 on the tail. 4 The conſtrictor, has 240 ſcuta on the belly, and 60 on the tail. This is an immenſe animal: it often exceeds 36 feet in length; the body is very thick, of a duſky white colour, and its back is interſperſed with 24 large pale irregular ſpots; the tail is of a darker colour; and the ſides are beautifully variegated with pale ſpots. Beſides, the whole body is interſperſed with ſmall brown ſpots. The head is covered with ſmall ſcales, and has no broad laminæ betwixt the eyes, but has a black belt behind the eyes. It wants the large dog-fangs, and of courſe its bite is not poiſonous. The tongue is fleſhy, and very little forked. Above the eyes, on each ſide, the head riſes high. The ſcales of this ſerpent are all very ſmall, roundiſh, and ſmooth. The tail does not exceed one eighth of the whole length of the animal. The Indians, who adore this monſtrous animal, uſe the ſkin for cloaths, on account of its ſmoothneſs and beauty. There are ſeveral of theſe ſkins of the above dimenſions preſerved, and to be ſeen in the different muſeums of Europe, particularly in the library and botanic garden of Upſal in Sweden, which has of late been greatly enriched by count Grillinborg. The fleſh of this ſerpent is eat by the Indians and the negroes of Africa. Piſo, Margraave, and Kempſer, give the following account of its method of living and catching its prey. It frequents caves and thick foreſts, where it conceals itſelf, and ſuddenly darts out upon ſtrangers, wild beaſts, &c. When it chooſes a tree for its watching place, it ſupports itſelf by twiſting its tail round the trunk or a branch, and darts down upon ſheep, goats, tigers, or any animal that comes within its reach. When it lays hold of animals, eſpecially any of the larger kinds, it twiſts itſelf ſeveral times round their body, and by the vaſt force of its circular muſcles bruiſes and breaks all their bones. After the bones are broke, it licks the ſkin of the animal all over, beſmearing it with a glutinous kind of ſaliva. This operation is intended to facilitate deglutition, and is a preparation for ſwallowing the whole animal. If it be a ſtag, or any horned animal, it begins to ſwallow the feet firſt, and gradually ſucks in the body, and laſt of all the head. When the horns happen to be large, this ſerpent has been obſerved to go about for a long time with the horns of a ſtag ſticking out from its mouth. As the animal digeſts, the horns putrify and fall off. After this ſerpent has ſwallowed a ſtag or a tiger, it is unable for ſome days to move; the hunters, who are well acquainted with this cirumſtance, always take this opportunity of deſtroying it. When irritated, it makes a loud hiſſing noiſe. This ſerpent is ſaid to cover itſelf over with leaves in ſuch places as ſtags or other animals frequent, in order to conceal itſelf from their ſight, and that it may the more eaſily lay hold of them. 5. The murina, has 254 ſcuta on the belly, and 65 on the tail. The colour of it is a light blue, with round ſpots on the back. It is a native of America, and its bite is not poiſonous. 6. The ſcytale, has 250 ſcuta on the belly, and 70 on the tail. The body is aſh-coloured and bluiſh, with round black ſpots on the back, and black lateral rings edged with white. This ſerpent is a native of America; and, like the conſtrictor, though not ſo long, twiſts itſelf about ſheep, goats, &c. and ſwallows them whole. 7. The centhria, has 265 ſcuta on the belly, and 57 on the tail. It is of a yellow colour, with white eye-like ſpots. It is a native of Surinam, and its bite is not poiſonous. 8. The ophrias, has 281 ſcuta on the belly, and 64 on the tail; the colour is nearly the ſame with that of the conſtrictor, but browner. The place where this ſerpent is to be found is not known; but its bite is not venomous. 9. The enydris, has 270 ſcuta on the belly, and 105 on the tail. The colour is a duſky white, and the teeth of the lower jaw are very long; but its bite is not poiſonous. It is a native of America. 10. The hortulana, has 290 ſcuta on the belly, and 128 on the tail. It is of a pale colour, interſperſed with livid wedge-like ſpots. It is a native of America, and its bite is not poiſonous. See SERPENT.

BOADADA BASHEE, in the Turkiſh military orders, an officer of the janizaries, whoſe buſineſs it is to walk every day about the principal parts of the city, with a number of janizaries to attend him, to keep order, and ſee that things are regular, even to the dreſs. This office is for three months, and from this the perſon is uſually advanced to be a ſerach.

BOADICEA, a valiant Britiſh queen in the time of Nero the emperor, wife to Praſutagus king of the Iceni in Britain, who by his will left the emperor and his own daughters co-heirs to his great treaſures, in expectation of procuring by that means Nero's protection for his family and people: but he was no ſooner dead, than the emperor's officers ſeized all. Boadicea oppoſed theſe unjuſt proceedings; which was reſented to ſuch a pitch of brutality, that they ordered the lady to be publicly whipped, and her daughters to be raviſhed by the ſoldiers. The Britons took arms, with Boadicea at their head, to ſhake off the Roman yoke; and made a general and bloody maſſacre of the Romans in all parts. The whole province of Britain would have been loſt, if Seutonius Paulinus had not haſtened from the iſle of Mona to London, and with 10,000 men engaged the Britons. The battle was fought for a long time with great vigour and doubtful ſucceſs, till at laſt victory inclined to the Romans. Boadicea, who had behaved with all bravery imaginable, diſpatched herſelf by poiſon.

BOAR, in the manege. A horſe is ſaid to boar when he ſhoots out his noſe as high as his ears, and toſſes his noſe in the wind.

BOAR, a male ſwine. See SUS.

The wild boar, among huntſmen, has ſeveral names, according to its different ages: the firſt year, it is called *a pig of the ſaunder*; the ſecond it is called *a hog*; the third, *a hog-ſteer*; and the fourth, *a boar*; when leaving the ſaunder, he is called *a ſingler* or *ſangler*. The boar generally lives to 25 or 30 years, if he eſcapes accidents. The time of going to rut is in December, and laſts about three weeks. They feed on all ſorts of fruits, and on the roots of many plants; the roots of fern in particular ſeems a great favourite with them: and when they frequent places near the ſea-coaſts, they will deſcend to the ſhores and demoliſh the tenderer ſhell-fiſh in very great numbers. Their general places of reſt are among the thickeſt buſhes that can be found: and they are not eaſily put up out of them, but will ſtand the bay a long time. In April and May they ſleep more ſound than at any other time of the year, and this is therefore the ſucceſsful time for the taking them in the toils. When a boar is rouſed out of the thicket, he always goes from it, if poſſible, the ſame way by which he came to it; and when he is once up, he will never ſtop till he comes to ſome place of more ſecurity. If it happens that a ſaunder of them are found together, when any one breaks away, the reſt all follow the ſame way. When the boar is hunted in the wood where he was bred, he will ſcarce ever be brought to quit it; he will ſometimes make towards the ſides to liſten to the noiſe of the dogs, but retires into the middle again, and uſually dies or eſcapes there. When it happens that a boar runs a-head, he will not be ſtopped or put out of his way, by man or beaſt, ſo long as he has any ſtrength left. He makes no doubles nor croſſings when chaſed; and when killed makes no noiſe, if an old boar; the ſows and pigs will ſqueak when wounded.

The ſeaſon for hunting the wild boar begins in September, and ends in December, when they go to rut. If it be a large boar, and one that has lain long at reſt, he muſt be hunted with a great number of dogs, and thoſe ſuch as will keep cloſe to him; and the huntſman, with his ſpear, ſhould always be riding in among them, and charging the boar as often as he can, to diſcourage him; ſuch a boar as this, with five or ſix couple of dogs, will run to the firſt convenient place of ſhelter, and there ſtand at bay and make at them as they attempt to come up with him. There ought always to be relays alſo ſet of the beſt and ſtauncheſt hounds in the kennel; for if they are of young eager dogs, they will be apt to ſeize him, and be killed or ſpoiled before the reſt come up. The putting collars with bells about the dogs necks is a great ſecurity for them; for the boar will not ſo ſoon ſtrike at them when they have theſe, but will rather run before them. The huntſmen generally kill the boar with their ſwords or ſpears: but great caution is neceſſary in making the blows; for he is very apt to catch them upon his ſnout or tuſks; and if wounded and not killed, he will attack the huntſman in the moſt furious manner. The places to give the wound with the ſpear is either between the eyes in the middle of the forehead, or in the ſhoulder; both theſe places make the wound mortal.

When this creature makes at the hunter, there is nothing for it but courage and addreſs; if he flies for it, he is ſurely overtaken and killed. If the boar comes ſtraight up, he is to be received at the point of the ſpear: but if he makes doubles and windings, he is to be watched very cautiouſly, for he will attempt getting hold of the ſpear in his mouth; and if he does ſo, nothing can ſave the huntſman but another perſon attacking him behind: he will on this attack the ſecond perſon, and the firſt muſt then attack him again: two people will thus have enough to do with him; and were it not for the forks of the boar-ſpears that make it impoſſible to preſs forward upon them, the huntſman who gives the creature his death's wound would ſeldom eſcape falling a ſacrifice to his revenge for it. The modern way of boar-hunting is generally to diſpatch the creature by all the huntſmen ſtriking him at once: but the ancient Roman way was for a perſon on foot, armed with a ſpear to keep the creature at bay; and in this caſe the boar would run of himſelf upon the ſpear to come at the huntſman, and puſh forward till the ſpear pierced him through.

The hinder claws of a boar are called *guards*. In the corn, he is ſaid to *feed*; in the meadows or fallow-fields, to *rout*, *worm*, or *fern*; in a cloſe, to *graze*. The boar is farrowed with as many teeth as he will ever have; his teeth increaſing only in bigneſs, not in number: among theſe there are four called *tuſhes* or *tuſks*; the two biggeſt of which do not hurt when he ſtrikes, but ſerve only to whet the other two loweſt, with which the beaſt defends himſelf, and frequently kills, as being greater and longer than the reſt.

It is very remarkable, that theſe creatures in the Weſt-Indies are ſubject to the ſtone: few of them are abſolutely free from it, yet ſcarce any have the ſtones of any conſiderable ſize. It is common to find a great number in the ſame bladder; and they are uſually of about a ſcruple weight, and are angular, and that with great regularity, each having five angles.

Among the ancient Romans, boar's fleſh was a delicacy; a boar ſerved up whole was a diſh of ſtate.

The boar was ſometimes alſo the military enſign borne by the Roman armies, in lieu of the eagle.

Among phyſicians, a boar's bladder has been reputed a ſpecific for the epilepſy. The tuſk of the wild boar ſtill paſſes with ſome as of great efficacy in quinzies and pleuriſies.

BOARD, a long piece of timber, ſawed thin for building and ſeveral other purpoſes. See Timber.

Deal-boards are generally imported into England ready ſawed, becauſe done cheaper abroad, in regard they want ſaw-mills. Cap-boards are imported from Sweden and Dantzic. Oak-boards chiefly from Sweden and Holland; ſome from Dantzic. They alſo import white boards for ſhoemakers; mill and ſcale-boards, &c. for divers artificers. Scale-board is a thinner ſort uſed for the covers of primers, thin boxes, and the like. It is made with large planes; but might probably be ſawed with mills to advantage.

Board is alſo uſed for a kind of table or bench, whereon ſeveral artificers perform their work. In this ſenſe, we ſay a work-*board*, ſhop-*board*, taylor's-*board*, &c.

Board is alſo uſed for a flat machine, or *frame*, uſed in certain games, and the like. In this ſenſe, we ſay a draught-*board*, a cheſs-*board*, a ſhovel-*board*, and the like.

Board, *Bureau*, is alſo uſed for an office where accounts are taken, payments ordered, and the like. In this ſenſe, we ſay the *board* of works, *board* of ordnance, *board* of treaſury, and the like.

Board, among ſeamen. *To go aboard*, ſignifies to go into the ſhip. *To ſlip by the board*, is to ſlip down by the ſhip's ſide. *Board and board*, is when two ſhips come ſo near as to touch one another, or when they lie ſide by ſide. *To make a board*, is to turn to windward;

Plate C

Fig. 2 Bos sp. 4a.

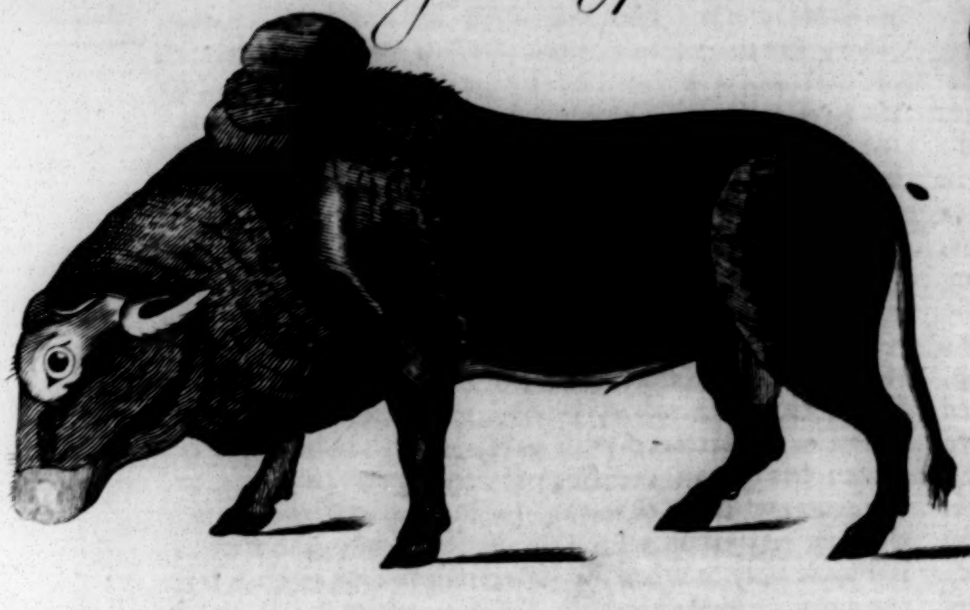


Fig. 3 Bos sp. 5

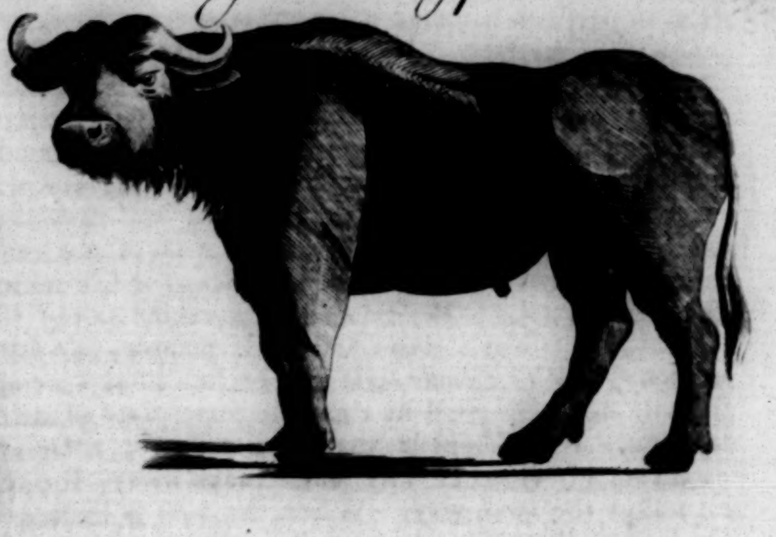
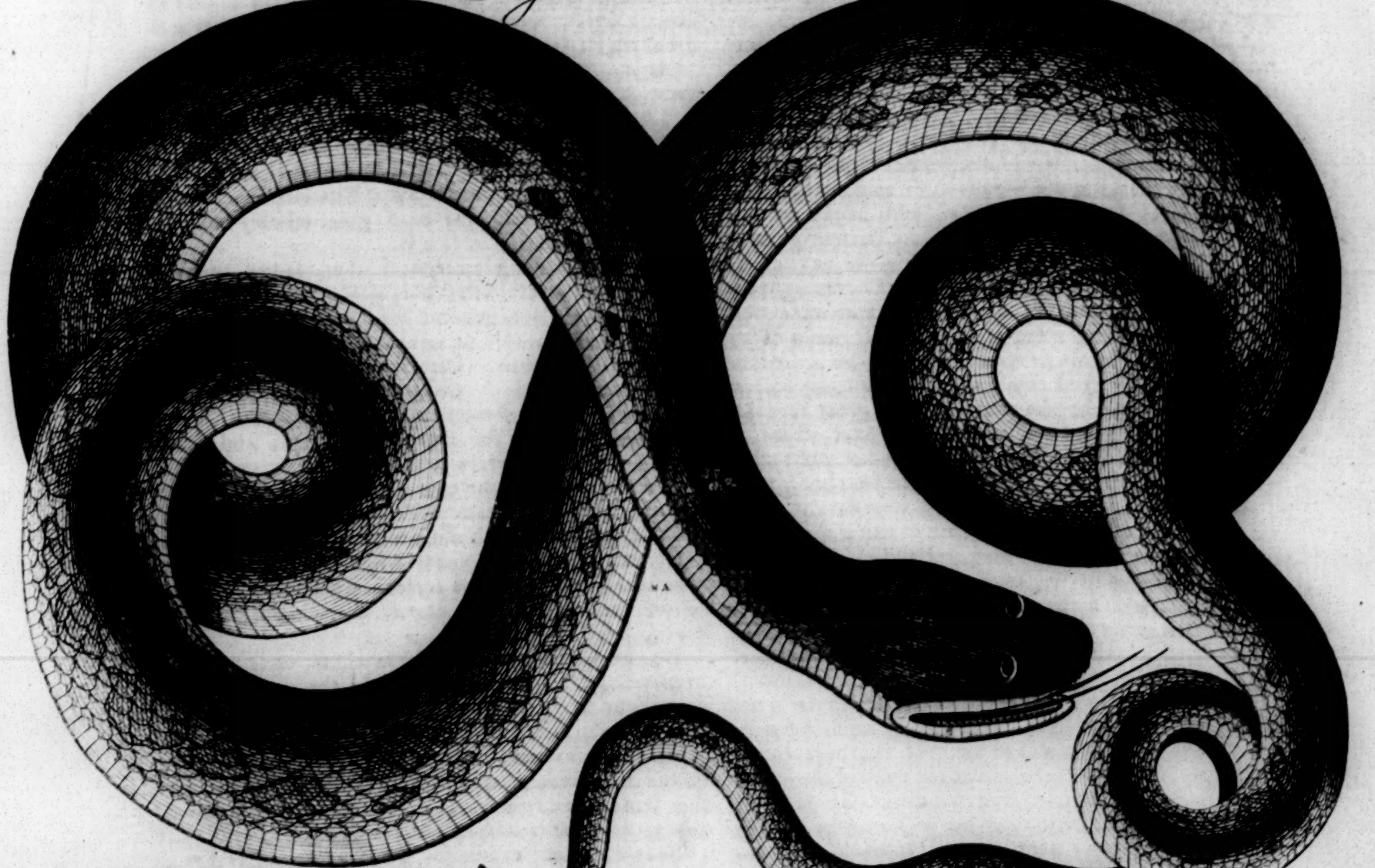


Fig. 1 Boa Constrictor



Scot Philad.a

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ward; and the longer your boards are, the more you work into the wind. *To board it up*, is to beat it up, ſometimes upon one tack and ſometimes upon another. *She makes a good board*, that is, the ſhip advances much at one tack. *The weather-board*, is that ſide of the ſhip which is to windward.

BOARDING, in a naval engagement, a deſperate and furious aſſault made by one ſhip on another, after having found every other method to reduce her ineffectual; it may be performed in different places of the ſhip, according to their circumſtances and ſituation, by the aſſailant detaching a number of men armed with piſtols and cutlaſſes on the decks of his antagoniſt, who ſtands in the ſame predicament with a city ſtormed by the beſiegers. This expedient, however, is rarely attempted by king's ſhips, which generally decide the combat without grappling each other; but chiefly practiſed by privateers, which, bearing down on the enemy's quarter or broadſide, drop from the bowſprit, which projects over the defendant's deck, an earthen ſhell, called a *ſtink-pot*, charged with fiery and ſuffocating combuſtibles, which immediately burſts, catches fire, and fills the deck with inſufferable ſtench and ſmoke: in the middle of the confuſion thus occaſioned, the privateer's crew ruſh aboard, under cover of the ſmoke, and eaſily overpower the aſtoniſhed enemy, unleſs they have cloſe quarters to which they can retreat and beat them off the deck.

BOAT, a ſmall open veſſel, conducted on the water by rowing or ſailing. The conſtruction, machinery, and even the names of boats are very different according to the various purpoſes for which they are calculated, and the ſervices on which they are to be employed. Thus they are occaſionally ſlight or ſtrong, ſharp or flat bottomed, open or decked, plain or ornamented; as they may be deſigned for ſwiftneſs or burden, for deep or ſhallow water, for ſailing in a harbour or at ſea, and for convenience or pleaſure.

The largeſt boat that uſually accompanies a ſhip is the *long-boat*, which is generally furniſhed with a maſt and ſails: thoſe which are fitted for men of war, may be occaſionally decked, armed, and equipped for cruiſing ſhort diſtances againſt merchant-ſhips of the enemy, or ſmugglers, or for impreſſing ſeamen, &c. The *barges* are next in order, which are longer, ſlighter, and narrower: they are employed to carry the principal ſea-officers, as admirals and captains of ſhips of war, and are very unfit for ſea. *Pinnaces* exactly reſemble barges, only that they are ſomewhat ſmaller, and never row more than eight oars; whereas a barge properly never rows leſs than ten. Theſe are for the accommodation of the lieutenants, &c. *Cutters* of a ſhip, are broader, deeper, and ſhorter, than the barges and pinnaces; they are fitter for ſailing, and are commonly employed in carrying ſtores, proviſions, paſſengers, &c. to and from the ſhip. In the ſtructure of this ſort of boats, the lower edge of every plank in the ſide overlays the upper edge of the plank below, which is called by ſhip-wrights *clinch-work*. *Yawls* are ſomething leſs than cutters, nearly of the ſame form, and uſed for ſimilar ſervices; they are generally rowed with ſix oars.

The above boats more particularly belong to men of war; as merchant-ſhips ſeldom have more than two, viz. a long-boat and yawl: when they have a third, it is generally calculated for the countries to which they trade, and varies in its conſtruction accordingly. Merchant-ſhips employed in the Mediterranean find it more convenient to uſe a *launch*, which is longer, more flat-bottomed, and better adapted every way to the harbours of that ſea, than a long-boat.

A *wherry* is a light ſharp boat, uſed in a river or harbour for carrying paſſengers from place to place. *Punts* are a ſort of oblong flat-bottomed boats, nearly reſembling floating ſtages; they are uſed by ſhipwrights and caulkers, for breaming, caulking, or repairing a ſhip's bottom. A *moſes* is a very flat broad boat, uſed by merchant-ſhips amongſt the Caribbee-iſlands, to bring hogſheads of ſugar off from the ſea-beach to the ſhipping which are anchored in the roads. A *felucca* is a ſtrong paſſage-boat uſed in the Mediterranean, from 10 to 16 banks of oars. The natives of Barbary often employ boats of this ſort as cruiſers.

For the larger ſort of boats, ſee the articles CRAFT, CUTTER, PERIAGUA, and SHALLOP.

Of all the ſmall boats, a *Norway yawl* ſeems to be the beſt calculated for a high ſea, as it will often venture out to a great diſtance from the coaſt of that country, when a ſtout ſhip can hardly carry any ſail.

An account of ſeveral trials made on a BOAT, *or Sloop fit for inland navigation, coaſting voyages, and ſhort paſſages by ſea, which is not, like ordinary veſſels, liable to be overſet or ſunk by winds, waves, water-ſpouts, or too heavy a load; contrived and conſtructed by Monſieur Bernieres, director of the bridges and cauſeways in France*, &c. &c. Some of theſe trials were made on the firſt of Auguſt 1777, at the gate of the invalids in Paris, in the preſence of the provoſt of the merchants, of the body of the town, and a numerous concourſe of ſpectators of all conditions.

The experiments were made in the way of compariſon with another common boat of the ſame place, and of equal ſize. Both boats had been built ten years, and their exterior forms appeared to be exactly ſimilar. The common boat contained only eight men, who rocked it and made it incline ſo much to one ſide, that it preſently filled with water, and ſunk; ſo that the men were obliged to ſave themſelves by ſwimming; a thing common in all veſſels of the ſame kind, either from the imprudence of thoſe who are in them, the ſtrength of the waves or wind, a violent or unexpected ſhock, their being overloaded, or overpowered in any other way.

The ſame men who had juſt eſcaped from the boat which ſunk, got into the boat of M. Bernieres; rocked it, and filled it, as they had done the other, with water. But, inſtead of ſinking to the bottom, though brim full, it bore being rowed about the river, loaded as it was with men and water, without any danger to the people in it.

M. Bernieres carried the trial ſtill farther. He ordered a maſt to be erected in this ſame boat, when filled with water; and to the top of the maſt had a rope faſted, and drawn till the end of the maſt touched the ſurface of the river, ſo that the boat was entirely on one ſide, a poſition into which neither winds nor waves could bring her: yet, as ſoon as the men who had hauled her into this ſituation let go the rope, the boat and maſt recovered themſelves perfectly in leſs than the quarter of a ſecond; a convincing proof that the boat could neither be ſunk nor overturned, and that it afforded the greateſt poſſible ſecurity in every way. Theſe experiments appeared to give the greater pleaſure to the public, as the advantages of the diſcovery are not only ſo ſenſible, but of the firſt importance to mankind.

Boar-Bill. See CANCROMA.

Boat-Inſect. See NOTONECTA.

BOATING, a kind of puniſhment in uſe among the ancient Perſians for capital offenders. The manner of boating was thus; the perſon condemned to it being laid on his back in a boat, and having his hands ſtretched out, and tied faſt on each ſide of it, had another boat put over him, his head being left out through a place fit for it. In this poſture they fed him, till the worms which were bred in the excrements he voided as he thus lay, eat out his bowels, and ſo cauſed his death, which was uſually twenty days in effecting, the criminal laying all this while in moſt exquiſite torments.

BOATSWAIN, the officer who has the boats, ſails, rigging, colours, anchors, and cables committed to his charge.

It is the duty of the boatſwain particularly to direct whatever relates to the rigging of a ſhip, after ſhe is equipped from a royal dock-yard. Thus he is to obſerve that the maſts are properly ſupported by their ſhrouds, ſtays, and back-ſtays, ſo that each of thoſe ropes may ſuſtain a proportional effort when the maſt is ſtrained by the violence of the wind, or the agitation of the ſhip. He ought alſo to take care that the blocks and running-ropes are regularly placed, ſo as to anſwer the purpoſes for which they are intended; and that the ſails are properly fitted to their yards and ſtays, and well furled or reefed when occaſion requires.

It is likewiſe his office to ſummon the crew to their duty; to aſſiſt with his mates in the neceſſary buſineſs of the ſhip; and to relieve the watch when it expires. He ought frequently to examine the condition of the maſts, ſails, and rigging; and remove whatever may be judged unfit for ſervice, or ſupply what is deficient; and he is ordered by his inſtructions to perform this duty with as little noiſe as poſſible.

BOATSWAIN's-Mate has the peculiar command of the long-boat, for the ſetting forth of anchors, weighing or fetching home an anchor, warping, towing, or mooring; and is to give an account of his ſtore.

BOB, a term uſed for the ball of a ſhort pendulum.

BOBARTIA, in botany, a genus of the digynia order; belonging to the triandria claſs of plants; and in the natural method ranking under the 4th order, *Gramina*. The calyx is imbricated; and the corolla is a bivalve glume, above the receptacle of the fruit. Of this genus there is only one ſpecies known, which is a native of the Indies, and hath no remarkable property.

BOBBIN, a ſmall piece of wood turned in the form of a cylinder, with a little border jutting out at each end, bored through to receive a ſmall iron pivot. It ſerves to ſpin with the ſpinning-wheel, or to wind thread, worſted, hair, cotton, ſilk, gold, and ſilver.

BOBBING, among fiſhermen, a particular manner of catching eels, different from ſniggling. Bobbing for eels is thus performed: They ſcour well ſome large lobs, and with a needle run a twiſted ſilk through them from end to end, taking ſo many as that they may wrap them about a board a dozen times at leaſt: then they tie them faſt with the two ends of the ſilk, that they may hang in ſo many hanks; which done, they faſten all to a ſtrong cord, and, about an handful and an half above the worms, fix a plummet three-quarters of a pound weight, and make the cord faſt to a ſtrong pole. With this apparatus fiſhing in muddy water, they feel the eels tug luſtily at the bait; when they think they have ſwallowed it ſufficiently, they gently draw up the rope to the top, and bring them aſhore.

BOBIO, an epiſcopal town of Italy, in the Milaneſe and territory of Pavia, ſeated on the river Treba, in E. Long. 9. 30. N. Lat. 44. 48.

BOCA-CHICA, the ſtrait or entrance into the harbour of Carthagena in South America. It is defended by ſeveral forts belonging to the Spaniards, all which were taken by the Engliſh in 1741; they were nevertheleſs obliged to raiſe the ſiege of Carthagena in a ſhort time after.

Boca-del-Drago, a ſtrait ſo called, between the iſland of Trinidad and Andaluſia, in the province of Terra Firma in South America.

BOCANUM, (anc. geog.), a town of Mauritania Tingetana, to the ſouth of Mount Atlas; ſaid to be that of Morocco in Africa. W. Long. 9. 0. N. Lat. 31. 0.

BOCCA, in glaſs-making, the round hole in the working furnace, by which the metal is taken out of the great pots, and by which the pots are put into the furnace. This is to be ſtopped with a cover made of earth and brick, and removable at pleaſure, to preſerve the eyes of the workmen from the violence of the heat.

BOCCACE (John), one of the moſt polite and learned writers of his age was born in Tuſcany in 1313. His father firſt placed him with a merchant; but as he gave ſigns of genius, he was put afterward to ſtudy the canon law: he loſt almoſt as much time at this as at the laſt occupation; and thought of nothing but poetry. He came under the inſtruction of Petrarch; but did not ſo entirely devote himſelf to poetry, as to forget other ſtudies. In the proſecution of theſe, however, as he ſought every where for the beſt maſters, and had not an income ſufficient for his expences, he was reduced to ſuch circumſtances as to ſtand in need of the bounty of others: he was particularly obliged to Petrarch, who furniſhed him with money as well as books, and aſſiſted him in many other reſpects. Bocace was a great admirer of the Greek language: he found means to get Homer tranſlated into Latin for his own uſe; and procured a profeſſor's chair at Florence for Leontius Pylatus, in order to explain this poet. The republic of Florence honoured Boccace with the freedom of that city; and employed him in public affairs, particularly to negociate the return of Petrarch: but this poet not only refuſed to return to Florence, but perſuaded Boccace alſo to retire from thence, on account of the factions which prevailed in that republic. Having quitted Florence, he went to ſeveral places in Italy, and ſtopped at laſt at the court of Naples, where King Robert gave him a very kind reception. He conceived a violent affection for the natural daughter of that prince, which made him remain a conſiderable time at Naples. He alſo made a long ſtay in Sicily, where he was in high favour with Queen Joan. He returned to Florence when the troubles were a little appeaſed: but not liking the courſe of life he muſt have followed there, he retired to Certaldo; and, far from the noiſe of buſineſs, he ſpent his time in ſtudy agreeably to his own humour. His great application brought on him an indiſpoſition, of which he died in 1376. He wrote ſeveral books, ſome learned and ſerious, others of gallantry and full of ſtories. It is by his *Decameron* chiefly that he has immortalized himſelf. Petrarch found ſo many charms in this compoſition, that he was at the pains to tranſlate it into Latin for his own ſatisfaction.

BOCCALE, or **Bocal**, a liquid meaſure uſed at Rome, anſwering to what among us is called a bottle, being equivalent to about an Engliſh quart. Seven boccales and an half make the rubbia.

BOCCALINI (Trajan), a celebrated ſatirical writer, born at Rome, who, in the beginning of the 17th century, obtained the admiration of all Italy by his refined and delicate criticiſms. Sovereign princes themſelves did not eſcape the laſh of his ſatire. The cardinals Borgheſe and Gætan having declared themſelves his protectors, he publiſhed his *Ragguaglio di Parnaſſo*, and *La Secretaria di Apollo*, which is the continuation of the former. Theſe two works were received by the public with uncommon applauſe. He there feigns, that Apollo, holding his court at Parnaſſus, heard the complaints of the whole world, and did juſtice according as the caſes required. He at length printed his *Pietra di Parangone*; wherein he attacks the court of Spain, ſetting forth their deſigns againſt the liberty of Italy, and inveighing particularly againſt them for the tyranny they exerciſed in the kingdom of Naples. The Spaniards complained of him in form, and were determined at any rate to be revenged. Boccalini was frightened, and retired to Venice; but was there aſſaſſinated in a very ſtrange manner. He lodged with one of his friends, who having got up early one morning, left Boccalini in bed: a minute after, ſome armed men entered his chamber, and gave him ſo many blows with bags full of ſand, that they left him for dead; ſo that his friend returning ſome time after, found him ſpeechleſs. Great ſearch was made at Venice for the authors of this murder; and though they were never diſcovered, it was univerſally believed that they were employed by the court of Spain.

BOCCARELLA, in the glaſs-manufacture, a ſmall hole or aperture of the furnace, one of which is placed on each ſide of the bocca, almoſt horizontally with it. Out of them the ſervitors take coloured or finer metal from the piling pot.

BOCCIARDI (Clemente), called *Clementone*, hiſtory and portrait painter, was born at Genoa in 1620, and was the diſciple of Bernardo Strozzi, an artiſt of good reputation; but he found in himſelf ſo ſtrong an ambition to arrive at excellence in his profeſſion, that he left Genoa, and went to Rome: there, to explore that true ſublimity of ſtyle, which can only be obtained by a judicious obſervation of the ancient ſculptures and the works of the celebrated modern artiſts. By the guidance of an excellent genius, and alſo by a moſt induſtrious application to deſign, he diſcovered the art of uniting and blending the antique and modern guſto in a ſtyle that at one exhibited both gracefulneſs and ſtrength. Moſt of the works of this maſter (except his portraits, which were lively, natural, and graceful) are in the chapels of Genoa, Piſa, and other cities of Italy; of which places they are, at this day, accounted the greateſt ornaments, and are moſt exceedingly eſteemed.

BOCCONI (Sylvio), a celebrated natural hiſtorian, born at Palermo in Sicily. After he had gone through the uſual courſe of ſtudies, he applied himſelf chiefly to natural hiſtory, in which he made a moſt ſurpriſing progreſs. He was afterwards ordained prieſt, and entered into the Ciſtercian order, at which time he changed his chriſtian name *Paul* into that of *Sylvio*. This new way of life did not in the leaſt divert him from his favourite ſtudy: for he purſued it with greater vigour than ever, and travelled not only over Sicily, but likewiſe viſited the iſle of Malta, Italy, the Low Countries, England, France, Germany, Poland, and ſeveral other nations; and, in 1696, was admitted a member of the academy of the virtuoſi in Germany. Upon his return to Sicily, he retired to a convent of his own order near Palermo; where he died in 1704, being 71 years of age. He left many curious works.

BOCCONIA, GREATER TREE CELANDINE: A genus of the monogynia order, belonging to the dodecandria claſs of plants, and in the natural method ranking under the 27th order, *Rhœadeæ*. The calyx is diphyllous; there is no corolla; the ſtylus is bifid; the berry is dry, and monoſpermous. Of this genus there is but one known ſpecies, viz. the fruteſcens, which is eſteemed for the beauty of its large foliage. It is very common in Jamaica and other warm parts of America, where it grows to the height of 10 or 12 feet, having a ſtraight trunk as large as a man's arm, and covered with a white ſmooth bark. At the top it divides into ſeveral branches, on which the leaves are placed alternately. Theſe leaves are eight or nine inches long, and five or ſix broad; are deeply ſinuated, ſometimes almoſt to the midrib; and are of a fine glaucous colour. The whole plant abounds with a yellow juice of an acrid nature; ſo that it is uſed by the inhabitants of America to take off warts and ſpots from the eyes. The ſingular beauty of this plant renders it worthy of a place in every curious collection; and it ſeems the Indians are very fond of it; for Hernandez tells us, their kings uſed to plant it in their gardens. It is propagated by the ſeeds, ſowing them in ſpring, in pots of light earth, which muſt be plunged in a hot-bed. When the plants come up, they are to be kept in ſeparate pots, which muſt always be kept in a ſtove in Britain.

BOCHART (Samuel), one of the moſt learned men in the 17th century, was born at Roan in Normandy. He made a very early progreſs in learning, and became a great proficient in the oriental languages. He was many years paſtor of a proteſtant church at Caen; where he was tutor to Wentworth Dillon earl of Roſcommon, author of the Eſſay on Tranſlated Verſe. Here he particularly diſtinguiſhed himſelf by his public diſputations with father Veron, a very famous controverſiſt. The diſpute was held in the caſtle of Caen, in the preſence of a great number of Catholics and Proteſtants. Bochart came off with great honour and reputation: which were not a little increaſed in the year 1646, upon the publication of his *Phaleg* and *Canaan*, which are the titles of the two parts of his *Geographica Sacra*. He acquired alſo great fame by his *Hierozoicon*, printed in London in 1675. This treats *de animalibus* *ſacræ ſcripturæ*. The great learning he diſplayed in his works rendered him eſteemed not only amongſt thoſe of his own profeſſion, but amongſt all lovers of knowledge of whatever denomination. In 1652, the queen of Sweden invited him to Stockholm, where ſhe gave him many proofs of her regard and eſteem. At his return to Caen, he reſumed the functions of the miniſtry, and was received into the academy of that city. His learning was not his principal qualification, he had a modeſty equal to it; and hence enjoyed his great reputation in tranquillity, ſheltered from thoſe unhappy quarrels which ſo many other learned men draw upon themſelves. He died ſuddenly while he was ſpeaking in the above academy, on the 16th of May, 1667, aged 78. A complete edition of his works was publiſhed in Holland, in two volumes folio, 1712.

BOCHIUS, or **BOCQUI** (John), a Latin poet, born at Bruſſels in 1555. He travelled into Italy, Germany, Poland, and Muſcovy, and at his return became ſecretary to the Duke of Parma. He died on the 13th of January, 1609. The critics in the Netherlands ſet ſo great a value on his poetry, that they gave him the name of the *Belgic Virgil*. He wrote, 1. *De Belgii Principatu*. 2. *Parodia Heroica Pſalmorum Davidicorum*. 3. *Obſervationes Phyſicæ, Ethiæ, Politicæ, et Hiſtoricæ, in Pſalmos*. 4. *Vita Davidis*. 5. *Orationes*. 6. *Poemata*.

BOCHETTA, a place of Italy, famous in the war of 1746 and 1747. It is a chain of mountains over which the great road lies from Lombardy to Genoa; and on the very peak of the higheſt mountain is a narrow paſs, which will hardly admit three men to go abreaſt. This paſs is properly called the *Bochetta*; for the defence of which there are three forts. It is the key of the city of Genoa; and was taken in 1746 by the imperialiſts. By which means they opened a way to that city.

BOCKHOLT, a town of Germany in the circle of Weſtphalia and dioceſe of Munſter, capital of a ſmall diſtrict, and ſubject to the biſhop of Munſter. E. Long. 6. 20. N. Lat. 51. 40.

BOCKING, a very large village of Eſſex in England, adjoining to Brain-tree, from which it is ſeparated only by a ſmall ſtream. Its church is a deanery, and very large; and there are here two or three meeting houſes; but the market is kept at Brain-tree. In both pariſhes there are about 1500 houſes, which in general are but indifferent, and the ſtreets narrow and badly paved. There is a large manufactory of bays, chiefly for exportation. It is 42 miles north-eaſt of London.

BOCK-LAND, in the Saxons time, is what we now call *freehold lands*, held by the better ſort of perſons by charter or deed in writing; by which name it was diſtinguiſhed from *folkland*, or copy-hold land, holden by the common people without writing.

BODERIA, or **BODOTRIA**, the ancient name for the Frith or Forth in Scotland.

BODIN (John), native of Angers, one of the ableſt men in France in the 16th century, famous for his *Method of Hiſtory*, his *Republic*, and other works. He was in great favour with Henry III. who impriſoned John de Serre for writing an injurious piece againſt Bodin, and forbid him upon pain of death to publiſh it. But his favour was not of long continuance. The duke of Alençon, however, gave him ſeveral employments; and carried him to England with him as one of his counſellors, where he had the pleaſure and glory to ſee his books *de Republica* read publicly in the univerſity of Cambridge, having been tranſlated into Latin by the Engliſh. He had written them in French. In the Ragguagli of Boccalini he is condemned as an atheiſt to the fire, for having ſaid in his books that liberty of conſcience ought to be granted to ſectaries. He declared himſelf pretty freely againſt thoſe who aſſerted that the authority of monarchs is unlimited; but yet he diſpleaſed the republicans. Upon the death of the duke of Alençon, Bodin retired to Laon, where he married. He had an office in the preſidial of this city; and in Charles IX.'s time he was the king's ſolicitor with a commiſſion for the foreſts of Normandy. He died of the plague at Laon, in 1596.

BODKIN, a ſmall inſtrument made of ſteel, bone, ivory, &c. uſed for making holes.

BODLEY (Sir Thomas), founder of the Bodleian library at Oxford, was born at Exeter in Devonſhire, in 1544. When he was about 12 years of age, his father, Mr John Bodley, being a proteſtant, was obliged to leave the kingdom. He ſettled at Geneva with his family, and continued there till the death of Queen Mary. In that univerſity, then in its infancy, young Bodley ſtudied the learned languages, &c. under ſeveral eminent profeſſors. On the acceſſion of Queen Elizabeth, he returned with his father to England; and was ſoon after entered of Magdalen college in Oxford. In 1563, he took the degree of bachelor of arts, and the year following was admitted fellow of Merton college. In 1565, he read a Greek lecture in the hall of that college. He took a maſter of arts degree the year after, and read natural philoſophy in the public ſchools. In 1569, he was one of the proctors of the univerſity, and, for ſome time after, officiated as public orator. In the year 1576, he quitted Oxford, and made the tour of Europe; but returned to his college after four years abſence. He became gentleman-uſher to Queen Elizabeth, in the year 1583; and in 1585 he married the widow of Mr Ball, daughter of Mr Carew of Briſtol, a lady of conſiderable fortune. Mr Bodley was ſoon after ſent ambaſſador to the king of Denmark, and other German princes. He was next charged with an important commiſſion to Henry III. of France; and in 1588, went ambaſſador to the United Provinces, where he continued till the year 1597. On his return to England, finding his preferment obſtructed by the jarring intereſts of Burleigh and Eſſex, he retired from court, and could never afterwards be prevailed on to accept of any employment. He now began the foundation of the Bodleian library, which was completed in 1599. Soon after the acceſſion of King James I. he received the honour of knighthood, and died in the year 1612. He was buried in the choir of Merton college. His monument is of black and white marble, on which ſtands his effigy in a ſcholar's gown, ſurrounded with books. At the four corners are the emblematical figures of Grammar, Rhetoric, Muſic, and Arithmetic; two angels, &c.; with a ſhort inſcription, ſignifying his age and time of his death. Sir Thomas Bodley was a polite ſcholar, an able ſtateſman, and worthy man. Mr Granger obſerves, that he merited much as a man of letters;

ters; but incomparably more in the ample proviſion he made for literature, in which he ſtands unrivalled; and that his library is a mauſoleum which will perpetuate his memory as long as books themſelves endure. Sir Thomas wrote his own Life to the year 1609; which, together with the firſt draught of the Statutes, and his Letters, have been publiſhed from the originals in the Bodleian library, by Mr Thomas Hearn, in 1703.

BODMIN, a town of Cornwall in England, ſeated in a bottom between two high hills, which render the air very unwholeſome. It conſiſts chiefly of one ſtreet, and the many decayed houſes ſhow that it has once been a place of greater note. It is a mayor-town, ſends two members to parliament, and had formerly the privilege of the coinage of tin. W. Long. 4. 5. N. Lat. 50. 32.

BODON, a fortified town of Bulgaria in Turkey in Europe, with an archbiſhop's ſee. It is ſeated on the Danube, in E. Long. 45. 24. N. Lat. 45. 10.

BODROCH, a town of Hungary, ſeated on the north-eaſt ſhore of the river Danube, in E. Long. 20. 20. N. Lat. 46. 15.

BODRUN. See Teos.

BODY, in phyſics, an extended ſolid ſubſtance, of itſelf utterly paſſive and inactive, indifferent either to motion or reſt.

Colour of Bodies. See Chromatics.

Body, with regard to animals, is uſed in oppoſition to ſoul, in which ſenſe it makes the ſubject of anatomy. The height of the human body is ſaid to be different in different parts of the day; ordinarily it is an inch more in the morning than at night†. The body ceaſes to grow in height when the bones are arrived at a degree of firmneſs and rigidity which will not allow of farther extenſion by the effort of the heart and motion of the blood.

Phil. Tranſ. n° 183.

Body, among painters, as to *bear a body*, a term ſignifying that the colours are of ſuch a nature, as to be capable of being ground ſo fine, and mixing with the oil ſo entirely, as to ſeem only a very thick oil of the ſame colour.

Body, in the manege. A horſe is chiefly ſaid to have a *good body*, when he is full in the flank. If the laſt of the ſhort ribs be at a conſiderable diſtance from the haunch-bone, although ſuch horſes may for a time have pretty good bodies, yet, if they are much laboured, they will loſe them; and theſe are properly the horſes that have no flank. It is alſo a general rule, that a man ſhould not buy a light-bodied horſe, and one that is fiery, becauſe he will ſoon deſtroy himſelf.

Body, in the art of war, a number of forces, horſe and foot, united and marching under one commander.

Main Body of an army, the troops encamped in the centre between the two wings, and generally infantry, the other two bodies are the vanguard and the rear-guard; theſe being the three into which an army, ranged in order of battle, is divided.

Body, in matters of literature, denotes much the ſame with ſyſtem, being a collection of every thing belonging to a particular ſcience or art, diſpoſed in proper order: thus we ſay, a body of divinity, law, phyſic, &c.

Body-Corporate. See Corporatoin.

BOECE, or Boethius (Hector), the hiſtorian, was born at Dundee about the year 1470, and ſtudied with applauſe in the univerſity of Paris. It was there he became acquainted with Eraſmus, and laid the foundation of a friendſhip which was ſo honourable to him. In 1500 he was recalled to Aberdeen by Biſhop Elphingſton, who made him principal of that univerſity. Gratitude for this promotion engaged him to write with particular attention the Life of that prelate. It appeared in his hiſtory of the dioceſe of Aberdeen; and may be conſidered, perhaps, as the moſt valuable portion of that work. His Hiſtory of Scotland, a more uſeful undertaking, was firſt publiſhed in the year 1526. In 1574 it underwent a ſecond impreſſion, and was enriched with the 18th book and a part of the 19th. A farther continuation of it was executed by Joannes Ferrerius Pedemontanus. Boece died about the year 1550. He has been compared, and not without reaſon, to Geoffroy of Monmouth. He had a propenſity to fable and exaggeration; a fault which the elegance of his expreſſion does not compenſate. His judgment was not equal to his genius; and his fictions as an hiſtorian are a contraſt to his probity as a man. John Ballenden, archdeacon of Murray, tranſlated his hiſtory into the Scottiſh language at the deſire of James V. This tranſlation William Harriſon converted, though with imperfections, into Engliſh; and his aſſociate Hollingſhed publiſhed his work in his chronicle, with additions and improvements by the ingenious Francis Thynne.

BOEDROMIA, in antiquity, ſolemn feaſts held at Athens in memory of the ſuccour brought by Ion to the Athenians, when invaded by Eumolpus ſon of Neptune, in the reign of Erectheus. Plutarch gives another account of the boedromia; which, according to him, were celebrated in memory of the victory obtained by Theſeus over the Amazons, in the month Boedromion.

BOEDROMION, in chronology, the third month of the Athenian year, anſwering to the latter part of our Auguſt and beginning of September.

BOEHMEN (Jacob), called the *Teutonic philoſopher*, was a noted viſionary of the 17th century, born in a village of Germany near Gorlitz, in 1575. He was bred a ſhoemaker; and marrying, ſupported a large family by this occupation; until, after amuſing himſelf with chemiſtry, a viſionary turn of mind, heated by ſermons and German divinity, got the upper hand of his common ſenſe, and produced raptures and notions of divine illumination. Theſe he firſt gave vent to in 1612, by a treatſe intitled *Aurora, or the riſing of the Sun*; being a mixture of aſtrology, philoſophy, chemiſtry, and divinity, written in a quaint obſcure ſtyle. This being cenſured by the magiſtrates of Gorlitz, he remained ſilent for ſeven years: but improving that interval by purſuing the flights of his imagination, he reſumed his pen; and reſolving to redeem the time he had loſt, he, in the remaining five years of his life, publiſhed above 20 books, which greatly needed what he concluded with, *A table of his principles, or a key to his writings*; though this has not proved ſufficient to render them intelligible to common apprehenſions. The key above mentioned appeared in 1624, and he did not long ſurvive it. For early in the morning of the 18th of November that year, he called one of his ſons, and aſked him "if he alſo heard that excellent

Bœotia, Boerhaave.

Boerhaave.

muſic?" to which being anſwered in the negative, he ordered the door to be ſet open, that the muſic might be the better heard. He aſked afterwards what o'clock it was? and being told it had ſtruck two, he ſaid "It is not yet my time; my time is three hours hence." In the interim he was heard to ſpeak theſe words: "O thou ſtrong God of hoſts, deliver me according to thy will! O thou crucified Lord Jeſus, have mercy upon me, and receive me into thy kingdom!" When it was near ſix o'clock, he took his leave of his wife and ſons, and bleſſed them, and ſaid, "Now I gow hence into paradiſe;" then bidding his ſon turn him, he immediately expired his laſt breath in a deep ſigh. A great number of perſons have been inveigled by the viſions of this fanatic, notwithſtanding his talents in involving the plaineſt things in myſtery and ænigmatical jorgan. Among others, the famous Quirinus Kahlman may be reckoned the principal of his followers in Germany; who ſays, he had learned more being alone in his ſtudy, from Boehmen, than he could have learned from all the wiſe men of that age together; and, that we may not be in the dark as to what ſort of knowledge this was, he acquaints us, that amidſt an infinite number of viſions it happened, that, being ſnatched out of his ſtudy, he ſaw thouſands of thouſands of lights riſing round about him. Nor has he been without admirers, and thoſe in no ſmall number, in England; among the foremoſt of whom ſtands the famous Mr William Law, author of *Chriſtian Perfection*, &c. who has favoured his countrymen with an Engliſh edition of Jacob Boehmen's works in 2 vols 4to.

BŒOTIA, the name of two ancient kingdoms, one of which was founded or rather reſtored by Cadmus, and named by him *Bœotia*, from the ox, which is ſaid to have directed him to the place where he built the capital of his new kingdom, better known afterwards by the name of *Thebes*. But as the inhabitants were ſcarce ever diſtinguiſhed as a nation by the name of *Bœotians*, but of *Thebans*, we refer to the article THEBES for their hiſtory, &c.

The other Bœotia was in Theſſaly, and is ſaid to have been founded by Bœotus the ſon of Neptune and brother of Æolus, by Arne, the daughter of Æolus king of Æolis. This laſt, having ſent his daughter to Metapontium a city of Italy, ſhe was there delivered of thoſe two ſons, the eldeſt of whom ſhe called after her father's name *Æolus*; and he poſſeſſed himſelf of the iſlands in the Tyrrhenian, now the Tuſcan ſea, and built the city of Lipara. Bœotus the younger ſon went to his grandfather and ſucceeded him in his kingdom, called it after his own name, and the capital city *Arne*, from his mother. All that we know of theſe Bœotians is, that they held this ſettlement upwards of 200 years; and that the Theſſalians expelled them from it; upon which they came and took poſſeſſion of that country, which till then had been called *Cadmeis*, and give it the name of *Bœotia*. Diodorus and Homer tell us, that theſe Bœotians ſignalized themſelves at the Trojan war; and the latter adds, that five of Bœotius's grandſons, viz. Peneleus, Leitus, Prothœnor, Arceſilaus, and Clonius, were the chiefs who led the Bœotian troops thither.

BOERHAAVE (Herman), one of the greateſt phyſicians, as well as the beſt men, that this or perhaps any age has ever produced, was born in 1668 at Vorhout, a village near Leyden. At the age of 16 he found himſelf without parents, protection, advice, or fortune. He had already ſtudied theology and the other eccleſiaſtical ſciences, with the deſign of devoting himſelf to a clerical life: but the ſcience of nature, which equally engaged his attention, ſoon engroſſed his whole time. This illuſtrious perſon, whoſe name afterwards ſpread throughout the world, and who left at his death above L.200,000, could at that time barely live by his labours, and was compelled to teach the mathematics to obtain neceſſaries. But in 1693, being received doctor in the ſcience of phyſic, he began practice; and his merit being at length diſcovered, many powerful friends patronized him, and procured him three valuable employments; the firſt was that of profeſſor of medicine in the univerſity of Leyden; the ſecond, that of profeſſor of chemiſtry; and, thirdly, that of profeſſor of botany. The Academy of Sciences at Paris, and the Royal Society at London, invited him to become one of their members. He communicated to each his diſcoveries in chemiſtry. The city of Leyden became in his time the ſchool of Europe for this ſcience, as wall as medicine and botany. All the princes of Europe ſent him diſciples, who found in this ſkilful profeſſor, not only an indefatigable teacher, but even a tender father, who encouraged them to purſue their labours, conſoled them in their afflictions, and ſolaced them in their wants. When Peter the Great went to Holland in 1715, to inſtruct himſelf in maritime affairs, he alſo attended Boerhaave to receive his leſſons. His reputation was ſpread as far as China: a Mandarine wrote to him with this inſcription, "To the illuſtrious Boerhaave, phyſician in Europe;" and the letter came regularly to him. The city of Leyden has raiſed a monument in the church of St Peter, to the ſalutary genius of Boerhaave, *Salutifero Boerhaavii genio ſacrum*. It conſiſts of an urn upon a pedeſtal of black marble: ſix heads, four of which repreſent the four ages of life, and two the ſciences in which Boerhaave excelled, from a group iſſuing between the urn and its ſupporters. The capital of this baſis is decorated with a drapery of white marble, in which the artiſt has ſhown the different emblems of diſorders and their remedies. Above, upon the ſurface of the pedeſtal, is the medallion of Boerhaave: at the extremity of the frame, a ribband diſplays the favourite motto of this learned man; *Simplex vigilum veri*, "Truth unarrayed."

From the time of the learned Hippocrates, no phyſician has more juſtly merited the eſteem of his cotemporaries, and the thanks of poſterity, than Boerhaave. He united to an uncommon genius, and extraordinary talents, the qualities of the heart, which gave them ſo great a value to ſociety. He made a decent, ſimple, and venerable appearance, particularly when age had changed the colour of his hair. He was an eloquent orator, and declaimed with dignity and grace. He taught very methodically, and with great preciſion; he never tired his auditors, but they always regretted that his diſcourſes were finiſhed. He would ſometimes give them a lively turn with raillery; but his raillery was refined and ingenious, and it enlivened the ſubject he treated of, without carrying with it any thing ſevere or ſatirical. A declared foe to all exceſs, he conſidered

Boerhaave.

dered decent mirth as the ſalt of life. It was the daily practice of this eminent perſon, through his whole life, as ſoon as he roſe in the morning, which was generally very early, to retire for an hour to private prayer, and meditation on ſome part of the Scriptures. He often told his friends, when they aſked him how it was poſſible for him to go through ſo much fatigue? that it was *this* which gave him ſpirit and vigour in the buſineſs of the day. *This* he therefore recommended as *the beſt rule* he could give: for nothing, he ſaid, could tend more to the health of the body than the tranquillity of the mind; and that he knew nothing which could ſupport himſelf, or his fellow-creatures, amidſt the various diſtreſſes of life, but a well-grounded confidence in the Supreme Being upon the principles of Chriſtianity. This was ſtrongly exemplified in his own illneſs in 1722, which can hardly be told without horror; and by which the courſe of his lectures as well as his practice was long interrupted. He was for five months confined to his bed by the gout, where he lay upon his back without daring to attempt the leaſt motion; becauſe any effort renewed his torments, which were ſo exquiſite, that he was at length not only deprived of motion but of ſenſe. Here his medical art was at a ſtand; nothing could be attempted, becauſe nothing could be propoſed with the leaſt proſpect of ſucceſs. But, having (in the ſixth month of his illneſs) obtained ſome remiſſion, he determined to try whether the juice of fumitory, endive, or ſuccory, taken thrice a-day in a large quantity, (*viz.* above half a pint each doſe), might not contribute to his relief; and by a perſeverance in this method he was wonderfully recovered. This patience of Boerhaave's was founded not on vain reaſonings, like that of which the Stoicks boaſted; but on a religious compoſure of mind, and Chriſtian reſignation to the will of God.

Of his ſagacity and the wonderful penetration with which he often diſcovered and deſcribed, at the firſt ſight of a patient, ſuch diſtempers as betray themſelves by no ſymptoms to common eyes, ſuch ſurpriſing accounts have been given, as ſcarcely can be credited, though atteſted beyond all doubt. Yet this great maſter of medical knowledge was ſo far from a preſumptuous confidence in his abilities, or from being puffed up by his riches, that he was condeſcending to all, and remarkably diligent in his profeſſion; and he often uſed to ſay, that the life of a patient (if trifled with or neglected) would one day be required at the hand of the phyſician. He always called the poor his *beſt patients;* for God (ſaid he) is their paymaſter. The activity of his mind ſparkled viſibly in his eyes. He was always cheerful, and deſirous of promoting every valuable end of converſation; and the excellency of the Chriſtian religion was frequently the ſubject of it: for he aſſerted, on all proper occaſions, the divine authority and ſacred efficacy of the Scriptures; and maintained, that they only could give peace of mind, that ſweet and ſacred peace which paſſeth all underſtanding; ſince none can conceive it but he who has it; and none can have it but by divine communication. He never regarded calumny nor detraction (for Boerhaave himſelf had enemies), nor ever thought it neceſſary to confute them. "They are ſparks (ſaid he) which, if you do not blow, will go out of themſelves. The ſureſt remedy again ſcandal, is to *live it down* by a perſeverance in well doing; and by praying to God that he would cure the diſtempered minds of thoſe who traduce and injure us." Being once aſked by a friend, who had often admired his patience under great provocations, whether he knew what it was to be angry, and by what means he had ſo entirely ſuppreſſed that impetuous and ungovernable paſſion? he anſwered, with the utmoſt frankneſs and ſincerity, that he was naturally quick of reſentment; but that he had, by daily prayer and meditation, at length attained to this maſtery over himſelf.

About the middle of the year 1737, he felt the firſt approaches of that fatal illneſs which brought him to the grave, *viz.* a diſorder in his breaſt, which was at times very painful, often threatened him with immediate ſuffocation, and terminated in an univerſal dropſy: but during this afflictive and lingering illneſs, his conſtancy and firmneſs did not forſake him; he neither intermitted the neceſſary cares of life, nor forgot the proper preparations of death. About three weeks before his diſſolution, when the Rev. Mr Schultens, one of the moſt learned and exemplary divines of the age, attended him at his country-houſe, the Doctor deſired his prayers, and afterwards entered into a moſt remarkable judicious diſcourſe with him on the ſpiritual and immaterial nature of the ſoul; and this he illuſtrated to Mr Schultens with wonderful perſpicuity, by a deſcription of the effects which the infirmities of his body had upon his faculties; which yet they did not ſo oppreſs or vanquiſh, but his ſoul was always maſter of itſelf, and always reſigned to the pleaſure of its Maker.—and then he added, "He who loves God ought to think nothing deſirable but what is moſt pleaſing to to the ſupreme goodneſs." Theſe were his ſentiments, and ſuch was his conduct in this ſtate of weakneſs and pain. As death approached nearer, he was ſo far from terror or confuſion, that he ſeemed leſs ſenſible of pain, and more cheerful under his torments, which continued till the 23d day of September, 1738, on which he died (much honoured and lamented) between four and five in the morning, in the 70th year of his age—often recommending to the bye-ſtanders a careful obſervation of St John's precepts concerning the love of God, and the love of man, as frequently inculcated in his firſt epiſtle particularly in the fifth chapter. His funeral oration was ſpoken in Latin before the univerſity of Leyden, to a very numerous audience, by Mr Schultens, and afterwards publiſhed at their particular deſire. He wrote, 1. *Inſtitutiones Medicæ. Aphoriſmi de cognoſcendis & curandis Morbis.* 3. *Inſtitutiones & Experimenta Chemiæ.* 4. *Libellus de Materia Medica, et remedio rumformulis quæ ſerviunt Aphoriſmis.* Swieten publiſhed, *Commentaries upon his Aphoriſms*, in 5 vols 4to; and ſeveral other works all greatly eſteemed.

Boerhaave. Boerhaavia.

BOERHAAVIA, ; a genus of the monogynia order, belonging to the monandria claſs of plants. There is no calyx; the corolla is monopetalous, campanulated, and plaited; and the ſeed is one, naked, and below. There are ſix ſpecies, all natives of the Indies. Some of theſe plants riſe five or ſix feet high, but moſt of them only 18 inches or two feet. They carry flowers of a yellow or red colour, but are by no means ſo remarkable as to merit any particular deſcription.

BOESCHOT, a town of the Auſtrian Netherlands, in the province of Brabant, ſeated on the river Nethe, in E. Long. 4. 45, N. Lat. 51. 5.

BOETHIUS, or **BOETIUS** (Flavius Anicius Manlius Torquatus Severinus), a proſe as well as poetical writer of the 6th century, born of one of the nobleſt families of the city of Rome. The time of his birth is related to have been about that period in the Roman hiſtory when Auguſtulus, whoſe fears had induced him to a reſignation of the empire, was baniſhed, and Odoacer king of the Herulians began to reign in Italy, *viz.* in the year of Chriſt 476, or ſomewhat after. The father of Boethius dying while he was yet an infant, his relations undertook the care of his education and the direction of his ſtudies. His excellent parts were ſoon diſcovered; and, as well to enrich his mind with the ſtudy of philoſophy as to perfect himſelf in the Greek language, he was ſent to Athens. Returning young to Rome, he was ſoon diſtinguiſhed for his learning and virtue, and promoted to the principal dignities in the ſtate, and at length to the conſulate. Living in great affluence and ſplendor, he addicted himſelf to the ſtudy of theology, mathematics, ethics, and logic; and how great a maſter he became in each of theſe branches of learning, appears from thoſe works of his now extant. The great offices which he bore in the ſtate, and his conſummate wiſdom and inflexible integrity, procured him ſuch a ſhare in the public councils, as proved in the end his deſtruction; for as he employed his intereſt with the king for the protection and encouragement of deſerving men, ſo he exerted his utmoſt efforts in the detection of fraud, the repreſſing of violence, and the defence of the ſtate againſt invaders. At this time Theodoric the Goth had attempted to ravage Campania; and it was owing to the vigilance and reſolution of Boetius that the country was preſerved from deſtruction. At length having murdered Odoacer, Theodoric became king of Italy, where he governed 33 years with prudence and moderation, during which time Boetius poſſeſſed a large ſhare of his eſteem and confidence. It happened about this time that Juſtin, the emperor of the eaſt, upon his ſucceeding to Anaſtaſius, made an edict condemning all the Arians, except the Goths, to perpetual baniſhment from the eaſtern empire: in this edict Hormiſda biſhop of Rome, and alſo the ſenate, concurred. But Theodoric, who, as being a Goth, was an Arian, was extremely troubled at it; and conceived an averſion againſt the ſenate for the ſhare they had borne in this proſcription. Of this diſpoſition in the king, three men of profligate lives and deſperate fortunes, Gaudentius, Opilio, and Baſilius, took advantage. Having entertained a ſecret deſire of revenge againſt Boetius, for having been inſtrumental in the diſmiſſion of the latter from a lucrative employment under the king, they accuſed him of ſeveral crimes; ſuch as the ſtifling a charge, the end whereof was to involve the whole ſenate in the guilt of treaſon; and an attempt, by dethroning the king, to reſtore the liberty of Italy; and, laſtly, they ſuggeſted, that, to acquire the honours he was in poſſeſſion of, Boetius had had recourſe to magical art. Boetius was at this time at a great diſtance from Rome; however, Theodoric tranſmittted the complaint to the ſenate, enforcing it with a ſuggeſtion that the ſafety, as well of the people as the prince, was rendered very precarious by this ſuppoſed deſign to exterminate the Goths. The ſenate, perhaps fearing the reſentment of the king, and having nothing to hope from the ſucceſs of an enterpriſe which, ſuppoſing it ever to have been meditated, was now rendered abortive, without ſummoning him to his defence, condemned Boetius to death. The king, however, apprehending ſome bad conſequences from the execution of a ſentence ſo flagrantly unjuſt, mitigated it to baniſhment. The place of his exile was Ticinum, now the city of Pavia, in Italy: being in that place ſeparated from his relations, who had not been permitted to follow him into his retirement, he endeavoured to derive from philoſophy thoſe comforts which that alone was capable of affording to one in his forlorn ſituation, ſequeſtered from his friends, in the power of his enemies, and at the mercy of a capricious tyrant; and accordingly he there compoſed that valuable diſcourſe, intitled *De Conſolatione Philoſophiæ.* About two years after his baniſhment, Boetius was beheaded in priſon by the command of Theodoric. His tomb is to be ſeen in the church of St Auguſtine, at Pavia, near the ſteps of the chancel.

The extenſive learning and eloquence of this great man are conſpicuous in his works, which ſeem to have been collected with great care; an edition of them was printed at Venice, in one volume folio, in 1499. In 1570, Glareanus, of Baſil, collated that with ſeveral manuſcripts, and publiſhed it, with a few various readings in the margin. His chief performance is that abovementioned, *De Coſolatione Philoſophiæ*; a work well known in the learned world, and to which the afflicted have often applied. In particular, our Saxon king Alfred, whoſe reign, though happy upon the whole, was attended with great viciſſitudes of fortune, had recourſe to it at a time when his diſtreſſes compelled him to ſeek retirement; and that he might the better impreſs upon his mind the noble ſentiments inculcated in it, he made a complete tranſlation of it into the Saxon language, which, within theſe few years, has been given to the world in its proper character. And Camden relates, that queen Elizabeth, during the time of her confinement by her ſiſter Mary, to mitigate her grief, read and afterwards tranſlated it into very elegant Engliſh. But it deſerves alſo particular notice, that he is the moſt conſiderable of all the Latin writers on muſic; and that his treatiſe *De Muſica* ſupplied for ſome centuries the want of thoſe Greek manuſcripts which were ſuppoſed to have been loſt.

BOG properly ſignifies a quagmire, covered with graſs, but not ſolid enough to ſupport the weight of the body; in which ſenſe it differs only from marſhes or fens, as a part from the whole: ſome even reſtrain the term *bog* to quagmires pent up between two hills; whereas fens lie in champaign and low countries, where the deſcent is very ſmall.—To drain boggy lands, a good method is, to make trenches of a ſufficient depth to carry off the moiſture; and if theſe are partly filled up with rough ſtones, and then covered with thorn-buſhes and ſtraw, to keep the earth from filling up the interſtices, a ſtratum of good earth and turf may be laid over all; the cavities among the ſtones will give paſſage to the water, and the turf will grow at top as if nothing had been done.

Bog, or *Bog of Gight*, a ſmall town of Scotland, ſeated near the mouth of the river Spey, in W. Long. 2. 23. N. Lat. 57. 48.

Bog-Spavin. See Farriery, § xxxii. 3.

BOGARMITÆ. See Bogomili.

BOGHO, or Bueil, a town in the county of Nice in Piedmont, ſituated on the frontiers of France, in E. Long. 6. 45. N. Lat. 44. 12.

BOGLIO, a diſtrict in the territories of the duke of Savoy, lying on the river Tinca on the frontiers of Provence; the capital is of the ſame name.

Boglio, a town of Piedmont, and county of Nice, being the capital of a territory of the ſame name. E. Long. 4. 50. N. Lat. 44. 12.

BOGOMILI, or Bogarmitæ, in church hiſtory, a ſect of heretics, which ſprung up about the year 1179. They held, that the uſe of churches, of the ſacrament of the Lord's ſupper, and all prayer, except the Lord's prayer, ought to be aboliſhed; that the baptiſm of Catholics is imperfect; that the Perſons of the Trinity are unequal; and that they oftentimes made themſelves viſible to thoſe of their ſect. They ſaid, that devils dwelt in the churches, and that Satan had reſided in the temple of Solomon from the deſtruction of Jeruſalem to their own time.

BOGOTO, the capital of New Granada in Terra Firma in South America, near which are gold mines. It is ſubject to Spain. W. Long. 73. 55. N. Lat. 4. 0.

BOGUDIANA (Pliny), a part of the Mauritania Tingitana in Africa. According to Cluverius, it is the *Tingitana*, anciently ſo called from King Bogud.

BOHEA, in commerce, one of the coarſeſt kinds of tea that come from China. See Thea.

BOHEMIA, a kingdom of Europe, ſubject to the houſe of Auſtria, and ſurrounded on every ſide with wood and mountains as with a natural rampart. It is bounded on the eaſt by Moravia and part of Sileſia, on the north by Luſace and Upper Saxony, on the weſt by Franconia, and on the ſouth by Bavaria. Although this kingdom is ſituated in the middle of Germany, and its king is an elector of the empire, it has nevertheleſs its particular aſſemblies, cuſtoms, and language, different from the Germans. It is one of the moſt elevated countries of Europe: for no river enters into it, though many have their ſource there; the chief of which are the Elbe, the Oder, the Viſtula, and the Morava. The air is cold and unwholeſome; for they have more epidemical diſeaſes than in the neighbouring countries. There are mines of ſilver, copper, lead, and even ſome veins of gold. The capital city is Prague; the others are Cuttenburg, Konigengretz, Pilſen, Czaſlaw, Budweys, Egra, Glatz, Tabor, and a great number of others: for they reckon more than 100 cities, among which almoſt 40 have the title of *Royal*. The name *Bohemia*, in the German language, ſignifies the *home*, or *abode*, *of the Boii*, a people of ancient Gaul, who under their leader Sergoveſus ſettled in that country about 590 years before the Chriſtian æra. Theſe Boii were ſoon after expelled by the Marcomanni, a nation of the Suevi, who were afterwards ſubdued by the Sclavi, a people of Scythia, whoſe language is ſtill ſpoken in Bohemia and Moravia. Notwithſtanding this expulſion of the Boii, the preſent inhabitants are ſtill called *Bohemians* by foreigners, but the natives call themſelves *Zech*. At firſt they were governed by dukes; but the emperor Otho I. conquered the duke of Bohemia, and reduced the province under the empire. Afterwards Henry V. gave the title of *king* to Ladiſlaus duke of Bohemia; and ſince that time theſe kings have been electors and chief cup-bearers of the empire, and the kingdom has been elective; which privileges have been confirmed by the golden bull. Formerly the kings of Bohemia received the kingdom as a fief of the empire, which ceremony was practiſed upon the frontiers; after which, the ſtandards of the principalities of which it is compoſed were given to them, without being torn and given to the people, as is done with the enſigns of the other fiefs of the empire. Ferdinand I. of Auſtria, having married Anne, ſiſter of Lewis, laſt king of Bohemia, who died without iſſue, and being elected king, that kingdom has remained in his family ever ſince. But the crown is conferred with ſome appearance of election; which right the ſtates of Bohemia ſtill pretend to claim, notwithſtanding that, by the treaty of Weſtphalia, Bohemia is declared hereditary in the houſe of Auſtria.

The king of Bohemia is the firſt ſecular elector, and gives his opinion after the elector of Cologn; though he does not aſſiſt at the aſſembly of electors, except at the election of an emperor. For theſe 200 years paſt they have not appeared at the collegiate aſſemblies, nor even at the imperial diets. However, in 1708, the emperor cauſed one of his deputies, in quality of king of Bohemia, to enter into the college of electors at the diet of Ratiſbon, by the form of re-admiſſion, together with the deputy of the elector of Brunſwick. The ſtates of Bohemia have never been comprehended in the government, or in the circles of the empire; they are not ſubject to any of its juriſdictions, nor to the Roman months, taxes, or public contributions; and they owe nothing to the empire but what the emperor Leopold voluntarily impoſed upon himſelf, which amounts to 6000 livres a-year for the imperial chamber. The king pays homage to the emperor and the empire for his ſtates as firſt ſecular elector; otherwiſe he has a right to exerciſe, through the whole extent of his dominions, all authority that the royalty can give, provided he do not violate the laws of the kingdom; according to which he cannot raiſe contributions or taxes but at the time when the ſtates are aſſembled, the appointing of which is entirely in their own power. The government of Bohemia is different from that of all other ſtates, the affairs of the kingdom being managed by ſix different courts. Firſt, the council of the regency, or the great royal council, in which preſides the great judge or burgrave of Bohemia, and who has under him 18 lieutenants of the king and other aſſeſſors. Secondly, the council or ſuperior chamber of juſtice, at which the great maſter of the kingdom is preſident. Thirdly, the chamber of fiefs. Fourthly, the new tribunal to judge the appeals of the German vaſſals in their differences on the account of fiefs; which court has alſo its preſident, vice-preſident, and aſſeſſors. Fifthly, the royal chamber of finances, which has a preſident and vice-preſident. Sixthly, the chancery, which always follow the court. Beſides, every circle of Bohemia is governed by two bailiffs, who adminiſter juſtice in their prefecture. The ſtates are compoſed of the clergy, lords, nobles, and burghers. As to Moravia, there is a grand bailiff who governs it in the name of the king of Bohemia, as Margrave of Moravia. He is at the head of the royal council, which is compoſed of three aſſeſſors, and in which all is tranſacted in the name of the king. This province is divided into five circles, each of which has its bailiff. There are, beſides, other officers of juſtice, who have a right of judging only at certain times, and in particular caſes, where an appeal is allowed.

Bohemia was divided by the emperor Charles IV. into 12 provinces, in each of which he ordered two captains to be appointed every year for the adminiſtration of the government. The ſame emperor cauſed the church of Prague to be erected into an archbiſhopric, with this advantage, that the archbiſhop of Prague ſhould have the prerogative that the archbiſhop of Mentz formerly enjoyed, *viz.* of crowning the king of Bohemia. The duchy of Sileſia, the marquiſate of Moravia, and that of Luſace, formerly held of this crown, but now only that of Moravia, which is incorporated with the kingdom of Bohemia, and is in the poſſeſſion of the houſe of Auſtria.

The only remarkable occurrence in the Bohemian hiſtory is the rebellion of the diſciples of John Huſs, and Jerome of Prague, on account of their leaders having been burnt as heretics. This occaſioned a bloody war of 16 years continuance. For a particular account of which, ſee the article HUSSITES.

BOHEMIAN BOLE. See BOLE.

BOHEMIAN Brethren, a ſect of Chriſtian reformers which ſprung up in Bohemia in the year 1467. They treated the pope and cardinals as antichriſt, and the church of Rome as the whore ſpoken of in the Revelation. They rejected the ſacraments of the Romiſh church, and choſe laymen for their miniſters. They held the Scriptures to be the only rule of faith, and rejected the Popiſh ceremonies in the celebration of the maſs, nor did they make uſe of any other prayer than the Lord's Prayer. They conſecrated leavened bread. They allowed no adoration but of Jeſus Chriſt, in the communion. They rebaptized all ſuch as joined themſelves to their congregation. They abhorred the worſhip of ſaints and images, prayers for the dead, celibacy, vows, and faſts; and kept none of the feſtivals but Chriſtmas, Eaſter, and Whitſuntide.

In 1504, they were accuſed by the Catholics to King Ladiſlaus II. who publiſhed an edict againſt them, forbidding them to hold any meetings either privately or publicly. When Luther declared himſelf againſt the church of Rome, the Bohemian brethren endeavoured to join his party. At firſt that reformer ſhowed a great averſion to them; but the Bohemians ſending their deputies to him in 1523 with a full account of their doctrines, he acknowledged that they were a ſociety of Chriſtians whoſe doctrine came neareſt to the purity of the goſpel. This ſect publiſhed another confeſſion of faith in 1535, in which they renounced anabaptiſm, which they at firſt practiſed: upon which a union was concluded with the Lutherans, and afterwards with the Zuinglians, whoſe opinions from thenceforth they continued to follow.

BOHOL, one of the Philippine iſlands in Aſia, lying to the northward of Mindanoa, in E. Long. 122. 5. N. Lat. 10. 0.

BOIANO, a town of Italy, in the kingdom of Naples, and county of Moleſe, with a biſhop's ſee. It is ſeated at the foot of the Apennines, near the river Tilerno, in E. Long. 14. 38. N. Lat. 41. 30.

BOIARDO (MATTEO MARIA of Ferrara), count of Scandiano, celebrated for his Italian poems, lived in the 15th century. His principal work is his *Orlando inamorato*. His Latin eclogues and ſonnets are alſo much admired.

BOJARS denote Ruſſian noblemen. See RUSSIA.

BOIEMUM, (anc. geog.) a part of Germany, ſurrounded with the Montes Sudeti, (Ptolemy); now called Bohemia. It took its name from the Boii, a people of Gaul, who removed thither before Cæſar's expedition into that country, (Cæſar); though he ſeems to err in the name. The Boii were afterwards driven out by the Marcomanni, and ſettled in the weſt of Vindelicia, which was afterwards called Bayern, and hence the name Bavaria.

BOII, (Cæſar); a people of Celtica, extending from the Ligeris to the Elaver, whence came the Boii of Gallia Ciſalpina, whoſe migration is related by Livy.

BOII. See BOHEMIA.

BOIGUACU, in zoology, a ſynonime of the boa conſtrictor. See BOA.

BOIL, or FURUNCLE. See the *Index* ſubjoined to MEDICINE, and SURGERY.

BOILEAU SIEUR DESPEREAUX (Nicholas), the celebrated French poet, was born at Paris in 1636. After he had gone through his courſe of polite literature and philoſophy, his relations engaged him to the ſtudy of the law, and he was admitted advocate. But tho' he had all the talents neceſſary for the bar, yet he could not adapt himſelf to a ſcience which turns upon continual equivocations, and often obliges thoſe who follow it to clothe falſehood in the garb of truth. He therefore determined to ſtudy theology; but he could not long endure the thorns of ſchool divinity. He imagined, that, to allure him more cunningly, chicanery, which he thought to avoid, had only changed her habit; and ſo he renounced the Sorbonne, betook himſelf entirely to the belles lettres, and took poſſeſſion of one of the foremoſt places in Parnaſſus. The public gave his works the encomium they deſerved; and Lewis XIV. who always loved to encourage the ſciences and polite literature, was not only pleaſed to have Mr Boileau's works read to him conſtantly as he compoſed them, but ſettled a yearly penſion of 2000 livres upon him, and gave him the privilege of printing all his works. He was afterwards choſen a member of the French academy and alſo of the academy of medals and inſcriptions. This great man, who was as remarkable for his integrity, his innocence, and diffuſive benevolence, as for the keenneſs of his ſatires, died of a dropſy on the 2d of March 1711, in the 75th year of his age, The Lutrin of Boileau, ſtill conſidered by ſome French critics of the preſent time as the beſt poem to which France has given birth, was firſt publiſhed in 1647. It is with great reaſon and juſtice that Voltaire confeſſes the Lutrin inferior to the Rape of the Lock. Few poets can be ſo properly compared as Pope and Boileau; and, wherever their writing, will admit of compariſon, we may, without any partiality, adjudge the ſuperiority to the Engliſh bard. Theſe two great authors reſembled each other as much in the integrity of their lives, as in the ſubjects and execution of their ſeveral compoſitions. There are two actions

tions recorded of Boileau, which ſufficiently prove that the inexorable ſatiriſt had a moſt generous and friendly heart; when Patru, the celebrated advocate, who was ruined by his paſſion for literature, found himſelf under the painful neceſſity of ſelling his expenſive library, and had almoſt agreed to part with it for a moderate ſum, Boileau gave him a much ſuperior price; and, after paying the money, added this condition to the purchaſe, that Patru ſhould retain, during his life, the poſſeſſion of the books. The ſucceeding inſtance of the poet's generoſity is yet nobler:—when it was rumoured at court that the king intended to retrench the penſion of Corneille, Boileau haſtened to Madam de Monteſpan, and ſaid, that his ſovereign, equitable as he was, could not, without injuſtice, grant a penſion to an author like himſelf, juſt aſcending Parnaſſus, and take it from Corneille, who had ſo long been ſeated on the ſummit; that he entreated her, for the honour of the king, to prevail on his majeſty rather to ſtrike off *his* penſion, than to withdraw that reward from a man whoſe title to it was incomparably greater; and that he ſhould more eaſily conſole himſelf under the loſs of that diſtinction, than under the affliction of ſeeing it taken away from ſuch a poet as Corneille. This magnanimous application had the ſucceſs which it deſerved, and it appears the more noble, when we recollect that the rival of Corneille was the intimate friend of Boileau. The long unreſerved intercourſe which ſubſiſted between our poet and Racine was highly beneficial and honourable to both. The dying farewell of the latter is the moſt expreſſive eulogy on the private character of Boileau: "Je regarde comme un bonheur pour moi de mourir avant vous," ſaid the tender Racine, in taking a final leave of his faithful and generous friend.

BOILING, or EBULITION, the bubbling up of any fluid. The term is moſt commonly applied to that bubbling which happens by the application of fire, though that which enſues on the mixture of an acid and alkali is ſometimes alſo diſtinguiſhed by the ſame name. Boiling, in general, is occaſioned by the diſcharge of an elaſtic fluid through that which is ſaid to boil; and the appearance is the ſame, whether it is common air, fixed air, or ſteam, that makes its way through the fluid. The boiling of water is proved by Dr Hamilton of Dublin, in his eſſay on the aſcent of vapour, to be occaſioned by the lowermoſt particles of the water being heated and rarefied into vapour by reaſon of the vicinity of the bottom of the containing veſſel; in conſequence of which, being greatly inferior in ſpecific gravity to the ſurrounding fluid, they aſcend with great velocity, and lacerating and puſhing up the body of water in their aſcent, give it the tumultuous motion called *boiling*. That this is occaſioned by ſteam, and not by particles of air or fire, as ſome have imagined, may be very eaſily proved in the following manner: Let a common drinking glaſs be filled with hot water, and then inverted into a veſſel of the ſame: as ſoon as the water in the veſſel begins to boil, large bubbles will be obſerved to aſcend in the glaſs, which will diſplace the water in it, and in a ſhort time there will be a continual bubbling from under its edge; but if the glaſs is then drawn up, ſo that its mouth may only touch the water, and a cloth dipt in cold water be applied to the outſide, the ſteam within it will be inſtantly condenſed, and the water will aſcend ſo as to fill it entirely, or very nearly ſo. See the article EVAPORATION.

BOILING, in trade and manufactures, is a preparation given to divers ſorts of bodies by making them paſs over the fire, chiefly in water, tho' ſometimes in other liquors. In this ſenſe we ſpeak of the boiling of ſalt, boiling of ſugar, copperas, &c.

BOILING of Silk with Soap is the firſt preparation in order to dyeing it. Thread is alſo boiled in a ſtrong lixivium of aſhes to prepare it for dyeing.

BOILING, in the culinary art, is a method of dreſſing meats by coction in hot water, intended to ſoften them, and diſpoſe them for eaſier digeſtion. The effects of boiling are different according to the kinds and qualities of the water. Pulſe boiled in ſea-water grows harder; mutton boiled in the ſame grows ſofter and tenderer than in freſh water, but taſtes ſaltiſh and bitter.

BOILING to Death (caldariis decoquere), in the middle age; a kind of puniſhment inflicted on thieves, falſe coiners, and ſome other criminals.

BOILING is alſo a method of trying or eſſaying the goodneſs or falſeneſs of a colour or dye. The ſtuff is to be boiled in water with certain drugs, different according to the kind or quality of the colour, to try whether or no it will diſcharge, and give a tincture to the water. With this view crimſon ſilks are boiled with alum, and ſcarlets with ſoap, in quantity equal to the weight of the ſilk.

BOILING-Wells, in natural hiſtory. See *BURNING-Springs*, and ICELAND.

BOINITZ, a town of Upper Hungary, in the county of Zell, remakable for its baths and the quantity of ſaffron that grows about it. E. Long. 19. 10. N. Lat. 48. 42.

BOIOBI, in zoology, the name of a ſpecies of ſerpents found in America, and called by the Portugueſe *cobra de verb*. It is about an ell in length, of the thickneſs of a man's thumb, and is all over of a very beautiful and ſhining green. Its mouth is very large, and its tongue black. It loves to be about houſes, and never injures any creature unleſs provoked or hurt; but it will then bite, and its poiſon is very fatal. The natives take as a remedy againſt its poiſon, the root *caa apia* bruiſed, and mixed with water. See *CAA Apia*.

BOIORUM DESERTA, (anc. geog.) a diſtrict of Pannonia, ſo called from the exciſion of the Boii by the Getae. Now the Weinerwald of Lower Auſtria, towards Stiria, to the eaſt of mount Cetius, or the Hahlenberg, and ſouth of Vindobona or Vienna.

BOIQUIRA, the American name for the rattleſnake.

BOIS-LE-DUC, called by the Dutch *Hertogenboſch*, a large, ſtrong, and handſome town of the Netherlands in Dutch Brabant, ſeated between the rivers Domel and Aa among moraſſes, in E. Long. 6. 16. N. Lat. 31. 45.

Bois de Soignies, the foreſt of Soignies, in the Auſtrian Netherlands and province of Brabant, about three miles ſouth-eaſt of Bruſſels.

Bois de Coiſſi, the name given to a South American tree growing about Surinam, held in the higheſt eſtimation by the Indians in that part of the world, and now recommended to the phyſicians in Europe by Dr

Fermin in a treatiſe lately publiſhed at Amſterdam. The root is eſteemed an excellent ſtomachic, reſtoring the appetite, and aſſiſting digeſtion; but it is chiefly celebrated as an infallible remedy againſt even the moſt inveterate intermittents. It is ſaid alſo to be uſed with great ſafety and advantage in every ſpecies of remittent and continued fever, with patients of all ages, ſexes, and conditions, even during pregnancy, and in the puerperal ſtate. Before employing it, however, it is abſolutely neceſſary to adminiſter either a purgative or emetic. The beſt method of exhibiting it is in decoction: half an ounce of the bark of the root muſt be boiled in a cloſe veſſel with ſix pints of water till one half be conſumed: the decoction is then ſtrained off, and a cupful taken every two hours till the fever is entirely extinguiſhed. Six or ſeven days after a cure is thus performed, it is generally neceſſary to repeat the purgative.

BOISSARD (John James), a famous antiquarian, born at Beſançon, the capital of Franche Compte in France. He publiſhed ſeveral collections which are of great uſe to ſuch as are deſirous to underſtand the Roman antiquities. He had a great paſſion for this ſtudy; and drew with his own hand plans of all the ancient monuments of Italy. He died at Metz, October 30th 1602. His principal works are, 1. Four volumes in folio of Roman antiquities, adorned with plates engraved by Theodore de Bey and his two ſons. 2. *Theatrum vitæ humanæ*; which contains the lives of 198 famous perſons, with their portraits. 3. A treatiſe *de divinatione & magicis præſtigiis*. Theſe works are ſcarce, and eſteemed by the antiquarians.

BOIT, an excellent painter in enamel. He was born in Stockholm, and bred a jeweller: which profeſſion he intended to follow in England; but changed his deſign, and went into the country, where he taught children to draw. He there engaged a gentleman's daughter, who was one of his ſcholars, to promiſe him marriage; but the affair being diſcovered, he was thrown into priſon. In that confinement, which laſted two years, he ſtudied enamelling; an art to which he fixed, on his return to London, and practiſed with the greateſt ſucceſs. The prices he is ſaid to have obtained for his work are almoſt incredible: but being engaged in a very large deſign for the court, and Queen Anne dying before it was completed, he ran in debt, his goods were ſeized by execution, and he fled to France; where he changed his religion, was countenanced by the regent, and obtained a penſion of L.250 *per annum*, but died ſuddenly at Paris in 1726. There is a large piece done by him at Kenſington, repreſenting Queen Anne ſitting, and prince George ſtanding by her; and at Bedford-houſe is another very large plate of the duke's father and mother.

BOITJAPO, in zoology, the name of a ſpecies of ſerpent found in America; and called by the Portugueſe there, *cobra di apo*. It grows to ſeven or eight feet long, is about the thickneſs of a man's arm, and very ſmall and taper towards the tail. Its back is of an olive colour; its belly yellow, and covered with very regular and elegant triangular ſcales. It feeds on frogs, &c. but is very poiſonous, and its bite extremely fatal.

BOKHARA, a city of Tartary in Aſia, and capital of Great Bokharia, ſituated one day's journey to the north of the river Jehun, or Amu; in E. Long. 65. 50. N. Lat. 39. 15. In 1219 it was beſieged by Jenghiz Khan, as being part of Sultan Mohammed's dominions a deſcendant of the famous Mahmud Gazari. At that time, beſides the city walls, which were very ſtrong, Bokhara had an outward incloſure 12 leagues in compaſs; which ſhut in not only the ſuburbs, but alſo many pleaſant ſeats and farms watered by the river Soghd, from whence the ancient Sogdianna took its name. The Mogul army arrived before the place in July, and continued the ſiege during the following winter. In March 1220, they forced the outer wall, and began to beſiege the city in form. Sultan Mohammed had left in the city a very numerous garriſon under the command of three generals, who made a ſally at the head of 20,000 men: but being repulſed with great loſs, their courage failed them; and, inſtead of ſtaying to defend the inhabitants, as ſoon as they had got into the city by one gate, paſſed out by another with their families, and almoſt all their ſoldiers, hoping to eſcape by the darkneſs of the night; but their deſign being diſcovered, they were purſued by a detachment of 30,000 Moguls; and being overtaken at the river Amu, they were, after a bloody diſpute, almoſt all cut to pieces. Mean time, Jenghiz Khan, being informed of the confuſion into which the city had been thrown by the deſertion of the garriſon, ordered an attack to be made on all ſides at once; but while he was preparing for this, the magiſtrates and clergy went out and preſented him with the keys of the city. Jenghiz Khan granted them their lives, on condition that they gave no ſhelter to any of the ſultan's ſoldiers, and put out all who ſhould be ſuſpected of being in that prince's intereſt; which they promiſed to do upon oath. All the young people, however, who were diſpleaſed with the ſurrender, retired with the governor to the caſtle, which was very ſtrong, and reſolved to defend themſelves to the laſt extremity. Jenghiz Khan, having taken poſſeſſion of Bokhara, entered on horſeback into the great moſque, and aſked merrily if that was the ſultan's palace? On being anſwered that it was the houſe of God, he alighted; and giving the principal magiſtrate his horſe to hold, mounted the gallery where the eccleſiaſtics uſually ſat, and then taking up the Koran, threw it under the feet of his horſes. Having ſtaid there for ſome time, he retired to his camp; where, ſome days after, having aſſembled the principal people of Bokhara, and aſcended a pulpit erected for that purpoſe in the midſt of them, he began his ſpeech by praiſing God, and recounted all the favours he had received from the Almighty: he then mentioned the perfidious behaviour of their ſultan towards himſelf, telling them that God had ſent him to rid the world of ſuch wicked men. As to them, he teſtified his ſatisfaction for their having freely furniſhed his army with neceſſaries; and promiſed that his ſoldiers ſhould not meddle with any goods which they made uſe of in their houſes; but commanded them to deliver up what they had hidden, under pain of being tortured. This ſpeech had ſuch an effect, that the poor inhabitants delivered up every thing, as well what they had concealed as what they had preſent uſe for; notwithſtanding which, the tyrant ſoon after cauſed the city to be burnt, on pretence that ſome of the ſultan's ſoldiers were concealed in it. As all the houſes were made of wood, except the ſultan's palace which was built of ſtone, and ſome few private houſes of brick, the whole was utterly conſumed; and Jenghiz Khan having found ſome few ſoldiers that had actually concealed themſelves, put them all to death without mercy. The caſtle ſurrendered at diſcretion ſoon after; and though it was demoliſhed, the governor and garriſon, out of a very extraordinary piece of clemency from ſo bloody a tyrant, had their lives ſpared. Bokhara continued in ruins for ſome years, but at length Jenghez Khan ordered it to be rebuilt. It is now large and populous; and is the reſidence of a khan who is altogether deſpotic, though his power reaches but a little way without the city. The town is ſeated on a riſing ground, with a ſlender wall of earth and a dry ditch. The houſes are low, built moſtly of mud; but the caravanſeras and moſques, which are numerous, are all of brick. The bazars or market-places, which have been ſtately buildings, are now moſtly in ruins. The inhabitants are more civilized and polite than ſome of their neighbours; and yet are cowardly, cruel, effeminate, and very perfidious. Great numbers of Jews and Arabians frequent this place, though they are much oppreſſed, and frequently deprived of all their properties by the khan or his attendants at pleaſure. At beſt they pay heavy taxes, and it is almoſt criminal to be rich.

BOL (Hans or John), a painter, born at Mechlin in 1534. He received his firſt inſtructions from a maſter of no great repute, whom he ſoon left; and going to Heidelberg, employed himſelf in copying ſeveral pictures of the eminent artiſts. His ſubjects are chiefly landſcapes with animals; but he alſo ſometimes painted hiſtory, with no ſmall ſucceſs. We have by him a ſet of landſcapes, views in Holland, ſlightly etched, but in a ſtyle that indicates the hand of the maſter. He died in 1593.

Bol (Ferdinand), a celebrated painter both of hiſtory and portraits, was born at Dort in 1611, and educated at Amſterdam. In the ſchool of the celebrated Rembrant Gerretz, he received his inſtructions as a painter; and imitated the ſtyle of his maſter with no little ſucceſs, not only in his pictures but in his engravings. Bol's etchings are bold and free. The lights and ſhadows in them are broad and powerful, which renders the effect very ſtriking; but they want that lightneſs of touch and admirable taſte which thoſe of Rembrant poſſeſs in ſo great a degree. Bol died at Dort, the place of his birth, in 1681, aged 70.

BOKHARIA. See BUKHARIA.

BOLANDUS (John), a famous Jeſuit, born at Tillemont in the Netherlands, in 1596. He diſtinguiſhed himſelf by writing the lives of the ſaints, under the title of *Acta Sanctorum*, of which he publiſhed five volumes in folio; but died while he was labouring at the ſixth, in the 70th year of his age. The continuators of that work are called *Bollandiſts.*

BOLBITINUM, (anc. geog.), the ſecond mouth of the Nile reckoning from weſt to eaſt; now very ſmall, choaked up with ſand, and called *le Bras de Beltin.*

BOLENTIUM, (anc. geog.), a town of Pannonia Superior; now *Rackerſburg* in Stiria. See RACKERSBURG.

BOLES, are viſcid earths, leſs coherent and more friable than clay; more readily uniting with water, and more freely ſubſiding from it. They are ſoft and unctuous to the touch; adhere to the tongue; and by degrees melt in the mouth, impreſſing a light ſenſe of aſtringency. There are a great varity of theſe earths; the principal of which are the following.

1. Armenian bole, when pure, is of a bright red colour with a tinge of yellow: It is one of the hardeſt and moſt compact bodies of this claſs, and not ſmooth and gloſſy like the others but generally of a rough and duſty ſurface. It does not effervеſce with acids, though ſome part of it is diſſolved by all of them. Neumann obſerves, that four ounces of Armenian bole diſtilled in a glaſs retort in an open fire, yielded three drachms of a ſaline phlegm, which ſmelt a little urinous, and changed ſyrup of violets green. In the neck of the retort was found a little powdery ſaline matter which had an ammoniacal taſte, but it was in too ſmall quantity to be collected or further examined. Like moſt other coloured earths, this kind of bole contains a portion of ferruginous matter, to which the colour is owing; and which may be ſeparated by the magnet, after the bole has been calcined with oil or other inflammable matters. It is likewiſe impregnated with vitriolic acid; and hence, when mixed with nitre or ſea-ſalt, it extricates the acids of theſe ſalts in the fire.

2. French bole is of a pale red colour, variegated with irregular ſpecks of white and yellow. It is much ſofter than the Armenian, and ſlightly efferveſces with acids.

3. Bole of Blois is yellow, remarkably lighter than moſt of the other yellow earths, and efferveſces ſtrongly with acids.

4. Bohemian bole is of a yellow colour, with a caſt of red, and generally of a flaky texture. It is not acted on by acids.

5. Lemnian earth is of a pale red colour, and ſlightly efferveſces with acids.

6. Sileſian bole is of a pale yellow colour, and acids have no ſenſible effect upon it.

Theſe and other earths, made into little maſſes, and ſtamped with certain impreſſions, are called *terræ ſigillatæ.* They have been recommended as aſtringent, ſudorific, and alexipharmic; but theſe and many other virtues that have been aſcribed to them appear to have no foundation. They are ſtill, however, preſcribed in fluxes and complaints of the primæ viæ.

BOLESLAFF, or BUNTZLAU, a town of Sileſia, ſeated on the river Bobar, in E. Long. 16. 0. N. Lat. 51. 12.

BOLESLAUS I. and II. kings of Poland. See POLAND.

BOLETUS, SPUNK: A genus of the order of fungi, belonging to the cryptogamia claſs of plants; of which botaniſts enumerate 17 ſpecies. The following are the moſt remarkable. 1. The ſuberoſus, or white cork ſpunk, grows commonly on the trunks of birch and willow trees in England and Scotland. It grows ſeſſile and horizontal; its figure is ſemicircular; the upper ſide convex, the under nearly plain; of various ſizes, from that of an aſs's hoof to a peck-meaſure. The upper ſurface is quite white, generally covered with a ſhort ſtrong down, but ſometimes ſmooth. The fleſh or internal ſubſtance is thick, white, tough, light, and ſpongy, like cork; and is ſometimes cut and ſhaped by the country people, and uſed as corks in their bottles:

but ſuch corks muſt not be ſuffered to touch the liquid, for moiſture ſoon renders them ſoft and uſeleſs. 2. The igniarius, or touchwood-ſpunk, is frequent on the trunks of old trees of all kinds, eſpecially aſh. It conſiſts of a very hard woody ſubſtance, in ſhape like a horſe's hoof, and grows of various ſizes, from a man's fiſt to that of his head and larger. The upper ſide is ſmooth, but uneven, diſtinguiſhed near the rim by elevated zones of different colours, brown, grey, tawny, &c. The fleſh is of a tawny brown colour, extremely hard and tough. This fungus is made uſe of in Germany and ſome parts of England for tinder. The Germans boil it in ſtrong lye, dry it and boil it again in ſolution of ſaltpetre. The Laplanders burn it about their habitations, in order to keep off a ſpecies of the gadfly which is fatal to the young reindeer. It has been uſed to ſtop the bleeding of the veſſels after amputations.† For this purpoſe the hard outer part is cut off, and the ſoft inner ſubſtance is beat with a hammer to make it ſtill ſofter. It is beſt when gathered in Auguſt or September. 3. The bovinus, or cow ſpunk, is frequent in woods and paſtures. It is generally of a brown colour, though ſometimes it is tawny, yellowiſh brown, reddiſh brown, deep red, purple, or greeniſh brown. The fleſh is yellow, white, or reddiſh. The young plants are eaten in Italy, and eſteemed a great delicacy. The Germans alſo account them a dainty, calling them *gombas*, and *brat-bulz*. Cows, deer, ſheep, and ſwine, will feed upon this and other boleti, and are ſometimes greatly diſordered by them. In cows and other cattle they have been known to create bloody urine, nauſeous milk, ſwellings of the abdomen, inflammations of the bowels, ſtoppages, diarrhœas, and death. In ſheep they bring on a ſcirrhous liver, a cough, a general waſting, and dropſy. *Scarabs, dermeſtes*, and many other inſects, feed upon and breed in them in abundance. 4. The pini larices, or agaric of the ſhops, grows on old larch trees. This fungus is an irregular ſpongy ſubſtance, extremely light, and of an uniform ſnowy whiteneſs, (except the cortical part, which is uſually taken off before the agaric is brought into the ſhops). It cuts freely with a knife, without diſcovering any hardneſs or grittineſs, and readily crumbles betwixt the fingers into a powder. It has no remarkable ſmell; its taſte is at firſt ſweetiſh: but on chewing for a ſhort time, it proves acrid, bitter, and nauſeous. Agaric was formerly in great eſteem as a cathartic, but the preſent practice hath almoſt entirely rejected its uſe. It is now rejected both by the London and Edinburgh Colleges, but it ſtill retains a place in moſt of the new foreign Pharmacopœias. It operates exceeding ſlowly, inſomuch that ſome have denied it to have any purgative virtue at all. Given in ſubſtance, it almoſt always occaſions a nauſea, not unfrequently vomiting, and ſometimes exceſſive tormina of the bowels: theſe effects are attributed to its light farinaceous matter adhering to the coats of the inteſtines, and producing a conſtant irritation. The beſt preparation of agaric ſeems to be an extract made with water, in which fixt alkaline ſalt has been diſſolved; or with vinegar or wine: the firſt is ſaid by Boulduc, and the two latter by Neumann, to prove an effectual and ſafe purgative. Nevertheleſs, this is at beſt a precarious medicine, of which we ſtand in no manner of need.

BOLEYN (Anne), queen of Henry VIII. of England; memorable in the Engliſh hiſtory, as the firſt cauſe of the reformation, as the mother of queen Elizabeth under whom it was completely eſtabliſhed, and alſo on account of her own ſufferings. She was the daughter of Sir Thomas Boleyn, and born in 1507. She was carried into France at ſeven years of age by Henry VIII's ſiſter, who was wife of Lewis XII: nor did ſhe return into England when that queen retired thither after the death of her huſband; but ſtaid in the ſervice of queen Claudia the wife of Francis I. and after the death of that princeſs went to the ducheſs of Alençon. The year of her return is not well known: ſome will have it to have been in 1527, others in 1525. This much is certain, that ſhe was maid of honour to queen Catharine of Spain, Henry VIII's firſt wife; and that the king fell extremely in love with her. She behaved herſelf with ſo much art and addreſs, that by refuſing to ſatiſfy his paſſion, ſhe brought him to think of marrying her: and the king, deceived by her into a perſuaſion that he ſhould never enjoy her unleſs he made her his wife, was induced to ſet on foot the affair of his divorce with Catharine, which at laſt was executed with great ſolemnity and form. A celebrated author obſerves, that "That which would have been very praiſe-worthy on another occaſion, was Anne Boleyn's chief crime; ſince her refuſing to comply with an amorous king, unleſs he would divorce his wife, was a much more enormous crime than to have been his concubine. A concubine (ſays he) would not have dethroned a queen, nor taken her crown or her huſband from her; whereas the crafty Anne Boleyn, by pretending to be chaſte and ſcrupulous, aimed only at the uſurpation of the throne, and the excluſion of Catherine of Arragon and her daughter from all the honours due to them." In the mean time, Henry could not procure a divorce from the Pope; which, we know, made him reſolve at length to diſown his authority, and to fling off his yoke. Nevertheleſs he married Anne Boleyn privately upon the 14th of November 1532, without waiting any longer for a releaſe from Rome; and as ſoon as he perceived that his new wife was with child, he made his marriage public. He cauſed Anne Boleyn to be declared queen of England on Eaſter-eve 1533, and to be crowned the firſt of June following. She was brought to bed upon the 7th of September of a daughter, who was afterwards queen Elizabeth; and continued to be much beloved by the king, till the charms of Jane Seymour had fired that prince's heart in 1536. Then his love for his wife was changed into violent hatred: he believed her to be unchaſte, and cauſed her to be impriſoned and tried. "She was indicted of high treaſon, for that ſhe had procured her brother and other four to lie with her, which they had done often: that ſhe had ſaid to them, that the king never had her heart; and had ſaid to every one of them by themſelves, that ſhe loved him better than any perſon whatever; which was to the ſlander of the iſſue that was begotten between the king and her. And this was treaſon according to the ſtatute made in the 26th year of this reign; ſo that the law which was made for her and the iſſue of her marriage, is now made uſe of to deſtroy her." She was condemned to be either burnt or beheaded; and ſhe underwent the latter on the 19th of May 1536. The right reverend author of the *Hiſtory of the Reformation*, relates ſome very remarkable things of her behaviour during the time of her impriſonment, and a little before her execution. When ſhe was impriſoned, ſhe is ſaid to have acted very different parts; ſometimes ſeeming devout and ſhedding abundance of tears, then all of a ſudden breaking out into a loud laughter. A few hours before her death, ſhe ſaid, that the executioner was very handy: and beſides, that ſhe had a very ſmall neck; at the ſame time feeling it with her hands, and laughing heartily. However, it is agreed that ſhe died with great reſolution; taking care to ſpread her gown about her feet, that ſhe might fall with decency; as the poets have related of Polyxena, and the hiſtorians of Julius Cæſar. Roman-catholic writers have taken all occaſions to rail at this unhappy woman, as well through vexation at the ſchiſm which ſhe occaſioned, as for the ſake of defaming and diſhonouring queen Elizabeth by this means; and they have triumphed vehemently, that in the long reign of that queen, no endeavours were uſed to juſtify her mother. But either queen Elizabeth or her miniſters are greatly to be admired for prudence in this reſpect; ſince it is certain, that Anne Boleyn's juſtification could never have been carried on without diſcovering many things which muſt have been extremely prejudicial to the queen, and have weakened her right inſtead of eſtabliſhing it. For though the repreſentation of the papiſts are in no wiſe to be regarded, yet many things might have been ſaid to the diſadvantage of her mother, without tranſgreſſing the laws of true hiſtory; as that ſhe was a woman gay even to immodeſty, indiſcreet in the liberties ſhe took, and of an irregular and licentious behaviour.

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† *Phil. Tranſ.* vol. xlviii. p. 2. and xlix. p. 1.

BOLINGBROKE, or BULLINGBROKE, a town of Lincolnſhire in England, and of great antiquity, but now in a mean condition. It gives title of Viſcount to the St Johns of Batterſea. E. Long. 0. 40. N. Lat. 53. 15.

BOLINGBROKE (Henry St John), lord viſcount, a great ſtateſman and philoſopher, deſcended from an ancient and noble family, was born about the year 1672. He had a regular and liberal education; and by the time he left the univerſity, was conſidered as a perſon of uncommon qualifications: but with great parts, he had, as it uſually happens, great paſſions, and theſe hurried him into many indiſcretions and follies. Contrary to the inclinations of his family, he cultivated Tory connections; and gained ſuch an influence in the Houſe of Commons, that in 1704 he was appointed ſecretary of war and of the marines. He was cloſely united in all political meaſures with Mr Harley: when, therefore, that gentleman was removed from the ſeals in 1707, Mr St John reſigned his employment; and in 1710, when Mr Harley was made chancellor of the exchequer, the poſt of ſecretary of ſtate was given to Mr St John. In 1712 he was created Baron St John of Lediard-Tregoze in Wiltſhire, and Viſcount Bolingbroke. But being overlooked in the beſtowal of vacant ribbons of the order of the garter, he reſented the affront, renounced the friendſhip of Harley then earl of Oxford, and made his court to the Whigs. Nevertheleſs, on the acceſſion of George I. the ſeals were taken from him; and being informed that a reſolution was taken to purſue him to the ſcaffold, for his conduct regarding the treaty of Utrecht, he withdrew to France. Here he accepted an invitation to enter into the Pretender's ſervice, and accepted the ſeals as his ſecretary: but he was as unfortunate in his new connections as in thoſe he had renounced; for the year 1715 was ſcarcely expired, when at the ſame time that he was attainted of high treaſon at home, the ſeals and papers of his foreign ſecretary's office were taken from him; followed by an accuſation from the Pretender and his party, of neglect, incapacity, and treachery. Such a complication of diſtreſsful events threw him into a ſtate of reflection, that produced by way of relief a *conſolatio philoſophica*, which he wrote the ſame year under the title of *Reflexions upon exile*; and the following year drew up a vindication of his conduct with reſpect to the Tories, in the form of *A Letter to Sir William Wyndham*. His firſt lady being dead, he about this time eſpouſed a niece of the famous Madam Maintenon, and widow of the marquis de Villette, with whom he had a very large fortune. In 1723 the king was prevailed on to grant him a free pardon, and he returned in conſequence to England; but was by no means ſatisfied within, while he was yet no more than a mere titular lord, and remained excluded from the houſe of peers. This ſtigma operated to fix him in enmity to Sir Robert Walpole, to whoſe ſecret enmity he attributed his not receiving the full extent of the king's clemency: hence he diſtinguiſhed himſelf by a multitude of political writings, till the year 1735; when being thoroughly convinced that the door was finally ſhut againſt him, he returned once more to France. In this foreign retreat he began his courſe of Letters on the ſtudy and uſe of Hiſtory, for the uſe of Lord Combury, to whom they are addreſſed. Upon the death of his father, who lived to be extremely old, he ſettled at Batterſea, the ancient ſeat of his family, where he paſſed the remainder of his life in philoſophical dignity. Pope and Swift, one the greateſt poet, the other the greateſt wit, of the time, perfectly adored him; and it is well known that the former received from him the materials for his incomparable poem the "Eſſay on Man."—He died in 1751, and left the care and benefit of his MSS. to Mr Mallet, who publiſhed them together with his former printed works, in 5 vols 4to: they are alſo printed in 8vo.

BOLISAW, a town of the kingdom of Bohemia in Germany, ſituated in E. Long. 14. 35. N. Lat. 50. 25.

BOLKOWITZ, a town of Sileſia, in the duchy of Glogaw. E. Long. 15. 20. N. Lat. 51. 27.

BOLLARDS, large poſts ſet into the ground on each ſide of a dock. On docking or undocking ſhips, large blocks are laſhed to them; and through theſe blocks are reeved the tranſporting hawſers to be brought to the capſtons.

BOLLITO, a name by which the Italians call a *ſea green colour* in artificial cryſtal. To prepare this colour, you muſt have in the furnace a pot filled with 40 lb. of good cryſtal, firſt carefully ſkimmed, boiled, and purified, without any manganeſe: then you muſt have twelve ounces of the powder of ſmall leaves of copper thrice calcined, and half an ounce of zaffre in powder: mix them together; and put them at four times into the pot, that they may the better mix with the glaſs; ſtirring them well each time of putting in the powder, leſt the mixture ſhould ſwell and run over.

BOLOGNA, an ancient, large, and very handſome town of Italy, in the territory of the church, and capital of the Bologneſe ; an archbiſhop's ſee, and an univerſity. The public buildings are magnificent, as well with regard to the architecture as the ornaments, eſpecially the paintings, which are done by the greateſt maſters. There are a vaſt number of palaces, in one of which the pope's nuncio reſides ; the private houſes are alſo well built. Here are 169 churches, and the town is ſaid to contain about 80,000 inhabitants. All the gates and windows are open during the ſummer ; inſomuch that one may ſee into their apartments and gardens, where there are vaſt numbers of orange-trees that perfume the air. It is a place of great trade, which is in ſome meaſure owing to a canal that runs from this city to the river Po. The Reno, which runs near Bologna, turns 400 mills that are employed in the ſilk-works ; beſides, they deal in wax, ſoap, hams, ſauſages, and even lap-dogs, which are greatly eſteemed. It is ſeated at the foot of the Appennine mountains, in E. Long. 11. 30. N. Lat. 44. 27.

BOLOGNE, by the Engliſh commonly called *Bullen*, a city of Picardy in France, and capital of the Bolonnois, ſeated near the ſea. It is divided into two towns, the Upper and Lower ; the firſt is ſtrongly fortified, the other is incloſed by walls only. The port is at the mouth of the river Liane, but the water is ſo ſhallow that no ſhips of burden can enter it. It is defended on the ſide of the river by a mole, which ſhelters it from the winds, and at the ſame time prevents the river from filling it with filth. E. Long. 9. 17. N. Lat. 50. 42.

BOLOGNESE, a ſmall province of Italy, in the territory of the church, bounded on the north by the Ferrareſe, on the weſt by the duchy of Modena, on the ſouth by Tuſcany, and on the eaſt by Romania. It is watered by a great number of ſmall rivers, which render its ſoil the moſt fertile of any in Italy. Bologna is the capital, and from the great produce of the land about it is called *Bologne the fat*. It produces abundance of all ſorts of grain and fruits ; particularly muſcadine grapes, which are in high eſteem. Here are mines of alum and iron : and the inhabitants fabricate large quantities of linen, ſilk ſtockings, and cloth.

Bologneſe. See Grimaldi.

BOLOGNIAN or **Bononian stone**, a phoſphoric ſubſtance firſt diſcovered near Bologna in Italy, whence it received its name. It has been ſuppoſed to contain ſome metallic matter, on account of its great ſpecific gravity ; but it is now found to be only a compound of ponderous earth and vitriolic acid. It differs, however, from the artificial baroſelenite in the proportion of its ingredients, the latter containing 33 parts of vitriolic acid and 67 of earth ; the former 84 of earth, 13 of the moſt concentrated vitriolic acid, and three of water. Mr Scheffer, in the Memoirs of the Academy at Stockholm, for the year 1753, has communicated ſome experiments on a ſtone of this kind from China, which prove, that it perfectly agrees with the deſcriptions given in ſeveral books of a ſtone called *petuntſe* by the Chineſe, and which is ſaid to be uſed in their porcelain manufactures.

BOLSANE, a town of Germany, in the territory of Tyrol, and circle of Auſtria. It is very agreeably ſituated in the midſt of a fine large valley, full of villages, and abounding in vineyards. The wines in this valley are the beſt in all Tryol ; but they muſt be drank the year after that of their growth, otherwiſe they become unfit for uſe. E. Long. 11. 11. N. Lat. 46. 42.

BOLSENNA, a town of Italy, in the territories of the pope, ſeated on a lake of the ſame name. E. Long. 11. 3. N. Lat. 42. 37.

BOLSTER, among ſurgeons, a ſoft yielding ſubſtance, either laid under the head or a broken limb. In this ſenſe, bolſters are contrived for crooked, bunched, and otherwiſe diſtorted backs, ſhoulders, &c.

By a conſtitution made under archbiſhop Burchier, the clergy are forbidden to wear bolſters about their ſhoulders, in their gowns, coats, or doublets. The occaſion of the prohibition is variouſly conſtrued. Some ſay that bolſters came in faſhion in the reign of King Richard III. who being neceſſitated, by his natural deformity, to pad, the courtiers, and even the clergy, did the ſame, out of complaiſance to their prince, ſo that every body who had the misfortune to be born ſtraight, was obliged to wear a bolſter on his ſhoulders to be in the faſhion. Others, however, controvert this ; alleging that the conſtitution above mentioned was made 20 years before the uſurpation of Richard.

Bolster of a Saddle, thoſe parts of a great ſaddle which are raiſed upon the bows, both before and behind, to hold the rider's thigh, and keep him in a right poſture.

BOLSWAERT, a town of the United Provinces, in Weſt Frieſland, and in the county of Weſtergoe. E Long. 5. 35. N. Lat. 53. 6.

BOLSWERT, or **Bolsuerd**, (Boetius Adam à), an engraver and printſeller eſtabliſhed at Antwerp, was the deſcendant of a family who reſided at the city of Bolſwert in Frieſeland, from whence he derived his name. He flouriſhed about 1620 ; but by what maſter he was inſtructed in the art of engraving, does not appear. He worked with the graver only : the free open ſtyle of the Bloemarts he imitated with great ſucceſs ; and perhaps perfected himſelf in their ſchool. When he worked from Rubens, he altered that ſtyle ; his plates are neater, fuller of colour, and more highly finiſhed. The two following from this maſter may be here mentioned. 1. The Reſurrection of Lazarus, a large upright plate. 2. The Laſt Supper, its companion. Baſan, ſpeaking of this print, ſays, that it proves by its beauty, and the knowledge with which it is engraved, that Boetius could ſometimes equal his brother Scheltius.

Bolswert or *Bolſuerd*, (Scheltius à), an admirable engraver, was the brother of Boetius Adam à Bolſwert, mentioned in the preceding article. We have no other account of his family than what is there given ; nor unfortunately any of himſelf of the leaſt conſequence. The time of his birth and of his death, and the name of the maſter he ſtudied under, are equally unknown. Bolſwert worked entirely with the graver, and never called in the aſſiſtance of the point. His general character as an artiſt is well drawn by Baſan, in the following words : " We have a large number of prints, which are held in great eſteem, by this artiſt, from various maſters ; but eſpecially from Rubens, whoſe pictures he has copied with all poſſible knowledge, taſte, and great effect. The freedom with which this excellent artiſt handled the graver, the pictureſque roughneſs of etching, which he could imitate without any other aſſiſting inſtrument, and the ability he poſſeſſed of diſtinguiſhing the different maſſes of colours, have always been admired by the connoiſſeurs, and give him a place in the number of thoſe celebrated engravers, whoſe prints ought to be conſidered as models by all hiſtorical engravers, who are deſirous of rendering their works as uſeful as they are agreeable, and of acquiring a reputation as laſting as it is juſtly merited." He drew excellently, and without any manner of his own; for his prints are the exact tranſcripts of the pictures he engraved from. His beſt works, though not always equally neat or finiſhed, are always beautiful, and manifeſt the hand of the maſter. Sometimes we find his engravings are in a bold, free, open ſtyle: as the Brazen Serpent, the Marriage of the Virgin, &c. from Rubens. At other times they are very neat, and ſweetly finiſhed: as the Crowning with Thorns, and the Crucifixion, &c. from Vandyck. Mr Strutt obſerves, that his boldeſt engravings are from Rubens, and his neateſt from Vandyck and Jordans.—How greatly Bolſwert varied his manner of engraving, appears from ſome prints, which, like the greater part of thoſe of his brother Boetius, bear great reſemblance to the free engravings of the Bloemarts, and to thoſe of Frederic Bloemart eſpecially; and form a part of the plates for a large folio volume, entitled, *Academie de L'eſpee*, by Girard Thibault of Antwerp, where it was publiſhed, A. D. 1628; and to theſe he ſigns his name, "Scheltius," and ſometimes "Schelderic Bolſwert," adding the word Bruxelle. His name is uſually affixed to his plates in this manner, "S. A Bolſwert." It is very neceſſary to caution the collectors of this maſter's works (thoſe eſpecially who are not very converſant with them) that many of them have been copied in a very careful manner, ſo as eaſily to deceive the unſkilful. Some of theſe copies, as the Marriage of the Virgin from Rubens, &c. are by Lawers. But thoſe which are moſt likely to miſlead, are by Ragot, a French engraver, employed by Mariette the printſeller, who frequently meeting with the reverſes or counterproofs from the prints of Bolſwert, gave them to the engraver; and he imitated them with the utmoſt preciſion. By this means the impreſſions from the plate copied come upon the paper the ſame way with the original. It is true, his name is uſually affixed at the bottom; but is often cut off, and then the copy is not eaſily diſtinguiſhed from the original. Among other prints thus imitated by Ragot from Bolſwert, is Chriſt crucified between the two Thieves, where the ſoldier is repreſented piercing his ſide, from Rubens.

Among the variety of eſtimable engravings by this great artiſt, the few following may be here mentioned. 1. The Brazen Serpent, a large plate, lengthwiſe, from Rubens. Thoſe impreſſions are the moſt eſtimable which have only the word *Antuerpiæ* at the right-hand corner, without the name of Giles Hendrix, which was afterwards inſerted above it, and part of the ſmall circle over the arms is left white. 2. Abraham offering his ſon Iſaac, a large plate nearly ſquare, from Theodore Rombout. 3. The education of the Virgin by Saint Anne, a middling ſized upright plate, from Rubens. Thoſe impreſſions without the name of Hendrix are the moſt eſteemed. 4. The marriage of the Virgin, a middling-ſized upright plate, from the ſame painter. Thoſe impreſſions are beſt in which the word *Antuerpiæ* is not added to the name of Hendrix. 5. The adoration of the wiſe men, a middling-ſized upright plate from the ſame. The good impreſſions of this plate have the name of Vanden Enden. 6. The feaſt of Herod, in which is repreſented the daughter of Herodias, preſenting the head of John the Baptiſt to her mother, a large plate, lengthwiſe, from the ſame. 7. The miraculous draught of fiſhes; a large print, lengthwiſe, on three plates, from the ſame. 8. Chriſt crowned with thorns; a large upright plate from Vandyck: an admirable print; with the name of Vanden Enden. 9. A crucifixon, where a figure appears preſenting the ſponge to Chriſt, St John and the Virgin are ſtanding at the foot of the croſs, and Mary Magdalene is reclining towards it: A large upright plate, from Vandyck. Of this admirable engraving there appear to have been four different impreſſions; though Baſan mentions only three, and ſays that in the firſt the left hand of St John is hid. The chief marks of thoſe impreſſions are: In the 1ſt, St John's left hand appears on the ſhoulder of the Virgin (A). In the 2d impreſſion, the hand is eraſed: This Baſan calls the firſt impreſſion; and it ſells at a very high price. In the third impreſſion the hand is reſtored: In the 4th, it is again eraſed: And in both, the ſhort ſtrokes upon the ground near the great toe of the figure who holds the ſponge are croſſed with ſecond ſtrokes; which croſs-etchings are not in the two firſt impreſſions. There are ſeveral other crucifixions by the ſame maſter after different deſigns. 10. The god Pan playing upon his flute, from Jordaens. 11. Mercury and Argus, a large plate, lengthwiſe, from the ſame. 12. A drunken Silenus, ſupported by a ſatyr, and another figure; a middling-ſized upright plate from Rubens. Of theſe three laſt, the impreſſions without the addreſs of Bloteling are the beſt. 13. A chaſe of lions; a large plate, lengthwiſe, from the ſame. 14. A variety of landſcapes.

BOLT, among builders, an iron faſtening fixed to doors and windows. They are generally diſtinguiſhed into three kinds, viz. plate, round, and ſpring bolts.

Bolts, in gunnery, are of ſeveral ſorts; as, 1. Tranſum-bolts, that go between the cheeks of a gun carriage, to ſtrengthen the tranſums. 2. Priſe bolts; the large knobs of iron on the cheeks of a carriage, which keep the hand-ſpike from ſliding, when it is poizing up the breech of a piece. 3. Traverſe bolts; the two ſhort bolts, that, being put one in each end of a mortar carriage, ſerve to traverſe her. 4. Bracket-bolts; the bolts that go through the cheeks of a mortar, and by the help of quoins keep her fixed at the given elevation. And, 5. Bed-bolts; the four bolts that faſten the brackets of a mortar to the bed.

Bolts, in a ſhip, are iron pins, if which there are ſeveral ſorts, according to their different makes and uſes. Such are drive-bolts, uſed to drive out others. Ray-bolts, with jags or barbs on each ſide, to keep them from flying out of their holes. Clench-bolts, which are clenched with rivetting hammers. Forelock-bolts,

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(A) Prints of this impreſſion are very rare, and at ſales have been known to fetch from L.25 to L.30.

bolts, which have at the end a forelock of iron driven in to keep them from ſtarting back. Set-bolts, uſed for forcing the planks, and bringing them cloſe together. Fend or Fender bolts, made with long and thick heads, and ſtruck into the uttermoſt bends of the ſhip, to ſave her ſides from bruiſes. And ring bolts, uſed for bringing to of the planks, and thoſe parts whereto are faſtened the breeches and tackle of the guns.

Bolt of Canvas, in commerce the quantity of 28 ells.

Bolt-Rope, in naval affairs, a rope paſſing round the ſail, to which the edges of it are ſewed, to prevent the ſail from tearing: the bottom part of it is called the *foot-rope*; the ſides, *leeches*; and if the ſail be oblong or ſquare, the upper part is called the *head-rope*.

BOLTED flour, that which has paſſed through the bolters. See the following article.

BOLTER, or Boulter, a kind of ſieves for meal, having the bottoms made of woollen, hair, or even wire. The bakers uſe bolters which are worked by the hand; millers have a larger ſort wrought by the the motion of the mill.

BOLTING, a term of art uſed in our inns of court, whereby is intended a private arguing of caſes. The manner of it at Gray's inn is thus: an ancient and two barriſters ſit as judges: three ſtudents bring each a caſe, out of which the judges chooſe one to be argued; which done, the ſtudents firſt argue it, and after them the barriſters. It is inferior to *mooting*; and may be derived from the Saxon word *bolt*, "a houſe," becauſe done privately in the houſe for inſtruction. In Lincoln's inn, Mondays and Wedneſdays are the bolting days in vacation time; and Tueſdays and Thurſdays the moot days.

Bolting, or *Boulting*, the act of ſeparating the flour from the bran, by means of a ſieve or bolter. See Bolter.

Bolting-Cloth, or *Bolſter-cloth*, ſometimes alſo called *bulting-cloth*, denotes a linen or hair cloth for ſifting meal or flour.

Bolting-Mill, a verſatile engine for ſifting with more eaſe and expedition. The cloth round this is called the *bolter*.

Bolting, or *Boulting*, among ſportſmen, ſignifies rouſing or diſlodging a coney from its reſting place. They ſay, to *bolt* a coney, *ſtart* a hare, *rouſe* a buck, &c.

BOLTON or Boulton (Edmund), an ingenious Engliſh antiquarian, who lived in the beginning of the 17th century. His moſt conſiderable work is that intitled *Nero Cæſar*, or *Monarchie depraved*, dedicated to the duke of Buckingham, lord-admiral, printed at London 1624, folio, and adorned with ſeveral curious and valuable medals. It is divided into 55 chapters, in ſome of which are introduced curious remarks and obſervations. In the 24th and 25th chapters he gives an account of the revolt in Britain, againſt the Romans, under the conduct of Boadicea, which he introduces with a recapitulation of the affairs in Britain from the firſt entrance of the Romans into that iſland under Julius Cæſar, till the revolt in the reign of Nero. In chapter 36th he treats of the Eaſt India trade in Nero's time, which was then carried on by the river Nile, and from thence by caravans over land to the Red-Sea, and thence to the Indian ocean; the ready coin carried yearly from Rome upon this account amounting, according to Pliny's computation, to above L. 300,000 Sterling; and the uſual returns in December and January yielding in clear gain an hundred for one. Beſides this he wrote, 1. An Engliſh tranſlation of Lucius Florus's Roman Hiſtory. 2. Hypercritica, or a rule of judgment for reading or writing our hiſtories. 3. The elements of armories, &c.; and ſome other works.

Bolton, a town of Lancaſhire in England, ſeated on the river Croell, and pretty well built. It has a manufacture for fuſtians, and the market is conſiderable for cloth and proviſions. W. Long. 2. 15. N. Lat. 53. 55.

BOLUS, in pharmacy, an extemporaneous form of a medicine, ſoft, coherent, a little thicker than honey, and the quantity of which is a little morſel or mouthful; for which reaſon it is by ſome called *buccella*.

BOMAL, a town of Luxemburg in the Auſtrian Netherlands, ſituated on the river Ourt, in E. Long. 5. 30. N. Lat. 50. 20.

BOMB, in military affairs, a large ſhell of caſt iron, having a great vent to receive the fuſee, which is made of wood. The ſhell being filled with gunpowder, the fuſee is driven into the vent or aperture, within an inch of the head, and faſtened with a cement made of quicklime, aſhes, brick-duſt, and ſteel-filings, worked together in a glutinous water; or of four parts of pitch, two of colophony, one of turpentine, and one of wax. This tube is filled with a combuſtible matter, made of two ounces of nitre, one of ſulphur, and three of gunpowder-duſt, well rammed. To preſerve the fuſee, they pitch it over, but uncaſe it when they put the bomb into the mortar, and cover it with gunpowder-duſt; which having taken fire by the flaſh of the powder in the chamber of the mortar, burns all the time the bomb is in the air; and the compoſition in the fuſee being ſpent, it fires the powder in the bomb, which burſts with great force, blowing up whatever is about it. The great height a bomb goes in the air, and the force with which it falls, makes it go deep into the earth.

Bombs may be uſed without mortar-pieces, as was done by the Venetians at Candia, when the Turks had poſſeſſed themſelves of the ditch, rolling down bombs upon them along a plank ſet ſloping towards their works, with ledges on the ſides, to keep the bomb right forward. They are ſometimes alſo buried under ground to blow up. See Caisson.—Bombs came not into common uſe before the year 1634, and then only in the Dutch and Spaniſh armies. One Malthus an Engliſh engineer is ſaid to have firſt carried them into France, where they were put in uſe at the ſiege of Colliouſe. The French have lately invented a new ſort of bombs of vaſt weight called *comminges*.—The art of throwing bombs makes a branch of gunnery, founded on the theory of projectiles, and the laws and qualities of gunpowder. See Gunnery, Projectiles, Gunpowder, &c.

Bomb-Cheſt, is a kind of cheſt filled uſually with bombs, ſometimes only with gunpowder, placed under ground, to tear and blow it up in the air with thoſe who ſtand on it. Bomb-cheſts were formerly much uſed to drive enemies from a poſt they had ſeized or were about to take poſſeſſion of: they were ſet on fire by means of a sauciſſee faſtened at one end, but they are now much diſuſed.

BOMB-Veſſels, which are ſmall ſhips formed for throwing bombs into a fortreſs, are ſaid to be the invention of M. Reyneau, and to have been firſt uſed at the Bombardment of Algiers. Till then it had been judged impracticable to bombard a place from the ſea. See KETCH.

BOMBARD, a piece of ordnance anciently in uſe, exceedingly ſhort and thick, and with a very large mouth. There have been bombards which have thrown a ball of 300 pound weight. They made uſe of cranes to load them. The bombard is by ſome called *baſiliſk*, and by the Dutch *donderbaſs*.

BOMBARDIER, a perſon employed about a mortar. His buſineſs to drive the fuſee, fix the ſhell, and load and fire the mortar.

BOMBARDIER, in zoology. See CARABUS.

BOMBARDMENT, the havock committed in throwing bombs into a town or fortreſs.

BOMBARDO, a muſical inſtrument of the wind kind, much the ſame as the baſſoon, and uſed as a baſs to the hautby.

BOMBASINE, a name given to two ſorts of ſtuffs, the one of ſilk, and the other croſſed of cotton.

BOMBAST, in compoſition, is a ſerious endeavour, by ſtrained deſcription, to raiſe a low or familiar ſubject beyond its rank; which, inſtead of being ſublime, never fails to be ridiculous. The mind in ſome animating paſſion is indeed apt to magnify its objects beyond natural bounds: but ſuch hyperbolical deſcription has its limits; and, when carried beyond theſe, it degenerates into burleſque, as in the following example.

> *Sejanus.* ——————Great and high,
> The world knows only two, that's Rome and I.
> My roof receives me not; 'tis air I tread,
> And at each ſtep I feel my advanc'd head
> Knock out a ſtar in heaven.
>
> SEJAN. of *Ben. Johnſon*, act. 5.

A writer who has no natural elevation of genius is extremely apt to deviate into bombaſt. He ſtrains above his genius, and the violent effort he makes carries him generally beyond the bounds of propriety.

BOMBAX, or SILK-COTTON TREE: A genus of the polyandria order, belonging to the monodelphia claſs of plants; and in the natural method ranking under the 37th order, *Columniferæ*. The calyx is quinquefid: the ſtamina are five or many: the capſule is ligneous, quinquelocular, and quinquevalved: the ſeeds are woolly, and the receptacle pentagonous.

Species. 1. The ceiba, with a prickly ſtalk. 2. The pentandrum, with a ſmall ſtalk. 3. The heptaphyllum, with leaves cut into ſeven parts. The firſt and ſecond ſorts grow naturally in both the Indies, where they arrive at a great magnitude, being ſome of the largeſt trees in theſe parts: inſomuch that Boſman ſays he has ſeen in Guinea, trees of this kind ſo widely diffuſed that 20,000 armed men might ſtand under the branches of one. They generally grow with very ſtrait ſtems. Thoſe of the firſt ſort are armed with ſhort ſtrong ſpines; but the ſecond hath very ſmooth ſtems, which in the young plant are of a bright green; but after a few years they are covered with a grey or aſh-coloured bark, which turns brown as they grow older. The branches towards the top are garniſhed with leaves compoſed of five, ſeven, or nine oblong ſmooth little leaves, which are ſpear-ſhaped, and join to one common centre at their baſe, where they adhere to the long footſtalk. The flower buds appear at the end of the branches; and ſoon after the flowers expand, which are compoſed of five oblong purple petals, with a great number of ſtamina in the centre: when theſe fall off, they are ſucceeded by oval fruit as large as a ſwan's egg, having a thick ligneous cover, which when ripe opens in five parts, and is full of a dark ſhort cotton, incloſing many roundiſh ſeeds as large as ſmall peas. The cotton of the third ſort is of a fine purple colour, but the ſize of the tree is not particularly mentioned by botanical writers. Beſides theſe ſpecies, Mr Miller mentions another which he ſaw in the gardens of the late duke of Richmond at Goodwood, and was raiſed from ſeeds which came from the Eaſt-Indies. The ſtem was very ſtraight and ſmooth, the leaves were produced round the top upon very long footſtalks, each being compoſed of ſeven or nine narrow ſilky ſmall lobes, joined at their baſe to the footſtalk in the ſame manner as the firſt and ſecond; but they were much longer and reflected backward, ſo that at firſt ſight it appeared very different from either of them.

Culture. Theſe plants, being natives of warm climates, muſt always be kept in a ſtove. They are raiſed from ſeeds procured in the capſules from the places where they grow naturally. Theſe are to be ſown in the ſpring, in pots of light earth, plunged in a ſubſtantial hot-bed of dung or tan, where the plants will appear in three or four weeks. They muſt then be placed ſeparately in ſmall pots, plunging them in the bark-bed, giving them ſhade and water, and ſhifting them occaſionally into larger pots with freſh earth. They muſt be watered plentifully in ſummer, but moderately in winter.

Uſes. The dark ſhort cotton of the firſt two ſpecies is uſed by the poorer inhabitants of thoſe places where ſuch trees grow to ſtuff pillows or chairs, but is generally deemed unwholeſome to lie upon. The beautiful purple down of the third is ſpun, wrought into clothes, and wore, without being dyed any other colour, by the inhabitants of the Spaniſh Weſt-Indies, where the tree naturally grows. Large pirogues, or canoes fit to carry a ſail, are made both at Senegal, and in America, of the trunk of the ſilk-cotton tree, the wood of which is very light, and found unfit for any other purpoſe. In Columbus's firſt voyage, ſays Miller, it was reported that a canoe was ſeen at Cuba made of the hollowed trunk of one of theſe trees, which was 95 palms long, of a proportional width, and capable of containing 150 men.

BOMBAX, in zoology, a ſynonime of a ſpecies of CONUS.—*Bombax* is alſo uſed ſometimes for ſilk or cotton; but the true botanic name of cotton is GOSSYPIUM. It is likewiſe applied by Linnæus to ſignify ſuch inſects as have incumbent wings, and feelers reſembling a comb.

BOMBAY, an iſland in the Eaſt-Indies near the coaſt of Decan, ſituated in N. Lat. 19. 0. and E. Long. 73. 0. It has its preſent name from the Portugueſe *buon-bahia*, on account of the excellent bay formed by it together with the winding of other iſlands adjacent. The harbour is ſpacious enough to contain any number of ſhips, and has likewiſe excellent anchoring ground, affording alſo, by its land-locked ſituation, a ſhelter from any winds to which the mouth may be expoſed,

1
This iſland more healthy now than formerly, and why.

This iſland was formerly reckoned exceedingly unhealthy, inſomuch that it had the name of the burying ground of the Engliſh, though it is now ſo far improved in this reſpect as to be no worſe than any other place in the Eaſt-Indies under the ſame parallel of latitude. The reaſons of this unhealthineſs and the ſubſequent improvements are enumerated by Mr Groſe. 1. The nature of the climate, and the precautions required by it, being leſs underſtood than they are at preſent. 2. Formerly there obtained a very pernicious practice of employing a ſmall fry of fiſh as manure for the cocoa-trees which grow in plenty on the iſland; though this has been denied by others, and perhaps with juſtice, as the putrid effluvia of animal bodies ſeems to be very effectually abſorbed by the earth*, when buried in it. All agree, however, that the habitations in the woods or cocoa-nut groves are unwholeſome by reaſon of the moiſture and want of a free circulation of air. 3. Another cauſe has been aſſigned for the ſuperior healthineſs of this iſland, viz. the leſſening of the waters by the banking off a breach of the ſea, though this does not appear ſatisfactory to our author. There is ſtill, ſays he, a great body of ſalt water on the inſide of the breach, the communication of which with the ocean being leſs free than before the breach was built, muſt be proportionably more apt to ſtagnate, and to produce noxious vapours.

Whatever may be the cauſe, however, it is certain, that the iſland of Bombay no longer deſerves its former character, provided a due degree of temperance be obſerved; without which health cannot be expected in any warm climate.

2
Climate, &c.

The climate of Bombay ſeems to be drier than many other parts under the ſame parallel. The rains laſt only four months of the year, but with ſhort intermiſſions. The ſetting in of the rains is commonly uſhered in by a violent thunder ſtorm called there the *Elephanta* from its extraordinary violence. The air, however, is then agreeably cooled, and the exceſſive heat, then nearly at its height, much moderated. The rains begin about the end of May, and go off in the beginning of September; after which there never falls any except a ſhort tranſient ſhower, and that but very rarely.

3
Fiſh in all the ſtagnant pools formed by rains.

A very extraordinary circumſtance is related by Mr Ives concerning the iſland of Bombay during the rainy ſeaſon, *viz.* that, ten days after the rains ſet in, every pool and puddle ſwarms with a ſpecies of fiſh about ſix inches long, and ſomewhat reſembling a mullet. Such a phenomenon has occaſioned various ſpeculations. Some have imagined that the exhaling power of the ſun is ſo ſtrong in the dry ſeaſons as to be able to raiſe the ſpawn of theſe fiſhes into the atmoſphere, and there ſuſpend and nouriſh it till the rains come on, when it drops down again in the ſtate of living and perfectly formed fiſh. A leſs extravagant ſuppoſition is, that after the ponds become dry, the ſpawn may poſſibly fall into deep fiſſures below the apparent bottom, remaining there during the dry ſeaſon, and being ſupplied with a ſufficient quantity of moiſture to prevent it from corruption.

4
Account of the quantity of rain that falls during the rainy ſeaſon.

The quantity of rain that falls at Bombay in one ſeaſon has been accurately meaſured by Mr Thomas, Mr Ives's predeceſſor as hoſpital ſurgeon. His apparatus conſiſted of a lead cylinder about nine inches diameter, and as many deep, marked on the inſide with inches and tenths. To prevent the water from ſplaſhing over, he cut a hole two inches from the bottom, and placed the cylinder in a glazed earthen veſſel; after which a wax cloth was ſecurely tied round it, ſo as to cover the veſſel, and prevent any water from getting in, excepting what paſſed through the cylinder. When more than two inches fell, the hole in the ſide was ſtopped with wax, and the water poured from the veſſel into the cylinder to aſcertain its quantity. It was kept in an open place free from houſes, and meaſured at ſix in the morning, noon, and ſix in the evening. The following table ſhows the quantity of rain that fell from the 25th of May, when it firſt began, though the ſky looked cloudy over land from the beginning of the month.

Days of the month.	*Quantity of rain in*	
	In.	*Tenths.*
MAY 1756.		
25 ——	0	3
31 ——	0	7
JUNE.		
3 ——	0	1
4 ——	0	1
5 ——	0	6
6 ——	0	8
7 ——	0	9
8 ——	1	0
9 ——	0	3
11 ——	3	0
12 ——	0	3
13 ——	0	5
14 ——	4	5
15 ——	1	3
16 ——	2	5
17 ——	5	6
18 ——	0	8
19 ——	0	2
20 ——	0	4
21 ——	0	3
22 ——	1	2
23 ——	0	3
24 ——	0	7
25 ——	0	7
26 ——	0	8
27 ——	4	0
28 ——	6	7
29 ——	5	3
30 ——	1	8
JULY.		
1 ——	1	2
2 ——	2	0
3 ——	0	9
4 ——	1	9
5 ——	0	5
6 ——	0	2
7 ——	0	4
8 ——	0	9
9 ——	1	3
10 ——	3	1
11 ——	3	7
12 ——	0	7
13 ——	5	5
14 ——	4	9
15 ——	2	2
16 ——	0	1
18 ——	0	5
19 ——	1	1
20 ——	0	5
21 ——	0	7
22 ——	0	2
23 ——	0	2
25 ——	0	1
26 ——	0	3
27 ——	0	3
28 ——	0	8
29 ——	0	6
AUGUST.		
3 ——	0	4
5 ——	1	4
6 ——	7	0
7 ——	0	8
8 ——	0	6
9 ——	1	3
10 ——	0	4
11 ——	0	1
12 ——	0	2
13 ——	1	1
14 ——	0	8
15 ——	0	3
16 ——	0	2
17 ——	0	2
18 ——	0	2

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* See *Agriculture*, n° 9.

Days of the month.	*Quantity of rain in In.*	*Tenths.*
AUGUST.		
19	0	2
20	0	2
21	0	1
22	0	4
25	0	4
26	0	7
27	0	5
28	0	2
30	0	1
31	0	2
SEPTEMBER.		
1	0	2
3	0	3
8	0	1
9	0	4
10	0	5
11	0	9
12	0	2
13	0	5
16	0	4
17	0	4
18	0	5
19	0	6
20	3	2
21	0	4
22	0	6
23	0	3
24	0	3
25	0	2
26	0	2
27—30	1	0
OCTOBER.		
2—7	2	1
9	2	0
15	0	3
16, 17	0	1

22. The air fine and clear, without a cloud, the land and ſea-breezes regular.

Whole quantity of rain in	*In.*	*Tenths.*
May	1	0
June	44	7
July	29	9
Auguſt	19	0
September	11	2
October	4	5
Total	110	3

In this journal our author makes no mention of the elephanta abovementioned from Mr Groſe as the forerunner of the rainy ſeaſon, though he mentions a ſtorm under that name on the 9th of October. It was an exceſſive hard gale, with violent thunder, lightning, and rain; of which laſt there fell two inches in no more than four hours. Neither is the quantity of thunder and lightning at all comparable to what people unacquainted with hot climates might be apt to expect. The only thunder-ſtorms mentioned in the journal were on May 31ſt, June 3d, 5th, 12th, 14th; September 7th, October 9th, an elephanta; and ſome thunder on the 15th of the ſame month.

5 Vegetable productions of Bombay.

The vegetable productions of Bombay are very inſignificant. Mr Ives ſays, that its "ſoil is ſo barren as not to produce any one thing worth mentioning;" but afterwards informs us, that its "natural produce is the cocoa-nut tree, from which they extract a liquor called *toddy*. This is ſoft and mild when drunk immediately: but if it ſtands long, it gathers ſtrength, and becomes very intoxicating; whence probably aroſe the term *toddy-headed*. For each tree a tax of 20 s. a-year is paid to the company, which is appropriated towards maintaining the garriſon and ſhips of war."

Mr Groſe gives an account ſomewhat different.—"The *oarts*, or cocoa-nut groves, make the moſt conſiderable part of the landed property, being planted wherever the ſituation and ſoil is favourable to them. When a number of theſe groves lie contiguous to each other, they form what is called the *woods*; through which there is a due ſpace left for roads and path-ways, where one is pleaſantly defended from the ſun at all hours in the day. They are alſo thick ſet with houſes belonging to the reſpective proprietors as well as with the huts of the poorer ſort of people; but are very unwholeſome for the reaſons already given. As to the cocoa-nut tree itſelf, not all the minute deſcriptions I have met with in many authors ſeem to me to come up to the reality of its wonderful properties and uſe. The cultivation of it is extremely eaſy, by means of channels conveying water to the roots, and by the manure already mentioned laid round them. An owner of 200 cocoa-nut trees is ſuppoſed to have a competency to live on.

"As to the rice fields, they differ in value, according to the fineneſs and quantity of rice they produce. The growth of this grain has a particularity not unworthy of notice, viz. that as it loves a watery ſoil, ſo to whatever height the water riſes, wherever it is planted, the growth of the rice keeps meaſure with it, even to that of 12 or 14 feet, the ſummit always appearing above the ſurface of the water. It is alſo remarked, that the eating of new rice affects the eyes. The fact is certain, though the phyſical reaſon of it is unknown.

"Here and there are interſperſed ſome few *brab trees*, or rather wild palm trees (the word *brab* being derived from *brabo*, which in the Portugueſe ſignifies *wild*.) They bear an inſipid kind of fruit, about the bigneſs of a common pear; but the chief profit from them is the toddy, or liquor drawn from them by inciſions at the top, of which the arrack is reckoned better than that produced by the cocoa-nut trees. They are generally near the ſea-ſide, as they delight moſt in a ſandy ſoil. It is on this tree that the *toddy birds*, ſo called from their attachment to it, make their exquiſitely curious neſts, wrought out of the thinneſt reeds and filaments of branches, with an inimitable mechaniſm. The birds themſelves are about the ſize of a partridge, but are of no value either for plumage, ſong, or the table.

"This iſland is a ſtrong inſtance of the benefits of a good government, and a numerous population, by not a ſpot of it remaining uncultivated: ſo that though it is far from producing ſufficient for the conſumption of its inhabitants, and notwithſtanding its many diſadvantages of ſituation and ſoil, it yields incomparably more than the adjacent iſland of Salſette."

6 Curioſities in this iſland.

Among the curioſities of Bombay Mr Ives mentions a large *terapin* or land tortoiſe kept at the governor's houſe, the age of which is upwards of 200 years. Frogs, which abound every where through the Eaſt-Indies, are very large at Bombay. Our author ſaw one that meaſured 22 inches from the extremities of the fore and hind feet when extended; and he ſuppoſes that its weight would not have been leſs than four or five pounds. On the ſea-ſhore round the iſland are a great variety of beautiful ſhells, particularly the ſort called *ventle-traps* or *wendle-traps*, held in great eſteem among the ladies ſome time ago. Several pounds ſterling are ſaid to have been given by a *virtuoſo* for one of theſe ſhells when the commodore Leſlie's collection of ſhells was ſold by auction.

7 Different kinds of ſerpents found here.

Mr Ives enumerates the following kinds of ſnakes found on this iſland and other parts of the Britiſh empire in the Eaſt-Indies. 1. The *cobra de capella*, growing from four to eight or nine feet long. They kill by their bite in 15 minutes. 2. The *cobra manila* is a ſmall bluiſh ſnake, of the ſize of a man's little finger, and about a foot long, frequently ſeen about old walls. A ſpecies of theſe found at Bombay kill much ſooner than even the former. 3. The *palmira*, a very thin beautiful ſnake, of different colours: Its head is like that of the common viper, but much thicker than the body. Our author ſaw one that was four feet long, and the body not much thicker than a ſwan's quill. 4. The green ſnake is of a very bright green colour, with a ſharp head: towards the tail it is ſmaller than in the middle. The largeſt part is no bigger than a tobacco-pipe. 5. The ſand ſnake is ſmall and ſhort, but not leſs deadly than the others. 6. The *cobra de aurelia* reſembles an earth-worm, is about ſix inches long, and is no bigger than a ſmall crow quill. It kills by getting into the ear, cauſing madneſs, &c. 7. The *manila bomba* is a very beautiful ſnake, of almoſt the ſame ſize throughout the whole length, except at the two ends, where it comes to a point. It is white on the belly; but finely variegated on the back. It lives in the ſand, and is ſaid to ſting with its tail, which occaſions contractions in the joints.

Bombay is the moſt conſiderable Britiſh ſettlement on the Malabar coaſt; and by reaſon of its ſituation, may be ſtyled the grand ſtorehouſe of all the Arabian and Perſian commerce. It is alſo the moſt convenient place in all the Eaſt-Indies for careening or heaving down large ſhips; and for ſmall ones they have a very good dock. They have alſo a very good rope-yard; and indeed, ſays Mr Ives, "this is the only place, in this diſtant part of the world, for ſhattered ſhips to refit at, having always a good quantity of naval ſtores, and its very name conveying an idea of a ſafe retreat in foul weather."

8 Different forts, &c. On this iſland are many little forts and batteries, which carry ſome guns; but the principal fort, which defends the place, has above an hundred. Mr Groſe finds fault with the ſituation of this laſt fort, which he ſays, not only does not command the harbour ſufficiently, but is itſelf overlooked by an eminence called Dungharee point. The caſtle itſelf is a regular quadrangle, well built of ſtrong hard ſtone. In one of the baſtions facing Dungharee point is a large tank or ciſtern which contains a great quantity of water conſtantly repleniſhed with the ſtationary rains. There is alſo a well within the fort, but the water is not very good, and liable to be dried up by the heats. The water of Bombay in general indeed is not good, which has been given as a reaſon why the Gentoo merchants were not fond of ſettling upon it; for as they drink no wine nor ſpirituous liquors, they are very nice judges of the taſte and qualities of waters.

When the town of Bombay began to increaſe conſiderably, it was judged proper to add the ſecurity of a wall round it to the ſtrength of the fort it had before. Even then, however, it was neglected to take in the dangerous poſt of Dungharee, which now evidently commands both the town and fort. There has ſince that time been added at a great expence, a ditch that encompaſſes the wall, and can be flooded at pleaſure, by letting in the ſea, which terminates the ditch on two ſides, ſo that the town is now entirely ſurrounded with water, and is one of the ſtrongeſt places in India.

Next to Bombay, the moſt conſiderable fort on the iſland is that of *Mahim*. It is ſituated at the oppoſite extremity of the iſland, and commands the paſs of Bandurah, a fort directly oppoſite to it on the coaſt of Salſette. From this iſland Bombay is ſeparated by an arm of the ſea, capable of receiving only ſmall craft. The other forts are capable of making but a ſlight defence.

About two miles out of town, towards the middle of the iſland, the ſea had gained ſo far as almoſt to divide it in two, and rendered the roads impaſſable. A great quantity of this water, however, was drained off at a very conſiderable expence, and a cauſeway raiſed which kept it from overflowing again. This cauſeway is above a quarter of a mile in length, and conſiderably broad; "but (ſays Mr Groſe,) there is one groſs fault remarked in it; that, being bending near the middle, the architect has oppoſed to the ſea a re-entering angle inſtead of a ſaliant one." Within the beach, however, there is ſtill a conſiderable body of water, that has a free communication with the ſea, as appears by its ebbing and flowing; ſo that it is probable the cauſeway itſelf, erected at the expence of at leaſt L. 100,000, may in no long time be totally undermined and thrown down.

9 Diviſion, &c. When the iſland of Bombay was ceded to the Engliſh by the Portugueſe, it was divided, and ſtill continues to be ſo, into three Roman Catholic pariſhes, Bombay, Mahim, and Salvacam. The churches of theſe are governed by prieſts of that religion, and of any nation excepting Portugal, who were expreſsly objected to at the time of ceſſion. The bulk of the land proprietors at that time were Meſtizos and Canarins. The former are a mixed breed of the natives and Portugueſe; the latter purely aborigines of the country converted to the Popiſh religion. The other land owners were Moors, Gentoos, and Perſees; but theſe laſt are of more modern date, having purchaſed eſtates on the iſland. The company has alſo a very conſiderable landed eſtate either by purchaſes, confiſcations for crimes, or ſeizures for debt. The land is laid out in cocoa-nut groves, rice-fields, and onion grounds, which laſt are reckoned of an excellent quality.

There is only one Engliſh church at Bombay, a very neat commodious building ſeated on a ſpacious area called the Green; which continues from the church to the fort, and is pleaſantly laid out in walks planted with trees, round which the houſes of the Engliſh inhabitants are moſtly ſituated. Theſe are generally only ground-floored, with a court-yard before and behind, in which are the offices and out-houſes. They are ſubſtantially built of ſtone and lime, and ſmooth plaſtered on the outſide. They are often kept white-waſhed, which, however neat, is in ſome reſpects very diſagreeable, by reaſon of the exceſſive glare it occaſions in reflecting the light of the ſun. Few of them have glaſs windows to any apartment; the ſaſhes being generally paned with a kind of tranſparent oyſter-ſhells, ſquare cut; which have the ſingular property of tranſmitting ſufficient light, at the ſame time that they exclude the violent glare of the ſun, and have beſides a cool look. The flooring is generally compoſed of a kind of loam or ſtucco called *chunam*, being a lime made of burnt ſhells, which if well tempered in a peculiar manner known to the natives, is extremely hard and laſting, and take ſuch a ſmooth poliſh, that one may ſee his own face in it. But where terraces are made of this ſubſtance, unleſs it be duly prepared, and which is very expenſive, it is apt to crack by the ſun's heat. Some attempts have been made to paint the ſtucco walls in apartments; but theſe have proved abortive through the ignorance of the artiſts, who have not choſen colours capable of reſiſting the alkaline power of the lime*. Our author remarks, that in the gardens of Surat he ſaw this kind of ſtucco made uſe of inſtead of gravel for the walks. They were a little raiſed above the garden beds, ſo that they muſt be inſtantly dry after the moſt violent rain; though their whiteneſs and poliſh muſt not only produce a diſagreeable reflection in ſunſhine, but be extremely ſlippery to walk on. The houſes of the black merchants are for the moſt part extremely ill built and inconvenient; the window-lights ſmall, and the apartments ill diſtributed. Some, however, make a better appearance if only one ſtory high; but even the beſt of them have a certain meanneſs in the manner, and clumſineſs in their execution, which renders the architecture contemptible in compariſon of the European. There is one convenience, however, in all the houſes of Bombay, *viz.* ſmall ranges of pillars that ſupport a penthouſe or ſhed, forming what are called in the Portugueſe language *verandas*, either all round the houſe, or on particular ſides of it, which afford a pleaſing ſhelter from the ſun, and keep the inner apartments cool and refreſhed by the draught of air under them. The pagodas, or temples of the Gentoos, are low mean buildings, having uſually no light but what is admitted by the door; facing which is the principal idol. They imagine that a dark gloomy place inſpires a kind of religious horror and reverence; and are very fond of having theſe pagodas among trees, and near the ſide of a tank or pond, for the ſake of their frequent ablutions. Theſe tanks are often very expenſive; being generally ſquare and ſurrounded with ſtone ſteps that are very convenient for the bathers.

10
Inhabitants manners, &c.

The natives of Bombay, though compoſed of almoſt every Aſiatic nation, are ſhorter of ſtature and ſtronger than the inhabitants of the Coromandel coaſt. Here a palanquin which requires ſix men to carry it at Madras, or Fort St David, is carried by four. Here are ſome Perſees, who, like their forefathers the ancient Perſians, are followers of Zoroaſter, who is ſaid to have reduced into order the religion of the Perſian magi; the fundamental maxim of which was the worſhipping of one God under the ſymbol of light. They adore the ſun, particularly when riſing, with the moſt profound reverence and veneration; and likewiſe pay a kind of adoration to common fire. Mr Ives had once the opportunity of obſerving the manner in which they perform this devotion. A large braſs pan was placed in the middle of the houſe with fire in it: before this fire, or rather on each ſide of it, two men were kneeling at their devotions, pronouncing their prayers, with great rapidity. He was afterwards informed, that one of them was a prieſt, at that time on a viſit to another prieſt in a fit of ſickneſs. He was likewiſe informed, that the Perſees have ſuch a veneration for the fire, that they never put it out, or even breathe upon it; and he obſerved, that while the two prieſts were at their prayers over the pan of coals, they had a little white bib over their mouths, as he ſuppoſed to prevent their breath from approaching their favourite element. The prayers, however, from the ſimilarity of the ſounds, appeared to him only to be a repetition of the ſame ſet of words. The viſiting prieſt uſed many geſtures with his hands over the fire, and afterwards ſtroaked down the face of the ſick prieſt, which our author looked upon to be the final benediction, as the ceremony ended immediately.

As the Gentoos burn their dead, one would imagine that the Perſees, who have ſuch a veneration for fire, would be deſirous of having their bodies conſumed by that element; but inſtead of this, they expoſe their dead bodies to be devoured by birds of prey; becauſe, ſay they, a living man is compoſed of all the elements; ſo that it is but reaſonable, after he is dead, that every particular element ſhould receive its own again. On the top of Malabar hill, about two miles from the town of Bombay, there are two round buildings for receiving the dead bodies of the Perſees, which remain there till the bones are clean picked by the birds. This is certainly an abominable cuſtom, and affords very ſhocking ſpectacles; however, a guard is always placed at a little diſtance to prevent people from prying too narrowly into theſe matters, or, as Mr Ives ſays, to enſure the vultures of their repaſt without any diſturbance. Mr Groſe tells us, that on his going to look into one of theſe repoſitories, a Perſee adviſed him in a friendly manner to let it alone, as no perſon, who was not a party concerned, would long ſurvive ſuch curioſity. He tells us alſo, that the perſon appointed to look after the dead, carefully obſerves which eye is firſt picked out by the birds, and from thence judge of the ſituation of the ſoul of the deceaſed; a ſtate of happineſs being indicated by the right eye being firſt picked out. Mr Ives obſerves, that by reaſon of the heat of the ſun, much leſs noxious vapour is emitted by theſe bodies than might be expected; the fleſh being ſoon ſhrivelled up, and the bones turning quite black.

At the extreme point of Malabar-hill there is a rock, on the deſcent to the ſea, flat on the top, in which there is a natural crevice, which communicates with a hollow terminating at an exterior opening to the ſea. This place is uſed by the Gentoos as a purifier from their ſins. This purification is effected by their going in at the opening, and coming through the crevice, though it ſeems too ſmall for people of any corpulence to paſs.

11
Oxen uſed here inſtead of horſes.

In Bombay, and indeed in many other places of the Eaſt Indies, oxen are generally uſed inſtead of horſes, not only for drawing carriages but for riding; and, however ridiculous ſuch a practice may ſeem to us, it appears that they are not in this reſpect inferior to ordinary horſes, being capable of going at the rate of ſeven or eight miles an hour. They are commonly of a white colour, with large perpendicular horns, and black noſes. The only inconvenience that attends them, is, that, by being naturally ſubject to a lax habit of body, they ſometimes incommode the rider with filth thrown upon him by the continual motion of their tails. In other reſpects they are far preferable to Indian horſes, and will trot and gallop as naturally as the horſes of this country. Admiral Watſon, while at Bombay, was allowed a chaiſe drawn by two of theſe oxen by the Eaſt India Company. At the end of every ſtage the driver always put the near bullock in the place of the other; he then put his hand into both

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*See *Colour-making.*

their mouths, to take out the froth; without which precaution they would be in danger of ſuffocation.

For the Hiſtory, Government, &c. of Bombay, ſee the articles INDOSTAN, and *Eaſt India Company*.

BOMB-KETCH, a ſmall veſſel built and ſtrengthened with large beams for the uſe of mortars at ſea.

BOMBUS, in muſic, an artificial motion with the hands, imitating in cadence and harmony the buzzing of bees. The word is originally Greek, and ſignifies the buz or noiſe of bees, gnats, and the like. In this ſenſe, bombus made one of the ſpecies of applauſe uſed by the ancient auditories.

BOMBUS, in medicine, denotes a murmuring noiſe, as of wind breaking out of a narrow into a large cavity, frequently heard in the thick inteſtines. The bombus heard in the ears, in acute diſeaſes, is laid down by Hippocrates as a ſign of death.

BOMBYLIUS, in zoology, a genus of inſects belonging to the order of diptera. The roſtrum is long, briſtly, and bivalved; the briſtles being fixed between the horizontal valves. There are five ſpecies, *viz.* 1. The major, with black wings. 2. The medius, with a yellowiſh body, white behind, and the wings ſpotted with yellow. 3. The minor, with unſpotted wings. 4. The ater, has red wings, but a little blackiſh at the baſe; and green feet. The above four are natives of Europe. 5. The capenſis, with the wings ſpotted with black, an aſh-coloured body, and white behind. It is a native of the Cape of Good Hope.

BOMENE, a ſea-port town of the United Provinces in Zealand, ſeated on the northern ſhore of the iſland of Schonen, oppoſite to the iſland of Goree, in E. Long. 4. 0. N. Lat. 51. 50.

BOMMEL, a town of Dutch Guelderland, ſituated on the northern ſhore of the river Waal, in E. Long. 5. 50. N. Lat. 52. 0.

BOMONICI, in Grecian antiquity, young men of Lacedæmon, who contended at the ſacrifices of Diana which of them was able to endure moſt laſhes; being ſcourged before the altar of this goddeſs.

BONA, by the Moors called *Balederna*, a ſea-port town of the kingdom of Algiers in Africa, ſituated in E. Long. 7. 57. N. Lat. 36. 5. It was formerly rich, populous, capital of the province of the ſame name under the kingdom of Conſtantina, and is ſuppoſed by ſome to be the ancient Hippo, once the ſeat of the great St Auſtin, and a ſea-port built by the Romans. The inhabitants, however, deny it to be the ancient Hippo, which had been ſo often taken, retaken, and deſtroyed by the wars; and pretend it to be ſince rebuilt at the diſtance of two or three miles from the ancient Hippo, out of its ruins, and called *Baleed-el-Ugned*, from a ſort of trees of that name that grow in the neighbourhood. It is now a very mean place, poorly built, and thinly inhabited, with ſcarce any traces of its former grandeur, except the ruins of a cathedral, or as others gueſs, of a monaſtery built by St Auſtin about three miles diſtance from the city. Near theſe ruins is a famed ſpring called by his name, much reſorted to by the French and Italian ſailors, who come to drink of its waters, and pay their devotions to a maimed ſtatue ſaid alſo to belong to the ſaint, but ſo mutilated that no traces either of face or dreſs are remaining; and as each of them ſtrives to break off ſome ſplinter, or to ſcrape off ſome part of it on account of its ſuppoſed ſanctity, it will probably be ſoon reduced to a ſtate of non-exiſtence. Bona was taken by the pirate Barbaroſſa, and joined to his new kingdom of Algiers; but as quickly loſt, and recovered by its old maſters the Tuniſeens, who ſoon after loſt it again. It is commanded by a little fort, in which is a garriſon of about 300 Turks, under the command of an aga, who is alſo governor of the town. The road for the ſhips is good for nothing before the town, but a little farther weſt is very deep and ſafe. Dr Shaw tells us, that the continual diſcharging of balaſt into the road, and the neglect of cleanſing the port which came to the very walls, is the cauſe of both becoming ſo unſafe and incommodious; though this might be eaſily remedied ſo as to make the town one of the moſt flouriſhing in all Barbary.

BONA Dea, the good goddeſs, in Pagan mythology, one of the names of Cybele. Others ſay, ſhe was a Roman lady, the wife of one Faunus, and was famous for her chaſtity, and that after her death ſhe was deified. Her ſacrifices were performed only by matrons; and in ſo ſecret a manner, that it was no leſs than death for any man to be preſent at the aſſembly (ſee CYBELE). Cicero reproaches Clodius with having entered into this temple diſguiſed as a ſinging woman, and having by his preſence polluted the myſteries of the good goddeſs. What kind of myſteries theſe were, we may learn from Juvenal, Sat. VI. 313. The poet then mentions the adventure of Clodius.

Atque utinam ritas veteres, et publica ſaltem
His intacta malis agerentur ſacra: ſed omnes
Noverunt Mauri, atque Indi, quæ pſaltria penem
Majorem, quam ſint duo Cæſaris Anticatones,
Illuc teſticuli ſibi conſcius, unde ſugit mus.
Intulerit.

I wiſh at leaſt our ſacred rites were free
From theſe pollutions of obſcenity:
But 'tis well known what ſinger, how diſguis'd,
A lewd audacious action enterpriz'd:
Into the fane, with women mix'd, he went,
Arm'd with a huge two-handed inſtrument;
A grateful preſent to theſe holy choirs,
Where the mouſe, conſcious of his ſex, retires.

DRYDEN

BONA Fides, in law. When a perſon performs any action which he believes at the time to be juſt and lawful, he is ſaid to have acted *bona fide*.

BONA Mobilia, the ſame with moveable effects or goods.

BONA Notabilia, are ſuch goods as a perſon dying has in another dioceſe than that wherein he dies, amounting to the value of 5 l. at leaſt; in which caſe the will of the deceaſed muſt be proved, or adminiſtration granted in the court of the archbiſhop of the province, unleſs by compoſition or cuſtom, any dioceſes are authorized to do it, when rated at a greater ſum.

BONA Patria, an aſſize of countrymen or good neighbours, where 12 or more are choſen out of the country to paſs upon an aſſize, being ſworn judicially in the preſence of the party.

BONA Peritura, periſhable goods. By ſtat. 13. Ed. I. cap. 4. the cargo of a ſhip that has been caſt away ſhall be kept for a year and a day, and reſtored to the rightful owner; but if the goods be ſuch as will not endure ſo long, they are *bona perituro*, which the ſheriff is allowed to ſell, and to account in money for the value.

Bona Vacantia, goods; ſuch as royal-fiſh, ſhipwrecks, treaſure-trove, waifs, and eſtrays, in which no one can claim a property. Theſe goods by the law of nature, and by the imperial law, belonged to the firſt occupant or finder; but in the modern conſtitutions of European governments, they are annexed to the ſupreme power by the poſitive laws of the ſtate.

BONAIRE, an iſland of South America, near the north coaſt of Terra Firma. It belongs to the Dutch; and abounds in kabritoes and ſalt. W. Long. 66. 18. N. Lat. 20. 16.

BONAIS, very high mountains of Italy in the duchy of Savoy, not far from Laſſoreburg: in ſome ſeaſons they cannot be aſcended without great danger.

BONARELLI (Gui Ubaldo), an Italian count. He was intruſted with ſeveral important negociations, and was eſteemed an able politician and learned philoſopher. He was the author of a fine Italian paſtoral, intitled, *Filli di Sciro*. He died at Fano, in 1608, aged 45.

BONAVENTURA (the bay of), in America, on the coaſt next the South ſea, in the Popayan. It has a port and harbour for ſhips; but the air is very unwholeſome. W. Long. 75. 18. N. Lat. 3. 20.

BONAVENTURE, a celebrated cardinal, called, from his works, the *ſeraphic doctor*. He was born at Bagnarea, a ſmall town of Tuſcany, in 1221; and his original name was *John Fidauz*. He took the habit of a monk of the order of St Francis in 1243, became doctor of Paris in 1255, and the next year general of his order. After the death of Clement IV. the cardinals diſagreeing about the election of a new pope, engaged themſelves by a ſolemn promiſe to elect him who ſhould be named by Bonaventure, even though it ſhould be himſelf; but he choſe Theobald archdeacon of Liege, who was then in the Holy Land, and took the name of *Gregory X*. This pope, in return, in 1272, made him cardinal and biſhop of Alba, and ordered him to aſſiſt at the ſecond general council of Lyons, where he died in 1274. His works were printed at Rome in 8 vols folio.

BONAVISTA, an iſland in the Atlantic ocean, the moſt eaſterly and firſt diſcovered of the Cape de Verd iſlands. It is 20 miles long, and 13 broad; has plenty of goats and cotton, and ſome indigo. The inhabitants are remarkable for ſlothfulneſs: they have a town and two roads where ſhips come to an anchor. W. Long. 23. 6. N. Lat. 16. 5.

BOND (John), a commentator on Horace and Perſius, was born in Somerſetſhire in the year 1550, and educated at Wincheſter ſchool. In 1569 he was entered a ſtudent of the univerſity of Oxford, probably in the New college, of which he became either one of the clerks or one of the chaplains. He took his bachelor of arts degree in 1573, and that of maſter in 1579; ſoon after which he was appointed by his college, maſter of the free ſchool in Taunton in Somerſetſhire. In this employment he continued many years with great reputation: but being at length weary of his laborious employment, he commenced phyſician, and we are told became eminent in that capacity. He died in the year 1612, poſſeſſed of ſeveral lands and tenements in his neighbourhood; but whether acquired by the practice of phyſic, does not appear. He wrote, 1. *Commentarii in poemata Q. Horatii*, 8vo. 2. *Commentarii in ſex ſatyras Perſii*, Lond. 1614. 8vo.

Bond, in law, is a deed whereby the obligor obliges himſelf, his heirs, executors, and adminiſtrators, to pay a certain ſum of money to another at a day appointed. If this be all, the bond is called a ſimple one, *ſimplex obligatio*. But there is generally a condition added, that if the obligor does ſome particular act, the obligation ſhall be void, or elſe ſhall remain in full force: as payment of rent; performance of covenants in a deed: or repayment of a principal ſum of money borrowed of the obligee, with intereſt; which principal ſum is uſually one half of the penal ſum ſpecified in the bond. In caſe this condition is not performed, the bond becomes forfeited, or abſolute at law, and charges the obligor while living; and after his death the obligation deſcends upon his heir, who (on defect of perſonal aſſets) is bound to diſcharge it, provided he has real aſſets by deſcent as a recompenſe.

If the condition of a bond be impoſſible at the time of making it, or be to do a thing contrary to ſome rule of law that is merely poſitive, or be uncertain, or inſenſible, the condition alone is void, and the bond ſhall ſtand ſingle and unconditional: for it is the folly of the obligor to enter into ſuch an obligation from which he can never be releaſed. If it be to do a thing that is *malum in ſe*, the obligation itſelf is void: for the whole is an unlawful contract, and the obligee ſhall take no advantage from ſuch a tranſaction. And if the condition be poſſible at the time of making it, and afterwards becomes impoſſible by the act of God, the act of law, or the act of the obligee himſelf, there the penalty of the obligation is ſaved: for no prudence or foreſight of the obligor could guard againſt ſuch a contingency. On the forfeiture of a bond, or its becoming ſingle, the whole penalty was recoverable at law: but here the courts of equity interpoſed, and would not permit a man to take more than in conſcience he ought, *viz.* his principal, intereſt, and expences, in caſe the forfeiture accrued by non-payment of money borrowed; the damages ſuſtained upon non-performance of covenants; and the like. And the ſtatute 4 and 5 Ann. c. 16. hath alſo enacted, in the ſame ſpirit of equity, that in caſe of a bond, conditioned for the payment of money, the payment or tender of the principal ſum due, with intereſts and coſts, even though the bond be forfeited and a ſuit commenced thereon, ſhall be a full ſatisfaction and diſcharge.

Bond, in maſonry and brick-laying, is when bricks or ſtones are as it were knit and interwoven; and when they ſay, make *good bond*, they mean that the joints are not made over, or upon other joints; but reach at leaſt ſix inches, both within the wall and on the ſurface, as the art of building requires.

BONDAGE, properly ſignifies the ſame with ſlavery, but in old law books is uſed for villenage (ſee Villenage). Tenants in bondage paid kenots, and did fealty; they were not to fell trees in their own garden, without licence of the lord. The widow of a tenant in bondage held her huſband's eſtate *quam diu vixerit ſine marito*, "as long as ſhe lived ſingle."

Bondage of the Forelock, or *Bondagium per anteriores crines capitis*, was when a freeman renounced his liberty, and became ſlave to ſome great man; which was done by the ceremony of cutting off a lock of hair from the forehead, and delivering it to his lord; denoting that he was to be maintained by him for the future. Such a bondman, if he reclaimed his liberty, or were fugitive from his maſter, might be drawn again to his ſervitude by the noſe; whence the origin of the popular menace to pull a man by the noſe.

BONDMAN, in the Engliſh law, is uſed for a villain, or tenant in vilenage*.—The Romans had two kinds of bond-men; one called *ſervi*, who were thoſe either bought for money, taken in war, left by ſucceſſion, or purchaſed by ſome other lawful acquiſition; or elſe born of their *bondwomen*, and called *vernæ*. We may add a third kind of bondmen mentioned by Juſtinian, called *adſcriptii glebæ*, or *agricenſiti*; who were not bound to the perſon, but to the ground or place, and followed by him who had the land. Theſe in our law are called *villains regardants*, as belonging to the manor or place.

BONE-ACE, a game at cards played thus: The dealer deals out two cards to the firſt hand, and turns up the third, and ſo on through all the players, who may be ſeven, eight, or as many as the cards will permit: he that has the higheſt card turned up to him carries the bone; that is, one half of the ſtake; the other half remaining to be played for. Again, if there be three kings, three queens, three tens, &c. turned up, the eldeſt hand wins the bone. But it is to be obſerved, that the ace of diamonds is bone-ace, and wins all other cards whatever. Thus much for the bone: and as for the other half of the ſtake, the neareſt to 31 wins it; and he that turns up or draws 31 wins it immediately.

BONES, their origin, formation, compoſition, texture, variety, offices, &c. See ANATOMY, Part I.

From a diſcovery made by Mr Scheele, of a method of producing the phoſphoric acid in large quantity from bones, it has been aſſerted, that this acid is naturally contained in the bones, united with a calcareous earth. From many experiments, however, it appears that no acid is naturally contained in calcined bones; nor can the acid of phoſphorus be extracted from them but by means of the vitriolic acid: whence it ſeems probable, that the phoſphoric acid in this caſe is produced by the combination of a certain quantity of earth with the vitriolic acid.——With regard to the earth of bones itſelf, it appears to be very different from the calcareous kind: it is much more ſoluble in the vitriolic acid, and may be precipitated from that or any other by means of the cauſtic volatile alkali, which cannot be done with the calcareous earth.

BONES Whitened for Skeletons. Two proceſſes are deſcribed in the *Acta Haſſnienſia* for whitening bones. Profeſſor Rau had a method of giving them a great degree of whiteneſs. By bare expoſure to the air, ſun, and rain, for a length of time, they become notably white; but the whiteſt bones, kept in rooms tainted with ſmoke or fuliginous vapours, grow in a little time yellowiſh, browniſh, and unſightly. It is cuſtomary for the purification of bones, to boil them in alkaline liquors; which, by diſſolving and extracting the ſuperfluous fat, improve their whiteneſs.

BONES Hardened and Softened. Boerhaave obſerves, that alkaline ſalts render bones harder and firmer, and that acids make them ſofter and more flexible. Theſe effects ſucceed in certain circumſtances, but not univerſally; for bones may be hardened and ſoftened both by acids and by alkalis, according to the quantity of ſaline matter employed, and the manner in which it is applied. Newmann made bones harder and more compact by treating them with the ſtrongeſt of the mineral acids; though, when the acid is in ſufficient proportion, it deſtroys or diſſolves them. In Papin's digeſter (a ſtrong cloſe veſſel, in which the ſteam of boiling liquors is confined, and the fluid by this means made to undergo a greater degree of heat than it could otherwiſe ſuſtain), the hardeſt bones are reduced in a ſhort time, by the action of ſimple water, into a ſoft pap or jelly; and alkaline liquors produce this effect ſtill ſooner.

In the hiſtory of the French Academy for the years 1742 and 1743, there is an account that Mr Geoffroy produced before the academy a ſmall ivory ſpoon, which, by long lying in muſtard, was become flexible and tranſparent like horn; that Mr Fouchy ſaw an ivory ſpoon, which, by lying for a conſiderable time in milk, was become ſupple like leather; and that Mr Hunauld produced bones, which had been ſoftened by ſteeping in vinegar, afterwards hardened to their natural ſtate by ſteeping in water, and ſoftened a ſecond time by ſteeping in vinegar. Dr Lewis obſerved that the nitrous and marine acids diluted, and the acetous acid, make bones flexible and tough like leather; but that the diluted vitriolic acid, though it renders them notably ſoft, makes them at the ſame time brittle. It ſeems as if a great part of the earthy matter, which is the baſis of the bone, and on which its hardneſs depends, was diſſolved and extracted by the three firſt; whilſt the latter, incapable of diſſolving this kind of earth into a liquid form, only corrodes it into a kind of ſelenitic concrete, which remains intermixed in minute particles among the gelatinous matter. Dr Lewis did not find that the ſoftened bones, whatever acid they were ſoftened by, recovered their hardneſs by ſteeping in water. Slips of ſoftened ivory, after lying above a month in water, continued nearly as ſoft as when they were taken out of the acid liquor.

There is a ſingular induration of bones produced by fire; the effects of which agent are here remarkably different according to its degree and the circumſtances of its application. Bones expoſed to a moderate fire, either in open veſſels, or in contact with the burning fuel, become opaque, white, and friable throughout; and an increaſe of fire, after they have once ſuffered this change, renders them only more and more friable. But if they are urged at firſt with a ſtrong fire, ſuch as that in which copper or iron melts, they become hard, ſemitranſparent, and ſonorous, like the hard mineral ſtones. This curious experiment deſerves to be further proſecuted.

Colouring of BONES. Bones may be ſtained of a variety of colours by the common dyeing infuſions and decoctions of animal and vegetable ſubſtances. They are ſtained alſo, without heat, by metallic ſolutions; and by means of theſe may be ſpotted or variegated at pleaſure. Thus, ſolution of ſilver in aquafortis gives a brown or black according to its quantity; ſolution of gold in aqua regia, or in ſpirit of ſalt, a fine purple;

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* See Villain and Villenage.

ple; ſolution of copper in the acetous acid, a fine green; and ſolutions of the ſame metal in volatile alkalis, a blue, which at firſt is deep and beautiful, but changes, upon expoſure to the air, into a green or bluiſh-green. If the bone is but touched with the two firſt ſolutions, and expoſed to the air, it does not fail to acquire the colour in a few hours: In the two latter, it requires to be ſteeped for a day or longer in order to its imbibing the colour. In theſe and other caſes where immerſion for ſome time is neceſſary, the bone may be variegated, by covering ſuch parts as are to remain white, with wax or any other matter that the liquor will not diſſolve or penetrate.

Oeconomical Uſes of Bones. Bones are a very uſeful article, not only for making different kinds of toys, but likewiſe in ſeveral kinds of chemical arts; as, For making caſt iron malleable, for abſorbing the ſulphur of ſulphureous ores; for forming teſts and cupels, or veſſels for refining gold and ſilver with lead (burnt bones compoſing a maſs of a porous texture, which abſorbs the vitrified lead and other matters, while the unvitreſcible gold and ſilver remain entire behind); for the preparation of milky glaſſes and porcelains; for the rectification of volatile ſalts and empyreumatic oils; and for making glue. The bones of different animals are not equally fit for theſe uſes: even the glue, or gelatinous part of the bones of one animal is notably different both in quantity and coheſiveneſs from that of another.

The human ſkull-bone, or cranium, the natural defence of the ſeat of ſenſation and perception in the nobleſt animal, has been recommended medicinally as a cure for epilepſies, deliria, and all diſorders of the ſenſes, from the ſame philoſophy which aſcribed antiaſthmatic virtues to the lungs of the long-winded fox; and expected, becauſe fowls are ſaid to digeſt even ſmall ſtones, that the ſkin of the gizard, dried and powdered, would produce a ſimilar effect in the human ſtomach. To ſuch lengths of extravagance have the ſons of phyſic been carried by the blind ſuperſtition of former ages!

Bones in the Funeral Solemnities of the Ancients.—Divers uſages and ceremonies relating to the bones of the dead have obtained in different ages; as gathering them from the funeral pile, waſhing, anointing, and depoſiting them in urns, and thence into tombs; tranſlating them, which was not to be done without the authority of the pontiffs; not to ſay worſhipping of them, ſtill practiſed to the bones of the ſaints in the Romiſh church. Among the ancients, the bones of travellers and ſoldiers dying in foreign countries were brought home to be buried; till, by an expreſs S. C. made during the Italic war, it was forbid, and the ſoldiers bodies ordered to be buried where they died.

The Romans had a peculiar deity under the denomination of *Oſſilago*, to whom the care of the induration and knitting of the human bones was committed; and who, on that account, was the object of the adoration of all breeding women.

Foſſile or *Petrified* Bones, are thoſe found in the earth, frequently at great depths, in all the ſtrata, even in the bodies of ſtones and rocks; ſome of them of a huge ſize, uſually ſuppoſed to be the bones of giants, but more truly of elephants or hippopotami. It is ſuppoſed they were repoſited in thoſe ſtrata when all things were in a ſtate of ſolution; and that they incorporated and petrified with the bodies where they happened to be lodged.

In the muſeum of the Ruſſian Academy of Sciences, there is a vaſt collection of foſſil bones, teeth, and horns, of the elephant, the rhinoceros, and buffalo, which have been found in different parts of this empire, but more particularly in the ſouthern regions of Siberia. Naturaliſts have been puzzled to account for ſo great a variety being found in a country where the animals of which they formerly made a part were never known to exiſt. It was the opinion of Peter, who, though he deſerves to be eſteemed a great monarch, was certainly no great naturaliſt, that the teeth found near Voronetz were the remains of elephants belonging to the army of Alexander the great, who, according to ſome hiſtorians, croſſed the Don, and advanced as far as Koſtinka. The celebrated Bayer, whoſe authority carries greater weight in the literary world, conjectures that the bones and teeth found in Siberia belonged to elephants common in that country during the wars which the Mogul monarchs carried on with the Perſians and Indians; and this plauſible ſuppoſition ſeems in ſome meaſure to be corroborated by the diſcovery of the entire ſkeleton of an elephant in one of the Siberian tombs. But this opinion, as Mr Pallas† very juſtly obſerves, is ſufficiently refuted by the conſideration, that the elephants employed in the armies of all India could never have afforded the vaſt quantities of teeth which have been diſcovered, not to mention thoſe which it is juſtly to be preſumed may ſtill be buried. They have been already dug up in ſuch plenty as to make a conſiderable article of trade. The ſame ingenious naturaliſt has given an ample deſcription of theſe foſſil bones, and has endeavoured to account for their origin. Upon examining thoſe in the muſeum, he was led to conclude, that as theſe bones are equally diſperſed in all the northern regions of Europe, the climate probably was in the earlier ages leſs ſevere than at preſent, and then poſſibly ſufficiently warm to be the native countries of the elephant, rhinoceros, and other quadrupeds, now found only in the ſouthern climates. But when he viſited, during his travels, the ſpots where the foſſil bodies were dug up, and could form a judgment from his own obſervations, and not from the accounts of others, he renounced his former hypotheſis; and, in conformity with the opinions of many modern philoſophers, aſſerted, that they muſt have been brought by the waters; and that nothing but a ſudden and general inundation, ſuch as the deluge, could have tranſported them from their native countries in the ſouth, to the regions of the north. In proof of this aſſertion, he adds, that the bones are generally found ſeparate, as if they had been ſcattered by the waves, covered with a ſtratum of mud evidently formed by the waters, and commonly intermixed with the remains of marine plants, and ſimilar ſubſtances; inſtances of which he himſelf obſerved during his progreſs through Siberia, and which ſufficiently prove that theſe regions of Aſia were once overwhelmed by the ſea.

We often find in the earth petrified bones, the greateſt part of their gelatinous matter being extracted by the moiſture, and a ſtony one introduced in its room. In ſome parts of France petrified bones are met with which

† *Nov. Comm. De Oſſibus Siberiæ foſſilibus*, p. 440.

which have an impregnation of copper. Hence, on being calcined in an open fire, a volatile ſalt is produced from the remains of their gelatinous principle, and the bone is tinged throughout of a fine greeniſh-blue colour, copper always ſtriking a blue with volatile alkalis. The French turcoiſe ſtones are no other than theſe bones prepared by calcination: they are very durable and bear to be worked and poliſhed nearly in the ſame manner as glaſs; without the imperfection, inſeparable, from glaſſy bodies, of being brittle. See the article TURCOISE.

There have been lately diſcovered ſeveral enormous ſkeletons, five or ſix feet beneath the ſurface, on the banks of the Ohio, not far from the river Miami in America, 700 miles from the ſea-coaſt. Some of the tuſks are near ſeven feet long; one foot nine inches at the baſe, and one foot near the point; the cavity at the root or baſe, 19 inches deep. Beſides their ſize, their are ſeveral other differences which will not allow the ſuppoſition of their having been elephants: the tuſks of the true elephant have ſome times a very ſlight lateral bend; theſe have a larger twiſt, or ſpiral curve towards the ſmaller end: but the great and ſpecific difference conſiſts in the ſhape of the grinding teeth; which in theſe newly found, are faſhioned like the teeth of a carnivorous animal; not flat and ribbed tranſverſely on their ſurface like thoſe of the modern elephant, but furniſhed with a double row of high and conic proceſſes, as if intended to maſticate, not to grind, their food. A third difference is in the thigh-bone, which is of great diſproportionable thickneſs to that of the elephant; and has alſo ſome other anatomical variations. Theſe foſſile bones have been alſo found in Peru and the Brazils; and when cut and poliſhed by the workers in ivory, appear in every reſpect ſimilar. It is the opinion of Dr Hunter, that they muſt have belonged to a larger animal than the elephant; and differing from it, in being carnivorous. But as yet this formidable creature has evaded our ſearch; and if, indeed, ſuch an animal exiſts, it is happy for man that it keeps at a diſtance; ſince what ravage might not be expected from a creature endowed with more than the ſtrength of the elephant, and all the rapacity of the tiger? See MAMMOTH.

Bone-Spavin. See FARRIERY, § xxvi.

BON-ESPERANCE, the ſame with the Cape of Good Hope. See GOOD HOPE.

BONET (Theophilus), an eminent phyſician born at Geneva, March 15, 1620. He took his degree in phyſic in 1453, after he had gone through moſt of the famous univerſities, and was for ſome time phyſician to the duke of Longueville. Meanwhile his ſkill in his profeſſion got him conſiderable practice; but being ſeized with deafneſs, it obliged him to retire from buſineſs, which gave him leiſure to collect all the obſervations he had made during a practice of 40 years. He wrote, 1. *Polyalthes ſive Theſaurus Medico-practico*, 3 vols. folio. 2. *Labyrinthi Medici extricati*. 3. *Medicini Septentrionalis Collatitia*; and other works.

BONFADIO (James), one of the moſt polite writers of the 16th century, was born in Italy, near the lake Garda. He was ſecretary to the cardinal de Bari, and after his death to the cardinal Ghinucci. He afterwards read public lectures on Ariſtotle's politics, and on rhetoric; and was made hiſtoriographer to the republic of Genoa. He applied himſelf to compoſe the annals of that ſtate, in which he wrote too ſatirically on ſome families. This creating him enemies who were reſolved to ruin him, they accuſed him of the unnatural ſin; and, as witneſſes were found to convict him of it, he was condemned to be burnt. Some ſay that this ſentence was executed; and others, that his puniſhment was changed, and that he was beheaded. This was in the year 1560. Upon the day of his execution he wrote a note to John Baptiſt Grimaldi, to teſtify his gratitude to thoſe who had endeavoured to ſerve him; and promiſed to inform them how he found himſelf in the other world, if it could be done without frightning them. But it does not appear that he performed his promiſe, any more than the many who had promiſed the like before him.—His hiſtory of Genoa is eſteemed. We have alſo ſome letters, ſome orations, and Latin and Italian poems of his, which were printed at Bologna in the year 1744, octavo.

BONFINIUS (Anthony), flouriſhed in the 15th century. He was a native of Aſcoli in Italy, and attached himſelf to the ſtudy of the belles lettres. Matthias Cowin king of Hungary, having heard of his learning, ſent for him, retained him, and ſettled upon him a penſion. He wrote 1. A hiſtory of Aſcoli; 2. A treatiſe of virginity and conjugal chaſtity; 3. An hiſtory of Hungary; and other works.

BONFERIUS (James), a learned Jeſuit, born at Dinant, in 1573. He wrote a commentary on the Pentateuch, and learned notes on the Onamaſticon of the places and towns mentioned in the Scripture. He died at Tournay in 1645, aged 70.

BONGARS (James), in Latin *Bongarſias*, a native of Orleans, was one of the moſt learned men of the 16th century. He applied himſelf to the ſtudy of critical learning, and was for near 30 years employed in the moſt important negociations of Henry IV. whoſe reſident he was ſeveral times at the courts of the princes of Germany, and at length his ambaſſador. He was of the proteſtant religion; and when very young, had the courage to write and poſt up in Rome a very ſpirited anſwer to a bull of Pope Sixtus V. The public is obliged to him for the edition of ſeveral authors who have written the Hiſtory of the expeditions to the Holy Land; he alſo publiſhed, among other works, an edition of Juſtin, in which he reſtored ſeveral paſſages that had been corrupted, by conſulting valuable manuſcripts, and added notes which explained many difficulties. He died in 1612, aged 58.

BONIFACE, the name of ſeveral eminent men, particularly of nine popes. To the firſt of theſe, who was choſen pope in 418, St Auguſtine dedicated his four books againſt the two epiſtles of the Pelagians. The third of that name prevailed upon the emperor Phocas to conſent that the title of *Univerſal Biſhop* ſhould be conferred on no other than the biſhop of Rome. Boniface IV. obtained from the ſame emperor, the pantheon, a famous heathen temple built by Agrippa, and converted it into a church which is now called "Our Lady della Rotunda." Several works are alſo attributed to him, but they appear to be ſpurious. Boniface VII. hath the title of *antipope*; becauſe in 974 he cauſed Benedict VI. to be ſtrangled in priſon, and after the election of Benedict VII. removed the treaſures of the church to Conſtantinople. He, however, at length returned after the death of Benedict, and cauſed his ſucceſſor John XIV. to be murdered; but died himſelf ſoon after, and was dragged naked by the feet about the ſtreets. Boniface VIII. canonized St Lewis in 1297, and in 1300 appointed the jubilee to be ſolemnized every 100 years after.

Boniface is alſo the name of a ſaint, who before he took that name was called *Winifred*, and was born at Kirton in Devonſhire. He choſe to go and preach the goſpel among the barbarous nations; and though created archbiſhop of Mentz, ſoon after reſigned his office, to go and preach in Eaſt Frieſland, where he was killed by the Pagans on the 5th of June 754. His letters were publiſhed by Senarius.

BONIFACIO, a town in the iſland of Corſica, beyond the mountains, near the ſtrait called *Bocca di Bonifacio*. It is well fortified, and pretty populous. E. Long. 9. 20. N. Lat. 41. 25.

BONIS NON AMOVENDIS, in law, is a writ directed to the ſheriffs of London, &c. charging them, that a perſon againſt whom judgment is obtained, and proſecuting a writ of error, be not ſuffered to remove his goods until the error is determined.

BONITO, in ornithology. See Scomber.

BONN, an ancient and ſtrong city of Germany, in the electorate of Cologn, and the uſual reſidence of the elector. It is of great conſequence in the time of war; becauſe it is ſituated on the Rhine, in a place where it can ſtop every thing that comes down that river. It is well fortified by the elector, who has a fine palace and beautiful gardens in the city. E. Long. 7. 5. N. Lat. 50. 44.

BONNA, (anc. geog.), one of the 50 citadels built by Druſus on the Rhine; ſuppoſed by ſome to be the ſame with the *Ara Ubionum*; now Bonn.

BONNEFONS (John), a Latin poet born at Clermont in Auvergne, and lieutenant-general of Bar ſur Seine, acquired great reputation by his *Pancharis*, and other poems. He died under the reign of Lewis XIII. He ought not to be confounded with John Bonnefons his ſon, another Latin poet.

BONNER (Edmund), biſhop of London, of infamous memory, was born at Hanley in Worceſterſhire, and generally ſuppoſed to be the natural ſon of one Savage a prieſt; and that prieſt was the natural ſon of Sir John Savage of Clifton in the ſame county. Strype, however, ſays, he was poſitively aſſured that Bonner was the legitimate offspring of a poor man, who lived in a cottage known to this day by the mame of *Bonner's place*. About the year 1512, he entered ſtudent of Broadgate Hall in Oxford. In 1519, he was admitted bachelor of the canon and civil law. About the ſame time he took orders, and obtained ſome preferment in the dioceſe of Worceſter. In 1525, he was created doctor of canon law. Having now acquired the reputation of a ſhrewd politician and civilian, he was ſoon diſtinguiſhed by cardinal Wolſey, who made him his commiſſary for the faculties, and heaped upon him a variety of church-preferments. He poſſeſſed at the ſame time the livings of Blaydon and Cherry-Burton in York-ſhire, Ripple in Worceſterſhire, eaſt Dereham in Norfolk, prebend of St Paul's, and the archdeaconry of Leiceſter. Bonner was with the cardinal at Caw-wood, when he was arreſted for high treaſon. After the death of that miniſter, he ſoon found means to inſinuate himſelf into the favour of Henry VIII. who made him one of his chaplains, and employed him in ſeveral embaſſies abroad, particularly to the pope. In 1532, he was ſent to Rome with Sir Edward Kame, to anſwer for the king, whom his holineſs had cited to appear in perſon or by proxy. In 1533, he was again diſpatched to pope Clement VII. at Marſeilles, upon the excommunication of king Henry on account of his divorce. On this occaſion he threatened the pope with ſo much reſolution, that his Holineſs talked of burning him alive, or throwing him into a caldron of melted lead; upon which Bonner thought fit to decamp. His infallibility did not foreſee that the man whom he thus threatened was predeſtined to burn heretics in England. In 1538, being then ambaſſador at the court of France, he was nominated biſhop of Hereford; but, before conſecration, was tranſlated to the ſee of London, and enthroned in April 1540—Henry VIII. died in 1547. at which time Bonner was ambaſſador with the emperor Charles V. During this reign he was conſtantly zealous in his oppoſition to the pope; and, in compliance with the king, favoured the reformation. Henry VIII. was not to be trifled with; but on the acceſſion of young Edward, Bonner refuſed the oath of ſupremacy, and was committed to the fleet; however, he ſoon thought fit to promiſe obedience to the laws, and was accordingly releaſed. He continued to comply with reformation; but with ſuch manifeſt neglect and reluctance, that he was twice reprimanded by the privy council, and in 1549, after a long trial, was committed to the Marſhalſea, and deprived of his biſhopric. The ſucceeding reign gave him ample opportunity of revenge. Mary was ſcarce ſeated on the throne before Bonner was reſtored to his biſhopric; and ſoon after appointed vicegerent and preſident of the convocation. From this time he became the chief inſtrument of papal cruelty: he is ſaid to have condemned no leſs than 200 Proteſtants to the flames in the ſpace of three years. Nor was this monſter of a prieſt more remarkable for his cruelty than his impudence. When Queen Elizabeth came to the crown, he had the inſolence to meet her, with the reſt of the biſhops, at Highgate. In the ſecond year of her reign, refuſing to take the oath of allegiance and ſupremacy, he was again deprived, and committed to the Marſhalſea; where he died in 1569, after ten years confinement. There cannot be a ſtronger inſtance of the comparative lenity of the Proteſtant church, than its ſuffering this miſcreant to die a natural death. Several pieces were publiſhed under his name.

BONNESTABLE, a town of Le Maine in France, which carries on a great trade in corn. E. Long. 0. 30. N. Lat. 48. 11.

BONNET, in a general ſenſe denotes a cover for the head, in common uſe before the introduction of hats. Bonnets are ſtill uſed in many parts of Scotland.

Bonnet, in fortification, a ſmall work conſiſting of two faces, having only a parapet with two rows of paliſadoes, of about 10 or 12 feet diſtance; it is generally raiſed before the ſaliant angle of the counterſcarp, and has a communication with the covered way, by a trench cut through the glacis, and paliſadoes on each ſide.

Bonnet à Pretre, Prieſt's Bonnet, in fortification, is an out-work, having at the head three ſaliant angles, and two inwards. It differs from the double tenaille only in this, that its ſides, inſtead of being parallel, are like the *queue d'aronde*, or ſwallow's tail, that is, narrowing, or drawing cloſe at the gorge, and opening at the head.

Bonnet, in the ſea-language, denotes an addition to a ſail; thus we ſay, lace on the bonnet, or ſhake off the bonnet.

BONNEVAL (Claudius Alexander Count de), known in the latter part of his life by the name of *Oſman Baſhaw*, deſcended from a family related to the blood-royal of France, entered himſelf at the age of 16 in the ſervice of that crown, and married the daughter of marſhal de Biron. He made the campaign in Flanders in 1690; but ſoon after left the French army, and entered into the imperial ſervice under prince Eugene, who honoured him with an intimate friendſhip. The intrigues of the Marquis de Prié, his inveterate enemy, ruined his credit, however, at the court of Vienna, and cauſed him to be baniſhed the empire. He then offered his ſervice to the republic of Venice and to Ruſſia; which being declined, his next tender was to the Grand Signior, who gladly received him: it was ſtipulated, that he ſhould have a body of 30,000 men at his diſpoſal; that a government ſhould be conferred on him, with the rank of Baſhaw of three tails, and a ſalary of 10,000 aſpers a-day; and that, in caſe of a war, he ſhould be commander in chief. The firſt expedition he engaged in after his arrival at Conſtantinople, was to quell an inſurrection in Arabia Petræa, which he happily effected; and at his return had large offers made him by Kouli Khan, but he did not chooſe to accept them. Some time after, he commanded the Turkiſh army againſt the emperor, over whoſe forces he gained a victory on the banks of the Danube. But ſucceſs does not always protect a perſon againſt diſgrace; for Bonneval, notwithſtanding his ſervice, was firſt impriſoned, and then baniſhed to the iſland of Chio. The ſultan, however, continued his friend; and the evening before his departure made him Baſhaw-general of the Archipelago, which, with his former appointment of beglerberg of Arabia, rendered him one of the moſt powerful perſons in the Ottoman empire. In this iſland he found a retirement quite agreeable to his wiſhes; but did not long enjoy it, being ſent for back, and made *topigi* or maſter of the ordnance, a poſt of great honour and profit. He died in this employment, aged 75, in 1747; and wrote the memoirs of his own life.

Bonneval, a town of France, in Beauce, with a fine Benedictine abbey. It is ſeated on the river Loire, in E. Long. 1. 30. N. Lat. 48. 10.

BONNEVILLE, a town of Savoy, ſituated on the north ſide of the river Arve, and ſubject to the king of Sardinia. E. Long. 6. 10. N. Lat. 46. 18.

BONNY, among miners, a bed of ore, differing only from a ſquat as being round, whereas the ſquat is flat. See Squat.

Bonny, a town of France in the Gatinois, ſeated at the confluence of a river of the ſame name with the Loire. E. Long. 2. 54. N. Lat. 47. 36.

BONONCINI (Giovanni), an eminent compoſer of muſic, for ſome time divided the opinions of the *conoſcenti* of Britain with reſpect to the comparative merits of himſelf and the great Handel, which gave occaſion for the following epigram, ſaid to have been written by Dr Swift:

> Some ſay that Signior Bononcini
> Compar'd to Handel's a mere ninny;
> Others aver, that to him Handel
> Is ſcarcely fit to hold the candle.
> Strange! that ſuch high diſputes ſhould be
> 'Twixt *Tweedle Dum* and *Tweedle Dee*.

There is one opera (Italian) publiſhed with his name prefixed to it, intitled *Pharnaces*; but whether the words, or only the muſic, are his compoſition, is uncertain; and indeed, in the general, the language of thoſe pieces written merely for muſical repreſentation, is ſo extremely paltry, and ſo oppoſite to every thing that can be deemed poetry, that the greateſt compliment that can be paid to the authors of them is, to ſuffer their names to lie buried in the ſhades of obſcurity.

BONONIA, (anc. geog.), a town of Gallia Belgica, ſuppoſed to be the *Portus Iccius* of Cæſar, and the *Geſſoriacum* of Mela, and to have had three different names, (Cluverius). Peutinger's map expreſsly calls Geſſoriacum *Bononia*. Now *Boulogne*. E. Long. 1. 30. Lat. 50. 40.

Bononia, a town of Italy, in the Gallia Ciſpadana; a name probably given by the Gauls, there being a *Bononia* in Gallia Belgica. Its ancient name when in the hands of the Tuſcans, who were expelled by the Gauls, was *Falſina*. In the 563d year of the city the Romans led a colony thither; which, about the beginning of the Actiac war, was increaſed by Auguſtus, and is the *Colonia Bononienſis* of Tacitus. Now *Bologna*; which ſee.

Bononia, a town of Panonia Inferior, between Murſa to the north-weſt, and Taurinum to the eaſt. Another Bononia, a town of Mœſia Superior, on the Danube; now *Bodon* in Bulgaria. See Bodon.

BONONIAN. See Bolonian.

BONOSCIANI, or Bonosiaci, an ancient branch of *Adoptiani*, in the fourth century, denominated from their leader Bonoſus, a biſhop of Macedonia. The Bonoſiani were prior to the Feliciani, and even to Neſtorius; whence ſome rather conſider them as a branch of Arians. They allowed Chriſt to be no otherwiſe the Son of God than by adoption.

BONPOURNICKEL, a coarſe kind of bread uſed in Weſtphalia. See Bread.

BONS-hommes, or *Bon-hommes*, a ſort of hermits of St Auguſtin, founded by F. de Paula. They were brought over into England in 1283, by Edmund earl of Cornwall, and ſettled at Aſhorug in Bucks, beſides which they had only one houſe more in Edingdon in Wiltſhire. They followed the rule of St Auſtin, and wore a blue habit.—The name is ſaid to have ariſen from Lewis XI. of France, who uſed to call F. de Paula, prior of the order, *Le bon homme*. Till then they had been called the *Minimi*, or the order of Grammont. See Albigenses.

BONTIA, wild olive of Barbadoes: A genus of the angioſpermia order, belonging to the didynamia claſs of plants; and in the natural method ranking under the 40th order, *Perſonatæ*. The calyx is quinquepartite; the corolla is bilabiated, the inferior lip tripartite and revolute; the plum is ovate and monoſpermous, with the apex turned to one ſide.

Of this genus there are two ſpecies, the daphnoides and the germinans. The firſt hath a woody ſtem and branches; riſing to the height of ten feet, with narrow, ſmooth, thickiſh leaves, crenated at the edges; and flowers from the ſides of the branches, ſucceeded by large oval fruit that ſometimes ripen in England. This ſpecies is greatly cultivated in the gardens at Barbadoes for making of hedges; for which purpoſe it is exceedingly proper, it being an evergreen of very quick growth. It is ſaid, that from cuttings planted there in the rainy ſeaſon, when they have immediately taken root, there has been a complete hedge, four or five feet high, in 18 months. The ſecond ſort has been reckoned by many botanic writers, to be a ſpecies of the mangrove tree, as it grows in ſwamps, which they alſo do. It riſes 14 or 16 feet high, ſending out ſeveral ſmall branches which incline downward toward the water, and as ſoon as they reach that, put out roots into the mud, whereby they propagate very faſt: theſe branches are garniſhed with leaves placed oppoſite; they are of a thick ſubſtance like thoſe of the bay tree about two inches long and one broad, very ſmooth on their ſurface: the flowers are white, and come out in ſpikes from the upper branches. This hath been alſo by ſome ſuppoſed to be the plant which produces the *Malacca-Bean* formerly kept in the ſhops. Theſe plants are eaſily propagated, either by ſeeds or cuttings, ſown or planted on a hot-bed; but they muſt be kept conſtantly in the ſtove.

BONVINCINO, called Le Moretto, (Aleſſandro), hiſtory and portrait painter, was born at Rovate in 1514. He was firſt the diſciple of Titian, under whoſe direction he ſtudied diligently for ſome years. But, having accidentally ſeen the deſigns of Raphael, he felt an elevation of mind that he never had before experienced. He therefore gave himſelf up entirely to ſtudy thoſe maſter-pieces of art and genius; and his obſervations were guided with ſuch judgment, as well as attention, that his improvement was truly ſurpriſing, and he became an exceeding good painter. His works were eagerly bought up, as being extremely admired for the tenderneſs of the penciling; for the correctneſs, and ſpirited expreſſion of the figures; for the neatneſs of the finiſhing; and for the rich variety of his draperies, which uſually conſiſted of velvets, damaſks, or ſattins, all copied after nature, and being wonderfully imitated. He was alſo equally excellent in portrait, and by many was placed in competition even with Titian. He died in 1564.

BONUS henricus. See Chenopodium.

BONZES, Indian prieſts. The Tonquineſe have a pagod or temple in each town; and each pagod has at leaſt two bonzes belonging to it: ſome have 30 or 40. Theſe bonzes, in order to diſtinguiſh themſelves from the laity, wear a chaplet about their necks conſiſting of 100 beads; and carry a ſtaff, at the end of which is a wooden bird. They live upon the alms of the people; yet are very charitably diſpoſed, and maintain ſeveral orphans and widows out of their own collections.

The bonzes of China are the prieſts of the Fohiſts, or ſect of Fohi. It is one of their eſtabliſhed tenets, that there are rewards allotted for the righteous, and puniſhments for the wicked, in the next world; and that there are various manſions in which the ſouls of men will reſide, according to their different degrees of merit. But, in order to deſerve the favour of heaven, the bonzes inſtruct the people to treat the prieſts with reſpect and reverence, to ſupport and maintain them, and to erect temples and monaſteries for them. They tell them, that, unleſs they comply with theſe injunctions, they will be cruelly tormented after death, and paſs through a diſagreeable variety of tranſmigrations: in ſhort, that they will be changed into mules, aſſes, rats, and mice.

The Chineſe bonzes, according to F. le Compte, are no better than a gang of diſſolute idle fellows. All their aim is to incite people to commiſerate their abject condition: to which end they have recourſe to ſeveral tricks and impoſtures. When the common arts of addreſs fail them, they try what public acts of penance will do. Some of them drag heavy chains 30 feet long after them; ſome ſit in the highway knocking their heads againſt flint ſtones; others ſet particular drugs on fire upon their heads: all theſe are ſeveral ways of drawing the attention and exciting the compaſſion of the people, and they ſeldom fail of ſucceſs.

The bonzes of Japan are, for the generality, gentlemen of the higheſt extraction; for when a gentleman of quality finds his family grow too numerous, nay, when he has only two ſons, he generally makes the youngeſt a bonze, to prevent all domeſtic broils and confuſion. Theſe prieſts are dreſſed in various colours; their apartments are very commodious, and ſituated in the healthieſt part of the country.

F. Navarette tells us, that the bonzes are obliged to chaſtity; and that, on the 2d of April 1667, a petty king of Canton had condemned 11 of them to be burnt alive for incontinence. He adds, that it was reported of an empreſs of the laſt reigning family, who had a particular kindneſs for the bonzes, that ſhe granted them a diſpenſation for the uſe of women during three days. The bonzes of China, according to the ſame author, are computed at 50,000.

BOOBY, in orinthology. See Pelicanus.

BOOK, the general name of almoſt every literary compoſition; but, in a more limited ſenſe, is applied only to ſuch compoſitions as are large enough to make a volume. As to the origin of books or writing, thoſe of Moſes are undoubtedly the moſt ancient that are extant: But Moſes himſelf cites many books which behoved to be written before his time.

Of profane books, the oldeſt extant are Homer's poems, which were ſo even in the time of Sextus Empiricus; though we find mention in Greek writers of ſeventy others prior to Homer; as Hermes, Orpheus, Daphne, Horus, Linus, Muſæus, Palamedes, Zoroaſter, &c.: but of the greater part of theſe there is not the leaſt fragment remaining; and of others, the pieces which go under their names are generally held, by the learned, to be ſuppoſititious.

Several ſorts of materials were uſed formerly in making books: Plates of lead and copper, the barks of trees, bricks, ſtone, and wood, were the firſt materials employed to engrave ſuch things upon as men were willing to have tranſmitted to poſterity. Joſephus ſpeaks of two columns, the one of ſtone, the other of brick, on which the children of Seth wrote their inventions and aſtronomical diſcoveries: Porphyry makes mention of ſome pillars, preſerved in Crete, on which the ceremonies preſerved by the Corybantes in their ſacrifices were recorded. Heſiod's works were originally written upon tables of lead, and depoſited in the temple of the Muſes, in Bœotia: The ten commandments, delivered to Moſes, were written upon ſtone; and Solon's laws upon wooden planks. Tables of wood, box, and ivory, were common among the ancients: When of wood, they were frequently covered with wax, that people might write upon them with more eaſe, or blot out what they had written. The leaves of the palm-tree were afterwards uſed inſtead of wooden planks, and the fineſt and thinneſt part of the bark of ſuch trees, as the lime, the aſh, the maple, and the elm; from hence comes the word *liber*, which ſignifies the inner bark of the trees: and as theſe barks are rolled up, in order to be removed with greater eaſe, theſe rolls were called *volumen*, a volume; a name afterwards given to the like rolls of paper or parchment.

Thus we find books were firſt written on ſtones, witneſs the Decalogue given to Moſes: Then on the parts of plants; as leaves, chiefly of the palm-tree; the rind and barks, eſpecially of the tilia, or phillyrea, and the Egyptian papyrus. By degrees wax, then leather, were introduced, eſpecially the ſkins of goats and ſheep, of which at length parchment was prepared: then lead came into uſe; alſo linen, ſilk, horn, and laſtly paper itſelf.

The firſt books were in the form of blocks and tables; but as flexible matter came to be wrote on, they found it more convenient to make their books in the form of rolls: Theſe were compoſed of ſeveral ſheets faſtened to each other, and rolled upon a ſtick, or *umbilicus*; the whole making a kind of column, or cylinder, which was to be managed by the umbilicus as a handle, it being reputed a crime to take hold of the roll itſelf: The outſide of the volume was called *frons*; the ends of the umbilicus, *cornua*, which were uſually carved, and adorned with ſilver, ivory, or even gold and precious ſtones: The title συλλαβος, was ſtruck on the outſide; the whole volume, when extended, might make a yard and a half wide, and fifty long. The form which obtains among us is the ſquare, compoſed of ſeparate leaves; which was alſo known, tho' little uſed, by the ancients.

To the form of books belongs alſo the internal œconomy, as the order and arrangement of points and letters into lines and pages, with margins and other appurtenants. This has undergone many varieties. At firſt the letters were only divided into lines; then into ſeparate words; which by degrees were noted with accents, and diſtributed, by points and ſtops, into periods, paragraphs, chapters, and other diviſions. In ſome countries, as among the orientals, the lines began from the right and ran leftward; in others, as the northern and weſtern nations, from left to right; others, as the Greeks, followed both directions, alternately going in the one, and returning in the other, called *bouſtrophedon*: In moſt countries, the lines run from one ſide to the other; in ſome, particularly the Chineſe, from top to bottom.

Multitude of BOOKS has been long complained of: the complaint is as old as Solomon, who lived three thouſand years ago: they are grown too numerous not only to procure and read, but to ſee, to learn the names of, or even to number. England has more to fear on this ſcore than other countries; ſince, beſides their own produce, they have for ſome years paſt drained their neighbours. However, as biſhop Caramuel's ſcheme miſcarried, which was to write about an hundred volumes in folio, and then prevail on the civil and military powers to oblige all their ſubjects to read them, we need not much regret the multitude of books.

As knowledge, however, is naturally advantageous, and as every man ought to be in the way of information, even a ſuperfluity of books is not without its uſe, ſince hereby they are brought to obtrude themſelves on us, and engage us when we had leaſt deſign. This advantage, an ancient father obſerves, we owe to the multiplicity of books on the ſame ſubject, that one falls in the way of one man, and another beſt ſuits the level or the apprehenſion of another. "Every thing that is written (ſays he) does not come into the hands of all perſons: perhaps ſome may meet with my books, who may hear nothing of others which have treated better of the ſame ſubject. It is of ſervice, therefore, that the ſame queſtions be handled by ſeveral perſons, and after different methods, though all on the ſame principles, that the explications of difficulties and arguments for the truth, may come to the knowledge of every one by one way or other." Add, that the multitude is the only ſecurity againſt the total loſs or deſtruction of books: it is this that has preſerved them againſt the injuries of time, the rage of tyrants, the zeal of perſecutors, and the ravages of barbarians; and handed them down, through long intervals of darkneſs and ignorance, ſafe to our days. *Solaque non norunt hæc monumenta mori.*

Scarcity of BOOKS. Of the ſcarcity and value of books during the ſeventh and many ſubſequent centuries, the following curious account is given by Mr Warton in his hiſtory of Engliſh Poetry, Vol. I.

"Towards the cloſe of the ſeventh century (ſays he), even in the papal library at Rome, the number of books was ſo inconſiderable, that pope Saint Martin requeſted Sanctamand biſhop of Maeſtricht, if poſſible, to ſupply this defect from the remoteſt parts of Germany. In the year 855, Lupus, abbot of Ferrieres in France, ſent two of his monks to pope Benedict III. to beg a copy of *Cicero de Oratore*, and Quintilian's Inſtitutes, and ſome other books: 'for (ſays the abbot) although we have part of theſe books, yet there is no whole or complete copy of them in all France.' Albert, abbot of Gemblours, who with incredible labour and immenſe expence had collected an hundred volumes on theological, and fifty on profane, ſubjects, imagined he had formed a ſplendid library. About the year 790, Charlemagne granted an unlimited right of hunting to the abbot and monks of Sithiu, for making their gloves and girdles of the ſkins of the deer they killed, and covers of their books. We may imagine that theſe religious were more fond of hunting than reading. It is certain that they were obliged to hunt before they could read: and at leaſt it is probable, that under theſe circumſtances, and of ſuch materials, they did not manufacture many volumes. At the beginning of the tenth century books were ſo ſcarce in Spain, that one and the ſame copy of the Bible, Saint Jerom's epiſtles, and ſome volumes of eccleſiaſtical offices and martyrologies, often ſerved ſeveral different monaſteries. Among the conſtitutions given to the monks of England by archbiſhop Lanfranc, in the year 1072, the following injunction occurs. At the beginning of Lent, the librarian is ordered to deliver a book to each of the religious: a whole year was allowed for the peruſal of this book; and at the returning Lent, thoſe monks who had neglected to read the books they had reſpectively received, are commanded to proſtrate themſelves before the abbot, and to ſupplicate his indulgence. This regulation was partly occaſioned by the low ſtate of literature which Lanfranc found in the Engliſh monaſteries. But at the ſame time it was a matter of neceſſity, and is in great meaſure to be referred to the ſcarcity of copies of uſeful and ſuitable authors. In an inventory of the goods of John de Pontiſſara, biſhop of Wincheſter, contained in his capital palace of Wulveſey, all the books which appear are nothing more than *Septendecem pecie librarum de diverſis ſcientiis*. This was in the year 1294. The ſame prelate, in the year 1299, borrows of his cathedral convent of St Swithin at Wincheſter, *Bibliam bene gloſſatam;* that is, the Bible with marginal Annotations, in two large folio volumes; but gives a bond for due return of the loan, drawn up with great ſolemnity. This Bible had been bequeathed to the convent the ſame year by Pontiſſara's predeceſſor, biſhop Nicholas de Ely: and in conſideration of ſo important a bequeſt, that is *pro bona Biblia dicti epiſcopi bene gloſſata*, and one hundred marks in money, the monks founded a daily maſs for the ſoul of the donor. When a ſingle book was bequeathed to a friend or relation, it was ſeldom without many reſtrictions and ſtipulations. If any perſon gave a book to a religious houſe, he believed that ſo valuable a donation merited eternal ſalvation; and he offered it on the altar with great ceremony. The moſt formidable anathemas were peremptorily denounced againſt thoſe who ſhould dare to alienate a book preſented to the cloiſter, or library of a religious houſe. The prior and convent of Rocheſter declare, that they will every year pronounce the irrevocable ſentence of damnation on him who ſhall purloin or conceal a Latin tranſlation of Ariſtotle' s Phyſics, or even obliterate the title. Sometimes a book was given to a monaſtery on condition that the donor ſhould have the uſe of it during his life; and ſometimes to a private perſon, with the reſervation that he who receives it ſhould pray for the ſoul of his benefactor. The gift of a book to Lincoln cathedral, by biſhop Repingdon, in the year 1422, occurs in this form, and under theſe curious circumſtances. The memorial is written in Latin with the biſhop's own hand, which I will give in Engliſh, at the beginning of Peter's Breviary of the Bible. ' I Philip of Repyndon, late biſhop of Lincoln, give this book, called *Peter de Aureolis*, to the new library to be built within the church of Lincoln: reſerving the uſe and poſſeſſion of it to Richard Tryſely, clerk, canon, and prebendary, of Miltoun, in fee, and to the term of his life; and afterwards to be given up and reſtored to the ſaid library, or the keepers of the ſame, for the time being, faithfully, and without delay. Written with my own hand, A. D. 1422." When a book was bought, the affair was of ſo much importance, that it was cuſtomary to aſſemble perſons of conſequence and character, and to make a formal record that they were preſent on this occaſion. Among the royal manuſcripts, in the book of the Sentences of Peter Lombard, an archdeacon of Lincoln has left this entry. ' This book of the Sentences belongs to maſter Robert archdeacon of Lincoln, which he bought of Geoffrey the chaplain, brother of Henry vicar of Northelkington, in the preſence of maſter Robert de Lee, maſter John of Lirling, Richard of Luda clerk, Richard the almoner, the ſaid Henry the vicar, and his clerk and others: and the ſaid archdeacon gave the ſaid book to God and ſaint Oſwald, and to Peter abbot of Barton, and the 'convent of Bardeu.' The diſputed property of a book often occaſioned the moſt violent altercations. Many claims appear to have been made to a manuſcript of Matthew Paris, belonging to the laſt-mentioned library; in which John Ruſſell, biſhop of Lincoln, thus conditionally defends or explains his right of poſſeſſion. ' If this book can be proved to be or to have been the property of the exempt monaſtery of St Alban in the dioceſe of Lincoln, I declare this to be my mind, that in that caſe I uſe it at preſent as a loan under favour of thoſe monks who belong to the ſaid monaſtery. Otherwiſe, according to the condition under which this book came into my poſſeſſion, I will that it ſhall belong to the college of the bleſſed Wincheſter Mary at Oxford, of the foundation of William Wykham. Written with my own hand at Buckdane, 1ſt Jan. A. D. 1488. Jo. Lincoln. Whoever ſhall obliterate or deſtroy this writing, let him be anathema.' About the year 1225, Roger de Inſula, dean of York, gave ſeveral Latin bibles to the univerſity of Oxford, with a condition that the ſtudents who peruſed them ſhould depoſite a cautionary pledge. The library of that univerſity, before the year 1300, conſiſted only of a few tracts, chained or kept in cheſts in the choir of St Mary's church. In the year 1327, the ſcholars and citizens of Oxford aſſaulted and entirely pillaged the opulent Benedictine abbey of the neighbouring town of Abingdon. Among the books they found there, were one hundred ſalters, as many grayles, and 40 miſſals, which undoubtedly belonged to the choir of the church; but beſides theſe, there were only twenty-two codices, which I interpret books on common ſubjects. And although the invention of paper, at the cloſe of the eleventh century, contributed to multiply manuſcripts, and conſequently to facilitate knowledge, yet even ſo late as the reign of Henry VI. I have diſcovered the following remarkable inſtance of the inconveniences and impediments to ſtudy, which muſt have been produced by a ſcarcity of books. It is in the ſtatutes of St Mary's college at Oxford, founded as a ſeminary to Oſeney abbey in the year 1446: ' Let no ſcholar occupy a book in the library above one hour or two hours at moſt; ſo that others ſhall be hindered from the uſe of the ſame.' The famous library eſtabliſhed in the univerſity of Oxford by that munificent patron of literature Humphrey Duke of Glouceſter contained only 600 volumes. About the commencement of the 14th century there were only four claſſics in the royal library at Paris. Theſe were one copy of Cicero, Ovid, Lucan, and Boethius. The reſt were chiefly books of devotion, which included but few of the fathers: many treatiſes of aſtrology, geomancy, chiromancy, and medicine, originally written in Arabic, and tranſlated into Latin or French: pandects, chronicles, and romances. This collection was principally made by Charles V. who began his reign in 1365. This monarch was paſſionately fond of reading; and it was the faſhion to ſend him preſents of books from every part of the kingdom of France. Theſe he ordered to be elegantly tranſcribed and richly illuminated: and he placed them in a tower of the Louvre, from thence called *La Toure de la Libraire*. The whole conſiſted of 900 volumes. They were depoſited in three chambers; which on this occaſion were wainſcotted with Iriſh oak, and cieled with cypreſs curiouſly carved. The windows were of painted glaſs, fenced with iron bars and copper wire. The Engliſh became maſters of Paris in the year 1425; on which event the Duke of Bedford, regent of France, ſent the whole library, then conſiſting of only 853 volumes, and valued at 2223 livres, into England; where perhaps they became the ground-work of Duke Humphrey's library juſt mentioned. Even ſo late as the year 1471, when Louis XI. of France borrowed the works of the Arabian phyſician Rhaſis from the faculty of medicine at Paris, he not only depoſited by way of pledge a quantity of valuable plate, but was obliged to procure a nobleman to join with him as ſurety in a deed, by which he bound himſelf to return it under a conſiderable forfeiture. The exceſſive prices of books in the middle ages affords numerous and curious proofs. I will mention a few only. In the year 1174, Walter, prior of St Swithin's at Wincheſter, afterwards elected abbot of Weſtminſter, a writer in Latin of the lives of the biſhops who were his patrons, purchaſed of the monks of Dorcheſter in Oxfordſhire, Bede's Homilies and St Auſtin's Pſalter, for twelve meaſures of barley, and a pall on which was embroidered in ſilver the hiſtory of St Birinus converting a Saxon king. Among the royal manuſcripts in the Britiſh muſeum there is Comeſtor's Scholaſtic Hiſtory in French; which, as it is recorded in a blank page at the beginning, was taken from the king of France at the battle of Poitiers; and being purchaſed by William Montague Earl of Saliſbury for 100 marcs, was ordered to be ſold by the laſt will of his counteſs Elizabeth for 40 livres. About the year 1400, a copy of John of Meun's *Roman de la Roze* was ſold before the palace-gate at Paris for 40 crowns, or L.33 6 6."

Books, *burning of*, was a kind of puniſhment much in uſe among the Romans, by legal ſentence: ſometimes the care of the execution was committed to *triumviri* appointed on purpoſe; ſometimes to the prætors, and ſometimes to the ædiles. Labienus, whom from his ſatirical ſpirit ſome have called *Rabienus*, is ſaid to have been the firſt who underwent the ſeverity of it. His enemies procured a *ſenatuſconſultum*, whereby all his books publiſhed during ſeven years were ordered to be collected and burnt. "The thing (ſays Seneca) then appeared new and ſtrange, to take revenge on learning!" *Res nova & inſueta! ſupplicium de ſtudiis ſumi.* Caſſius Servius, a friend to Labienus, hearing the ſentence pronounced, cried aloud, "That they muſt burn him too, ſince he had got all the books by heart:" *Nunc me vivum uri oportet, quia illos didici.* Labienus could not ſurvive his books, but ſhutting himſelf up in the tomb of his anceſtors, pined away, and was buried alive. Divers other ancient teſtimonies concerning the burning of books are given in Reimm. Idea Syſt. Antiq. Liter. p. 389.

Book is alſo uſed for a part or diviſion of a volume or large work. In this ſenſe we ſay, the *book of Geneſis*, the *firſt book of Kings*, the *five books of Moſes*, &c. The Digeſt is contained in fifty books, the Code in twelve books.

Books are uſually ſubdivided into chapters, ſometimes into ſections or paragraphs: accurate writers quote chapter and book.

Ever-laſting-Book.—We find in Signior Caſtaquo's account of the aſbeſtus, a ſcheme for the making of a book, which, from its imperiſhable nature, he is for calling the *book of eternity*. The leaves of this book were to be of the aſbeſtus paper, the covers of a thicker ſort of work of the ſame matter, and the whole ſewed with thread ſpun from the ſame ſubſtance. The things to be commemorated in this book were to be written in letters of gold; ſo that the whole matter of the book being incombuſtible, and everlaſtingly permanent againſt the force of all the elements, and ſubject to no changes from fire, water, or air, muſt remain for ever, and always preſerve the writing committed to it. He carried this project ſo far towards execution, as to find a way of making a ſort of paper from the aſbeſtus, which was ſo tractable and ſoft, that it very well reſembled a thin parchment; and this, by the ſame proceſs was capable of being thickened or thinned at pleaſure, and in either ſtate equally reſiſted the fire. The covering of the thinneſt kind of this paper with fire, only makes it red hot and very clear, the fire ſeeming to paſs through it without waſting or altering any part of it. Copper, iron, or any other metal except gold or ſilver, expoſed to the ſame degree of fire in the ſame thin plates, would be found not to bear it in this manner, but to ſcale and burn it into ſcoriæ at the ſurface, which this ſtone does not.

Book-Binding. The art of gathering together and ſewing the ſheets of a book, and covering it with a back, &c. It is performed thus: The leaves are firſt folded with a folding-ſtick, and laid over each other in the order of the ſignature: then beaten on a ſtone with an hammer, to make them ſmooth and open well; and afterwards preſſed. They are ſewed upon bands, which are pieces of cord or packthread; ſix bands to a folio book; five to a quarto, octavo, &c.; which is done by drawing a thread through the middle of each ſheet, and giving it a turn round each band, beginning with the firſt and proceeding to the laſt. After this the books are glued, and the bands opened and ſcraped, for the better fixing the paſteboards; the back is turned with a hammer, and the book fixed in a preſs between two boards, in order to make a grove for fixing the paſteboards; theſe being applied, holes are made for fixing them to the book, which is preſſed a third time. Then the book is at laſt put to the cutting preſs betwixt two boards; the one lying even with the preſs, for the knife to run upon; the other above it, for the knife to run againſt: after which the paſteboards are ſquared.

The next operation is the ſprinkling the leaves of the book; which is done by dipping a bruſh into vermilion and ſap-green, holding the bruſh in one hand, and ſpreading the hair with the other; by which motion the edges of the leaves are ſprinkled in a regular manner, without any ſpot being bigger than the other.

Then remains the covers, which are either of calf-ſkin or ſheep-ſkin: theſe being moiſtened in water, are cut out to the ſize of the book; then ſmeared over with paſte made of wheat-flour; and afterwards ſtretched over the paſteboard on the outſide, and doubled over the edges withinſide; after having firſt taken off the four angles, and indented and platted the cover at the head-band: which done, the book is covered, and bound firmly between two boards, and then ſet to dry. Afterwards it is waſhed over with a little paſte and water, and then ſprinkled with a fine bruſh, unleſs it ſhould be marbled; when the ſpots are to be made larger by mixing the ink with vitriol. After this the book is glazed twice with the white of an egg beaten, and at laſt poliſhed with a poliſhing iron paſſed hot over the glazed cover.

BOOK-KEEPING.

Is the art of recording mercantile tranſactions in a regular and ſyſtematic manner.

1. A merchant's books ſhould contain every particular which relates to the affairs of the owner. They ſhould exhibit the ſtate of all the branches of his buſineſs, the connection of the different parts, the amount and ſucceſs of the whole. They ſhould be ſo full and ſo well arranged, as to afford a ready information in every point for which they may be conſulted.

The matter which the books ſhould contain is comprehended under the three following heads: Firſt, The debts which are owing to the owner, and the debts which he owes to others. Secondly, The goods and other articles of property which belonged to him; the quantity and value ſold, or otherwiſe diſpoſed of; and the quantity and value which ſtill remain in his poſſeſſion. Thirdly, The amount of his ſtock when the books were opened; the profits he has obtained, and the loſſes he has ſuffered, ſince; and the amount of his ſtock at preſent.

That method of book-keeping which anſwers theſe purpoſes moſt clearly and conciſely, is the beſt. The Italian method, by *double entry*, is generally preferred; at leaſt, it is founded upon the moſt univerſal principles, and is the moſt convenient in extenſive and complicated buſineſs: and the accountant who underſtands it, will find little difficulty in following, or even in inventing other methods that are better accommodated to any particular purpoſe.

The Italian method requires three principal books; the Waſte-Book, Journal, and Leger.

Sect. I. *Of the* Waste-Book.

2. The waſte-book, or day-book, contains an exact regiſter of all occurrences in buſineſs in the ſame order as they take place. It begins with an inventory of every thing belonging the owner, a liſt of the debts due to him, and of the debts he owes to others: It is carried on with a full relation of all the money he receives or pays; of all the goods he buys or ſells; and of every other occurrence in his buſineſs. Each article ſhould be entered as ſoon as the tranſaction takes place, and ſhould be clearly expreſſed in the plaineſt language. It ſhould require no ſupply from the accountant's memory, but ſhould be fully intelligible to any perſon, however unacquainted with the buſineſs: at the ſame time, it ſhould be written with all convenient brevity; and, therefore, ſometimes refers to invoices and other accounts, for particulars. The accountant's firſt care ſhould be to have nothing defective or ambiguous; his ſecond, to have nothing ſuperfluous.

3. The date is written in text on the top of each page. The articles are ſeparated from each other by a line; and the tranſactions of one day are ſeparated from thoſe of another by a double line, in the middle of which there is left a blank ſpace for inſerting the day of the month. This book muſt be kept with the greater care, as it contains the materials from which the other books are compoſed; and any error or defect will occaſion a like one in the others. Beſides, it is the book whoſe authority is truſted to, and which muſt be exhibited to judges, or arbiters, when an account is diſputed. As the journal is filled up from the waſte-book, the authority of the former is eſteemed more authentic, unleſs there be an obvious miſtake through hurry: and either of theſe books is depended on rather than the leger, which, from its form, is more liable to error, and may be more eaſily vitiated by a fraudulent deſign.

4. As the waſte-book contains the whole ſubſtance of the buſineſs, it may be applied ſo as to afford any information that can be wanted: but the labour of conſulting it would be very great. For inſtance, if it were required to know how much any perſon owes us, we muſt look over the book from the beginning, and mark down every article in which we have dealt with him; or, if it were required to know what quantity of goods we ſhould have on hand, we muſt look over the whole book, and mark down every article bought or ſold. This operation would not only be found very tedious, but much expoſed to the riſk of omiſſions. To prevent theſe inconveniences, another book is uſed, in which the articles are arranged in a methodical order. This book is called the *Leger*, and we ſhall conſider it next; becauſe the journal, though it comes before it in the order of writing, cannot be well underſtood, till the nature of the leger be explained.

Sect. II. *Of the* Leger.

5. In the leger, articles of the ſame kind are collected together; and, for that purpoſe, it is divided into many accounts, under which the different branches of buſineſs are arranged. Each account is introduced by a proper title, to explain the nature of the articles it contains; and articles of oppoſite kinds, which belong to the ſame account, are placed on the oppoſite pages of the ſame folio: for inſtance, money received on the one ſide, and money paid on the other; or goods bought on the one ſide, and goods ſold on the other. The left-

hand page is called the *Debtor* or *Dr.* ſide of the account, and the right-hand page the *Creditor* or *Cr.* ſide. The difference between the ſums of the Dr. and Cr. ſides is called the *Balance*.

Accounts in the leger are of three kinds, which anſwer to the three purpoſes of book-keeping mentioned § 1.

6. Firſt, Perſonal Accounts. It is neceſſary to open an account for every perſon or company with whom there are any dealings on credit. At opening the books, if they be indebted to the owner, the debt is entered on the Dr.; but, if he be indebted to them, it is entered on the Cr. During the courſe of the buſineſs, goods ſold on truſt, money paid, and every thing for which they are accountable to him, is entered on the Dr.; but goods bought on truſt, money received, and every thing for which he is accountable to them, is entered on the Cr. The balance ſhows how much they owe him, when the Dr. ſide is greateſt; and how much he ows them, when the Cr. ſide is greater.

7. Secondly, Real accounts. By this we underſtand accounts of property of whatever kind, ſuch as ready money, goods, houſes, lands, ſhips, ſhares in public companies, and the like.

The account of ready money is intitled *Caſh*. On the Dr. ſide, the money on hand at opening the books is entered, and afterwards every article of money received. On the Cr. ſide, there is entered every article of money paid out; and the balance ſhows how much ought to be on hand. The ſum of the Dr. ſide of this account is always greater than that of the Cr. ſide.

8. Accounts of goods are generally ruled with inner columns for entering the quantities. When the books are opened, the goods on hand are entered on the Dr. ſide of the reſpective accounts; the quantities being placed in the inner, and the values in the outer column. Goods bought are entered in the ſame manner, and goods ſold are entered on the Cr. ſide; the quantities and values being placed in the proper columns. Charges laid out on goods are entered on the Dr. ſide; and, when an incidental advantage ariſes from them, ſuch as public bounty, it is entered on the Cr.

If the ſums of the inner columns on the oppoſite ſides be equal, it ſhows that the goods are all ſold, and then the balance of the money-columns ſhows the gain or loſs. If the Cr. ſide be greater, it is gain; if the Dr. ſide be greater, it is loſs. If the ſum of the inner column be greater on the Dr. ſide, it ſhows that part of the goods are on hand; and their value muſt be added to the ſum of the Cr. ſide, in order to determine the gain or loſs.

9. If there be two or more kinds of the ſame ſort of goods they may be entered in the ſame account, allowing as many inner columns as there are kinds, and entering the quantities of each kind in the inner column reſerved for it. This method exhibits the gain or loſs on the whole goods; but does not ſhow how much of it ariſes from each kind.

Or, a ſeparate account may be opened for each kind, diſtinguiſhing the titles by the qualities, or by ſome other mark. Thus, one account may be kept for fine linen, another for coarſe linen; one for port-wine crop 1787, another for port-wine crop 1788; one for rum from Jamaica, another for rum from Barbadoes. This method ſhows the gain or loſs on each kind.

When there are more kinds than can be conveniently introduced in the ſame account, they may be divided into ſeveral claſſes, each claſs being placed in a ſeparate account; and the particular kinds diſtinguiſhed in inner columns. Thus the account of fine linen may be divided into ſeveral columns, for different kinds, diſtinguiſhed by the number of threads in the breadth, or by any other convenient character.

10. Accounts of ſhips contain on the Dr. the value of the ſhip when the books are opened, and all expences laid out thereon; on the Cr. all freights received. In like manner, accounts of houſes or lands have the value of the ſubject, and all repairs, or other charges, entered on the Dr. and all rents or other profits received on the Cr. If the ſubject be ſold in whole or in part, the ſale is entered on the Cr. And the balance, after valuing the ſubject (if any) on hand, ſhows the gain or loſs.

Accounts of property in the public funds, or ſhares in companies, public or private, contain the value, or money paid in, on the Dr. and the dividends received on the Cr. and are balanced as other real accounts.

Some perſons open accounts for houſehold furniture, plate, jewels, books, or the like. The entries on theſe accounts are made in the ſame manner.

In general, real accounts contain the value of the property, and all charges, on the Dr. and the ſales and other returns on the Cr. When the account is to be balanced, if any property remains, the value thereof is placed on the Cr.; and then the balance ſhows the loſs or gain, according as the Dr. or Cr. ſide is greateſt.

11. Thirdly, Accounts of STOCK, PROFIT and LOSS, and its ſubſidiary accounts, which are ſometimes called *fictitious accounts*.

The *ſtock* account contains on the Dr. the amount of the debts which the owner owes when the books are opened; and on the Cr. the amount of ready money, goods, debts, and property of every kind belonging to him: therefore the balance ſhows what his nett ſtock is; or, in caſe of bankruptcy, how much his debts exceed his effects. There is nothing further entered on this account till the books are balanced: and then, if the buſineſs has yielded profit, the nett gain is entered on the Cr.; if it has been unſucceſsful, the nett loſs is entered on the Dr.: after which, the balance ſhows the nett ſtock at the time the books are cloſed.

12. The *Profit and Loſs* account contains every article of gain on the Cr. and every article of loſs on the Dr. The balance ſhows the nett gain or loſs, and is transferred to the proper ſide of the ſtock-account, as mentioned above. This account is partly compoſed of articles that occur while the books are running. For example, legacies received are entered on the Cr. goods deſtroyed on the Dr. The reſt of the articles are thoſe of gain and loſs, ariſing from the real accounts, which are collected when the books are balanced.

13. It has been found convenient to open ſeveral ſubſidiary accounts, in order to ſhorten and methodiſe that of profit and loſs. Theſe contain certain articles of gain or loſs, which may be reduced under diſtinct heads. They are in effect ſo many parts of the profit and loſs account, and their balances are entered on the proper ſide of that account when the books are cloſed. The chief of theſe accounts are the following.

Intereſt account, Which contains on the Dr. ſums paid or incurred for intereſt; and on the Cr. ſums received, or become due for the ſame.

Commiſſion account, Which contains on the Cr. articles of gain received or owing us for our trouble in tranſacting buſineſs for others. There are ſeldom any entries on the Dr.

Charges merchandize, Which contains on the Dr. all charges paid or incurred on the buſineſs, which do not belong to any particular account, as ſhop-rent, public burdens for trade, clerks wages, poſtages, and the like. If any of theſe ſhould afterwards be charged to ſome other account, the ſum ſo charged is entered on the Cr.

Proper expences, Which contains on the Dr. money or any thing elſe, withdrawn from the trade for our private uſe. There are ſeldom any entries on the Cr. The amount of this account, as well as the former, is not properly leſs; but as it has the ſame effect in diminiſhing the ſtock, it is placed in the ſame manner to to the Dr. of profit and loſs.

Loſs by bad debts, Which contains on the Dr. ſuch debts as we reckon deſperate; and on the Cr. any of theſe which may happen to be unexpectedly recovered.

Account of abatements, Which contains on the Dr. diſcounts allowed by us on payments received; on the Cr. diſcounts (if any) allowed to us on payments made. It is particularly uſeful in retail buſineſs, where diſcounts are often given, to ſhow how much they amount to.

Inſurance account, Which contains on the Cr. premiums received for making inſurances; and, on the Dr. loſſes ſuſtained on the ſame. There may be ſeveral accounts of this kind, ſuch as inſurance againſt ſea-hazard, which is the moſt common; inſurance againſt fire; inſurance of lives; and inſurance of debts. The balance ſhows the gain or loſs which ariſes from being concerned in inſurance.

More or fewer of theſe accounts may be uſed, accorcording as the articles are frequent; and others may be invented to ſuit the purpoſes of the buſineſs which the books are kept for.

14. Every ſimple tranſaction in buſineſs belongs to two accounts, and muſt be entered on the Dr. of the one and on the Cr. of the other. Thus, when a perſon becomes indebted to us, the article he owes muſt be entered on the Dr. of his account; and, if it be for money paid him, it is alſo entered on the Cr. of caſh; if for goods ſold, it is entered on the Cr. of the account of goods; if for any thing delivered him by another perſon at our deſire, it is entered on the Cr. of the deliverer's account; if for any wager or bargain, by which we are gainers, it is entered on the Cr. of profit and loſs. Thus, in whatever way the debt ariſes, it is entered on the Cr. of ſome other account, as well as on the Dr. of the perſon's account who owes it.

In like manner, when we become indebted to any perſon, the article we owe muſt be entered on the Cr. of his account. If it be for money received, it is alſo entered on the Dr. of caſh; if for goods bought, it is entered on the Dr. of the account of goods; if for any thing delivered to another perſon at our deſire, it is entered on the Dr. of the receiver's account; and if it be in conſequence of a loſing bargain, it is entered on the Dr. of profit and loſs.

Again, when goods are received, the tranſaction is entered on the Dr. of the account of goods. If they be bought for ready money, it is alſo entered on the Cr. of caſh; if on truſt, it is entered on the Cr. of the ſeller; if they be exchanged for other goods, it is entered on the Cr. of the goods delivered; if they be obtained by ſome profitable buſineſs, without any return, it is entered on the Cr. of profit and loſs.

When goods are delivered, the tranſaction is entered on the Cr. of the account of goods; and, if they be ſold for ready money, it is alſo entered on the Dr. of caſh; if on credit, it is entered on the Dr. of the purchaſer; if exchanged for other goods, it is entered on the Dr of the goods received; and, if they be given gratis, or deſtroyed, it is entered on the Dr. of profit and loſs.

Laſtly, When any article of loſs occurs, the tranſaction is entered on the Dr. of profit and loſs; and as we muſt either pay it in money or goods, or remain indebted to ſome perſon for it, it muſt be entered on the Cr. of Caſh, or of goods delivered, or of the perſon intitled to receive it. And, when an article of gain occurs, it is entered on the Cr. of profit and loſs, and alſo on the Dr. of caſh or goods, if money or goods be received; and on the Dr. of the perſon accountable for it, if not immediately paid.

Thus, every article in any account, whether perſonal or real, or belonging to profit and loſs, correſponds to ſome other article on the oppoſite of a different account. The ſame ſum is entered on the Dr. of one account and on the Cr. of the other; and it follows from this, that, *If if all the accounts in the leger be added, the amount of the ſums of the Dr. will be equal to thoſe of the Cr.*

Sect. III. *Of the* JOURNAL.

15. THE journal is a fair record of all the tranſactions compiled from the waſte-book, in the ſame order as they ſtand there; but expreſſed in a technical ſtyle, that it may be transferred to the leger with more eaſe.

When we are to enter any article in the journal, we muſt conſider which accounts in the leger it will require to be placed to, both on the Dr. and Cr. and write [*the former account*] *Dr. to* [*the latter account*]; then we annex an explanation of the article, and place the ſum in the money-column.

EXAMPLE.

Waſte-book.) Sold for ready money, 30 yards linen, at 3 s. L. 4. 10 —

Journal.) *Caſh Dr. to Linen*. Sold 30 yards, at 3 s. L. 4 10 —

Here we conſider, that the article muſt be entered on the Dr. of caſh, becauſe money is received; and on the Cr. of linen, becauſe linen is delivered: Therefore we write *Caſh Dr. to Linen*, to which we annex the nature of the tranſaction. The article thus entered is called a *journal-poſt*; *Caſh* is called the *Dr.*; *Linen* the *Cr.*; the words "Caſh Dr. to Linen," the *Entry*, and the following words the *Narration*.

The purpoſe of expreſſing the article in this form, is to point out the accounts in the leger, to which it will require to be poſted, and thereby enable the accountant to write the leger with more eaſe than he could do if it were filled up immediately from the waſte-book.

The learner will be able, from this example, to enter any ſimple article in the journal, provided he knows the accounts to which it ſhould be poſted on the Dr. and Cr. of the leger. This muſt be collected from the deſcription of the leger accounts already given § 6—13. and the nature and tendency of the article.

16. General Rules *for the* Journal-entries.

I. *Every thing received, or perſon accountable to us, is* Dr.

II. *Every thing delivered, or perſon to whom we are accountable, is* Cr.

17. As the whole art of writing the journal depends on a proper choice of the Drs. and Crs. we ſhall give ſome particular rules for the moſt common caſes, and a few examples for the illuſtration and practice of each.

Rule I. *The perſon to whom any thing is delivered is* Dr. *to the thing delivered, when nothing is received in return.*

Therefore when money is paid, the receiver is Dr. to caſh.

When goods or other property is ſold on credit, the purchaſer is Dr. to the thing ſold. Thus,

Waſte-book.) Paid John Bell in full	L.52 — —
Journal). *John Bell Dr. to Caſh*, paid him in full	52 — —
Waſte-book.) Sold 50 yards cloth to J. Hill, at 12s.	30 — —
Journal.) *J. Hill Dr. to Cloth*, ſold him 50 yards, at 12s	30 — —

18. Rule II. *A thing received is* Dr. *to the perſon from whom it is received, when nothing is delivered in return.*

Therefore, when money is received, Caſh is Dr. to the payer: when goods are bought, the goods are Dr. to the ſeller. Thus,

Waſte-book.) Received from Thomas Gay in full	L.72 — —
Journal.) *Caſh Dr. to Thomas Gay*, received in full	72 — —
Waſte-book.) Bought from J. Hawley 60lb. wool, at 9d	2 5 —
Journal.) *Wool Dr. to J. Hawley*, bought 60lb. at 9d	2 5 —

19. Rule III. *A thing received is* Dr. *to the thing given for it.*

Therefore goods bought for ready money are Dr. to caſh.

When goods are ſold for ready money, Caſh is Dr. to the goods.

When goods are bartered, the goods received are Dr. to the goods delivered. Thus,

Waſte-book.) Bought for ready money 10 hds. wine, at L.15	L.150 — —
Journal.) *Wine Dr. to Caſh*, bought 10 hds. at L. 15	150 — —
Waſte-book.) Sold for ready money 100 gallons rum, at 9s	45 — —
Journal.) *Caſh Dr. to Rum*, ſold 100 gallons, at 9s	45 — —
Waſte-book.) Bartered 3 hds. wine, at L.15, for 100 gallons rum, at 9s	45 — —
Journal.) *Rum Dr. to Wine*, received 100 gals. at 9s in barter for 3 hds. at L.15	45 — —

20. Rule IV. *Goods and other real accounts are* Dr. *for all charges laid out on them. If money be laid out, they are* Dr. *to Caſh; if any thing elſe be delivered, they are* Dr. *to the thing delivered; if the charge be taken in truſt, they are* Dr. *to the perſon to whom it is due.* Thus,

Waſte-book.) Paid for repairs to ſhip Traffick	L.18 — —
Journal.) *Ship Traffick Dr. to Caſh*, paid for repairs	18 — —
Waſte-book.) Delivered wood from my timber-yard for repairing the Angel-tavern	15 — —
Journal.) *Angel-tavern Dr. to Wood*, delivered for repairing the ſame	15 — —
Waſte-book.) Due to William Carpenter for repairs to the Angel-tavern	12 — —
Journal.) *Angel-tavern Dr. to William Carpenter*, due him for repairs	12 — —

21. Rule V. *When rents of houſes or lands, freights of ſhips, bounties on goods, or any other profits from real accounts are received, Caſh is* Dr. *to the account from which the profit ariſes: if any thing beſides money be received, the article received is* Cr.: *if they remain unpaid, the perſon who owes them is* Dr. Thus,

Waſte-book.) Received freight of the ſhip Traffick for a voyage to London	L.35 — —
Journal.) *Ship Traffick Dr. to Caſh*, received freight to London	35 — —
Waſte-book.) Received 100 barrels ſalmon, being the rent of Inver fiſhery, at 52s.	260 — —
Journal.) *Salmon Dr. to Inver fiſhery*, received the rent, being 100 barrels, at 52s	260 — —
Waſte-book.) John Public owes me a year's rent of the Angel-tavern	52 — —
Journal.) *John Public Dr. to Angel-tavern*, for a year's rent due by him	52 — —

22. Rule VI. *When an article of loſs occurs, Profit and Loſs, or ſome ſubſidiary account, is* Dr. *If the loſs be paid in ready money, it is* Dr. *to Caſh; if it be paid in any thing elſe, it is* Dr. *to the thing delivered. If it remain unpaid, it is* Dr. *to the perſon to whom it is owing.* Thus,

Waſte-book.) Given my daughter at her marriage	L.500 — —
Journal.) *Profit and Loſs Dr. to Caſh*, given my daughter at her marriage	500 — —
Waſte-book.) Taken for family uſe from my granary 6 buſh. meal, at 6s 8d	2 — —

Journal.) *Profit and Loſs* [or *Proper expences*] *Dr. to Meal*, taken for family uſe, 6 buſhs. at 6s 8d 2 — —

Waſte-book.) Due James Rich for a year's intereſt on L.1000, at 4 *per cent.* 40 — —

Journal.) *Profit and Loſs* [or *Intereſt account*] *Dr. to James Rich*, due him a year's intereſt on L.1000 at 4 *per cent.* 40 — —

23. Rule VII. *When an article of gain occurs, that is not immediately connected with any real account, Caſh, the article received, or the perſon accountable for it, is* Dr. *to Profit and Loſs, or to ſome ſubſidiary account.*

Thus,

Waſte-book). Received in a gift from my father L. 100 — —

Journal.) *Caſh Dr. to Profit and Loſs*, received from my father. 100 — —

Waſte-book.) Received in like manner at opening ſhop, 100 yards cloth at 12s 60 — —

Journal.) *Cloth Dr. to Profit and Loſs*, received from my father at opening ſhop 100 yards, at 12s 60 — —

Waſte-book.) James Barbour owes me a year's intereſt of L. 1000 50 — —

Journal.) *James Barbour Dr. to Profit and Loſs* [or *Intereſt account*] due by him for a year's intereſt of L. 1000 50 — —

24. Rule VIII. *When one perſon pays money, or delivers any thing elſe to another on our account, the perſon who receives it is* Dr. *to the perſon who pays it.* Thus,

Waſte-book.) James Goldſmith has paid the bank of N. America on my account L 100 — —

Journal. *Bank of N. Ameri. Dr. to James Goldſmith*, paid them by him 100 — —

Waſte-book.) Arthur Young has delivered James Baker 100 quarters wheat, for which I am to account to him, at 30s 150 — —

Journal.) *James Baker Dr. to Arthur Young*, for 100 quarters wheat delivered him on my account, at 30s 150 — —

Payments of this kind are often tranſacted by bills of exchange.

25. Theſe examples will make the learner acquainted with the form of the Journal, and the rules extend to the greateſt part of the ſimple tranſactions that occur in domeſtic trade. We may obſerve, that the technical ſenſe of the words *Dr.* and *Cr.* has an analogy to their meaning in common language, but is not preciſely the ſame. Thus, in *Ex.* 1. Rule VIII. the journal-entry is, *Bank of N. America Dr. to James Goldſmith*; by which we are not to underſtand that the bank is indebted to James Goldſmith; for a debt between them has no connection with our buſineſs; and therefore ought not to be entered in our books: the meaning of the entry is, that the bank becomes indebted to us by the tranſactions narrated; and that we become indebted to James Goldſmith by the ſame.

26. An article which contains more Drs. or more Crs. than one, is called a *complex poſt*. The form of theſe will appear from the following examples.

Ex. 1.] Sold William Drapier,
25 pieces cloth, at L. 15
per piece L. 375 — —
130 ſtones wool, at 5s 6d
per ſtone - 35 15 —
———— L 410 15 —

If the two articles ſold to William Drapier were entered ſeparately in the waſte-book, and transferred to the journal by Rule I. they would ſtand thus;

William Drapier Dr. to Cloth, ſold him
25 pieces, at L. 15 - - L 375 — —
William Drapier Dr. to Wool, ſold him
150 ſtones, at 5s 6d - - 35 15—

And if theſe were poſted to the leger, there would be two articles placed to the Dr. of William Drapier, one to the Cr. of Cloth, and one to the Cr. of Wool.

But the ſales may be entered in the form of one complex journal poſt, as follows:

William Drapier Dr. to Sundries,
To Cloth, for 25 pieces,
at L. 15 L 375 — —
To Wool, for 130 ſtones,
at 5s and 6d - - 35 15 —
———— L 410 15 —

And then there is only one article on the Dr. of William Drapier in the leger.

Ex. 2.] Sold 10 pieces cloth to W. Drapier,
at L. 15 L. 150 — —
12 ditto to J.
Mercer, at do 180 — —
— ———— L 330 — —
22

This example alſo falls under Rule I. But whereas there was one Dr. and two Crs. in the former example, there are two Drs. and one Cr. in this: William Drapier and John Mercer, the purchaſers, are Drs. for their reſpective quantities; and cloth, which is the only thing delivered, is Cr. for the whole quantity. The journal poſt is,

Sundries Drs. to Cloth,
W. Drapier, for 10 pieces, at 15l.
L 150 — —
J. Mercer, for 12 ditto at 15l. 180 — —
— ———— L 330 — —
22.

Ex. 3.] Bought from H. Hood,
5 puncheons rum, at L 42, L 210 — —
3 hds. claret, at 33, 99 — —
2 pipes Madeira, at 56, 112 — —
———— L 421 — —

This example falls under Rule II. The articles received, rum, claret, and Madeira, are Drs.; and the perſon from whom they are received is the only Cr.

Sundries Dr. to Henry Hood,
Rum, for 5 puncheons, at 42l. L 210 — —
Claret, for 3 hds, at 33, 99 — —
Madeira, for 2 pipes, at 56, 112 — —
———— L 421 — —

Ex. 4.] Bt. 50 qrs. wheat from J.
Tull, at 35s L 87 10 —
12 from S. Ellis, 36s 21 12 —
— ———— L 109 2 —
62

This example alſo falls under Rule II. There is only one Dr. wheat being the only thing received; and two Crs. becauſe it is received from different perſons.

Wheat Dr. to Sundries.

To *J. Tall*, for 50 qrs. at 35s	L87 10 —	
To *E. Ellis*, for 12 qrs. at 36s	21 12 —	
62		L 109 2 —

In like manner, examples might be given of complex poſts under every rule, which contained either ſeveral Drs. or ſeveral Crs.; but as it is unneceſſary to enlarge ſo far, we ſhall only add a few examples of caſes, in which the different parts of the complex article fall under different rules.

Ex. 5.] Sold 150 qrs. beans to A. Arnot,

at 13s 4d	L. 100 — —
75 ditto to S. Berry, at 13s 4d	50 — —
18 ditto for ready money, 13s 2d	11 17 —
243	L. 161 17 —

Here beans are delivered, ſome to different purchaſers on truſt, and ſome for ready money. The purchaſers are Drs. for the quantities ſold to each, by Rule I.; Caſh is Cr. for the quantity ſold for ready money, by Rule III.; and beans are Cr. for the whole.

Sundries Dr. to beans.

A. Arnot for	150 qrs. at	13s 4d	L100 — —	
S. Berry, for	75	13s 4d	50 — —	
Caſh, for	81	13s 2d	11 17 —	
				L161 17 —

Ex. 6.] Bought from David Young 1 cwt, 3 qrs. copper, at L. 12 per cwt. L 105 —

Paid in part,	L 50 — —	
Balance,	55 — —	
		L 105 — —

Here the article received, copper, is the only Dr.; but as it is bought partly for ready money, and partly on credit, it is Dr. to Caſh for the value of the former, by Rule III. and to the ſeller for the value of the latter, by Rule II.

Copper Dr. to Sundries,

For 8 cwt. 3 qrs. at L. 12 per cwt -	L. 105 — —	
To Caſh in part,	L. 50 — —	
To D. Young, for balance due him,	55 — —	
		L 105 — —

Ex. 7.] James Wilſon being bankrupt, I have accepted a compoſition on the debt due by him to me of L. 150, and diſcharged the ſame.

The compoſition received, at 15s per L. is,	L 112 10 —	
And the balance loſt	37 10 —	
		L 150 — —

Here the whole debt of L, 150, due by James Wilſon, is cancelled; and he muſt therefore be ſtated as Cr. for that ſum. Caſh is Dr. for the ſum received, by Rule II.; and Profit and Loſs, or Loſs by bad debts, for the reſt, by Rule VI.

Sundries Dr. to James Wilſon,

Caſh, for compt, on L. 150, at 15s. *per* L.	L 112 10 —	
Profit and Loſs, for balance loſt	37 10 —	
		L 150 — —

Ex. 8.] Shipped for William Smith, *per* the Bonadventure, Forbes, from Philadelphia to Richmond,

1000 yds linen, at 1s 2d	L. 58 6 8	
600 lb. leather, bought from J. Currier, at 1s	30 — —	
Paid charges at ſhipping	— 13 4	
		L. 89 — —

Here William Smith is Dr. for the amount of the cargo; he is debtor to Linen for the quantity delivered, as by Rule I. and to J. Currier for the leather delivered by him, by Rule VIII. and to caſh for the charges paid by us, by Rule I.

William Smith Dr. to Sundries,

To Linen, for 1000 yards, at 1s 2d	L. 58 6 8	
To J. Currier, for 600 lb. leather, at 1s	30 — —	
To Caſh, for charges at ſhipping	— 13 4	
Shipped *per* the Bonadventure, Forbes, from Philadelphia to Richmond.		L. 89 — —

27. The learner may be aſſiſted in underſtanding theſe and other complex poſts, by reſolving them into ſimple ones. Moſt of them might have been ſtated in that manner; and the complex form is only preferred for abridging the leger. In ſome articles the different clauſes are ſo connected, that they cannot be ſeparated with propriety.

The narration is ſometimes equally diffuſed through the poſt, after the Dr. and Cr. as in the five firſt examples. Sometimes the chief circumſtances are narrated before the Drs. or Crs. be ſpecified, as in Ex. 6.; ſometimes after the firſt, as in Ex. 7.; and ſometimes at the end, as in Ex. 8.

28. In ſome articles, there are both more Drs. and more Crs. than one. Theſe may be entered in one journal-poſt, *Sundries Dr. to Sundries*, ſpecifying firſt the Drs. and then the Crs. But, as this method is ſomewhat confuſed, we would recommend it as a better way to divide the tranſaction into two journal-poſts; ſo that the firſt may contain only one Dr. and the ſecond only one Cr.

Ex. Bartered with James Fotheringal 100 pieces oſnaburgs, at 12s	L. 60 — —	
100 lb. thread, at 3s 6d	17 10 —	
		L. 77 10 —
For 10 hds flaxſeed, at 50s	L. 25 — —	
500 yds linen, at 1s 6d	37 10 —	
And received the balance in money	15 — —	
		L. 77 10 —

Journal. *Sundries Dr. to Sundries.*

Flaxſeed, for 10 hds at 50s	L. 25 — —	
Linen, for 500 yds, at 1 s 6 d	37 10 —	
Received in barter from J. Fotheringal		
Caſh, for balance	15 — —	
	L. 77 10 —	
To *Oſnaburgs*, for 100 pieces, at 12 s	L. 60 — —	
To *Thread*, for 100 lb. at 3 s 6d	17 10 —	
Delivered him in barter		L. 77 10 —

Or rather,

Sundries Dr. to James Fotheringal.

Flaxſeed, for 10 hds at 50s	L. 25 — —	
Linen, for 500 yds, at 1 s 6 d	37 10 —	
Received in barter		
Caſh, received balance	15 — —	
		L. 77 10 —

James Fotheringal Dr. to Sundries.

To Oſnaburgs, for 100 pieces, at 12 s	L. 60 — —	
To Thread, for 100lb. at 3 s 6 d	17 10 —	
Delivered in barter		L. 77 10 —

29. It is neither practicable nor neceſſary to enumerate all kinds of complex poſts that may occur in buſineſs. We ſhall here only mention the entries which occur at opening the books.

The firſt journal-poſt contains the ſubſtance of the inventory. The entry is *Sundries Drs. to Stock*; the particular Drs. are Caſh, the different kinds of goods and other property belonging to us, and the perſons indebted to us.

The ſecond journal-poſt contains the debts due by us. The entry is, *Stock Dr. to Sundries*; the particular Crs. are the perſons to whom we are indebted.

The form of theſe entries is more fully exhibited at the begining of the following ſets.

30. The journal ſhould be written by one perſon, in a fair hand and at leiſure hours. The articles are ſeparated, and the titles and dates marked in the ſame manner as in the waſte-book, § 3. The entries are written in half text, for ornament and diſtinction. In the inventory, the deſignation (or the buſineſs, ſtation, and place of reſidence) of every perſon is mentioned; and the ſame is done the firſt time that any name occurs in journal-entry. At other times, it is ſufficient to enter the name without the deſignation, unleſs we have dealings with two perſons of the ſame name; in which caſe, it is always neceſſary to annex the deſignation, in order to diſtinguiſh them. The narration ſhould be complete, without referring to the waſte-book; and ſo clear, that every perſon acquainted with the ſtyle of the journal, may underſtand it with eaſe. When the poſt is written, we mark a daſh / againſt the article, on the margin of the waſte-book, to ſhow how far the writing of the journal is advanced.

Sect. IV. *Of* Posting *and* Balancing *the* Leger.

31. The firſt thing to be done in the leger, is to allot a proper ſpace for each account. The accounts may be either opened in the ſame order that they occur in the journal; or accounts of the ſame kind may be placed together, the perſonal accounts on one part of the leger, and the real accounts in another. The accounts of Stock, and Profit and Loſs, are generally placed at the beginning. The room which each will require cannot be exactly known, but muſt be conjectured from the number of tranſactions that are likely to follow.

The number of the folio is marked in ſtrong text at each corner of the top-line; and the titles of the accounts are written in fair text through both folios, if neceſſary. The deſignations of the perſonal accounts may be written on half text, or Italian hand; and ſome write the titles in Saxon hand, for ornament. The word *Dr.* is prefixed to the title on the left-hand page; and *Contra Cr.* annexed to it on the right-hand page.

32. Next, an Index muſt be provided, for pointing out the folios where the accounts are opened. The titles of the accounts are opened alphabetically in the index, and the number of the folio annexed. Perſonal accounts are entered by the firſt letter of the ſirname; companies, by the firſt letter of the ſirname of the firſt partner; and all other accounts, by the firſt letter of the firſt word. The moſt convenient kind of index is a long narrow book of 24 leaves, one for each letter of the alphabet. A is marked on the top of the firſt leaf, and the paper pared away below it; B is marked on the ſecond leaf, under A; and the other letter on the following leaves, in the ſame manner; by means of which we can turn at once to any letter required.

33. In poſting the leger, proceed by the following directions. Firſt, look for the Dr. of the journal-poſt in the index under the proper letter, and this directs you to the folio of the leger where the account is, if it be already opened: if not, you muſt allot a ſpace for it, write the title, and enter it in the index. Then enter the article on the left-hand page of the account under the title of the former article, by writing the date on the margin, and the name of the creditor on the line, with the word *To* prefixed, and a ſhort narration of the tranſaction annexed, and inſerting the ſum in the money column, and the quantity, if it be an account of goods, in the inner column. Then turn to the account of the Cr. of the journal-poſt, and enter the article in the right-hand page, prefixing the word *By* to the name of the Dr.

34. This being done, turn to the journal, and mark on the margin the number of folios to which the article is poſted. The figures which point out the reference to the Dr. and Cr. folios ſhould be ſeparated by a line: for example, If the Dr. entry be on the third folio, and the Cr. entry on the fifth, the reference is marked $\frac{3}{5}$. Theſe figures ſhow how far the poſting is advanced, and are uſeful in comparing the books.

The figures for dates or references ſhould be written in a lighter hand than the figures in the columns for money or quantity.

35. There is often a reference column ruled in the ledger, for pointing out the other entry, correſponding to any article. In this column, the folio of the Cr. entry is marked againſt the Dr. article, and the folio of the Dr. entry againſt the Cr. article.

Sometimes the accounts are numbered according to the order in the leger; and the references, both in the journal and leger, point out the number of the account inſtead of the folio.

36. In complex poſts, turn to the ſeveral Drs. or Crs. in their order, and enter the articles according to the foregoing directions; placing the ſums belonging to each in the money column, againſt the reſpective entries.

37. An article in the leger is generally comprehended in one line. The narration ſhould be as full as can be contained in that bounds. If it cannot be narrated completely, the journal is referred to for further particulars, by writing *per Journal*, (or *per J.*) either after an incomplete narration, or immediately after the Dr. or Cr. when there is no room for a proper narration. In complex poſts, there can ſeldom be any narration annexed to the ſingle Dr. or the ſingle Cr. The entry is generally *To Sundries per J.* or, *By Sundries per J.* If the ſenſe of the whole article can be narrated, it ſhould be done; but it is improper to narrate the firſt or any other part of the article, and omit the others.

38. When the ſpace allotted for an account in the leger is filled up, the account muſt be tranſported to another folio. For this purpoſe add the columns on both ſides, and write againſt the ſum, *Tranſported to folio*   , inſerting the number of the folio where the new account is opened, in the reference-column, or on the line, if no reference-column be uſed. Then, after titling the new account, and entering the number of the folio in the index, write on the Dr. *To amount brought from folio*   , inſerting the number of the folio where the old account was; and on the Cr. *By amount, brought from folio*   , and place the ſums and quantities, if any, in the proper columns.

When either ſide of an account is full, both ſides ſhould be tranſported, and diagonal lines drawn, to fill up the vacant ſpace of the ſide which requires it.

39. The books ſhould be written up as frequently as can be done conveniently; ſo that the journal may keep pace nearly with the waſte-book, and the leger with the journal. Each book ſhould be carefully reviſed, and compared with the book from which it is poſted. In comparing the leger, obſerve the following directions:

Begin with the firſt journal-poſt, and turn to the folio of the leger where the Dr. is entered, which you are directed to by the marginal reference, and compare the date, entry, and ſum. If you find them to correſpond, it is well; if not, the leger muſt be altered till it correſpond with the journal. Then place a dot before the reference-figure in the journal, and a mark ∧ before the ſum in the leger.

Proceed in the ſame manner to compare the Cr. of the journal-poſt, and all the following poſts in their order. The dots in the journal ſhow how far the compariſon is advanced, and the marks in the leger ſhow what articles are compared.

The ſums of accounts tranſported ſhould be left blank till the books be compared; as an error in any article will occaſion an alteration in the ſum.

40. Some accountants correct all errors in the leger, without erazing any thing, by the following methods: 1ſt, If the ſum be entered too ſmall, they make a ſecond entry for the deficiency. 2. If it be entered too large, they make an entry on the oppoſite ſide for the exceſs. 3d, If it be entered on the wrong ſide of the account, they enter it twice to the other; once, to counterbalance the error, and a ſecond time for the true entry. 4th, If it be entered on a wrong account, they charge the wrong account Dr. to, or Cr. by, the right one.

41. We do not much approve of theſe methods, as they give the books a confuſed appearance; and would rather recommend the following rules: 1ſt, If an article be omitted, do not attempt to interline at the place where it ſhould have been; but inſert it under the laſt article when you diſcover the omiſſion, and mark a croſs × againſt it on the margin, and another at the place where it ſhould have been. 2d, If you diſcover a miſtake immediately when committed, correct it without cancelling any thing, as in this example. *To Caſh, ſay, To James Spiers received to account.* 3d, If you have written a line entirely wrong, or in a wrong place, write the word *Error* at the end, prefix a croſs, and omit or cancel the ſum. 4th, Cancel errors, by drawing a line lightly through them, ſo that the old writing may ſtill be legible; by which it will be evident, that the book has not been vitiated for a fraudulent purpoſe. The ſame method ſhould be followed in correcting errors in the journal.

42. When the compariſon of the books is finiſhed, glance over the leger, to obſerve if the mark of compariſon be affixed to every article. If not, you muſt turn to the journal, and obſerve if the articles be right which had not been marked.

43. Becauſe the whole ſum of the Dr. ſide of the leger ſhould be equal to the whole ſum of the Cr. § 14. it is proper to try if they correſpond. For this purpoſe, you may add the Dr. of every account, except ſuch as are already balanced, placing the ſums in an inner column, and extending them at the end of one or more folios, as you find moſt convenient, to the outer column: and, as you go along, add the Cr. in the ſame manner. If the ſum total of both ſides be equal, it gives a preſumption that the books are right; if they differ there is certainly ſome miſtake. This is called the *Trial-balance.* The labour beſtowed upon it is not loſt, as the ſums may be reſerved for aſſiſting us to collect the balances; the method of which will be explained afterwards.

44. If the ſums of the trial-balance do not correſpond, the books muſt be examined again. For this purpoſe, begin with the firſt article on the Dr. ſide of the firſt account, and turn to the account where the correſponding entry is, which you will find by the figure in the reference-column. If the articles agree, mark them with a dot. Proceed in like manner with the other articles on the Dr. of the firſt account; then with the articles on the Cr. of the ſame; and then with the following accounts in their order, till the error or errors be diſcovered. In complex entries, obſerve if the amount of the ſums on one ſide be equal to the ſums on the other. When you come to a dotted article, you may paſs it by, becauſe it has been examined already.

If the errors be not diſcovered at the firſt reviſal, you muſt repeat the ſame operation again, till you bring the books to balance. Marks different from the former ones, or differently placed, may be uſed to ſignify that an article has been examined a ſecond or third time. As the detection of errors is the moſt tedious and diſagreeable part of book-keeping, the accountant will be induced to guard againſt them with all poſſible care, when he has once experienced the trouble which they occaſion.

45. Before we explain the method of balancing the books, it will be proper to direct the learner how to balance particular accounts. When we ſettle accounts with any perſon, and aſcertain how much is owing at either hand, it is neceſſary to balance his account in the leger, and open a new one, beginning with the ſum that was due according to the ſettlement; and when we clear accounts again, we muſt go back to that article, and no farther.

If any articles be charged on either ſide, at the time of ſettling, they muſt be immediatley entered on the waſte-book; from which they will paſs in courſe to the journal and leger; and a remark muſt be entered in the waſte-book, that the account was ſettled, and the balance transferred to the proper ſide of the new account. This remark is tranſcribed in the journal; and the leger account is balanced, when it occurs, in the courſe of poſting.

If the balance be due to you, write on the Cr. *By balance due to him Dr. to new account*, and inſert the ſum due you; after which, the amount of both ſides will be equal. Add the account, placing the ſums oppoſite to each other; and, if the ſides be unequal, draw a diagonal line through the vacant ſpace of the ſhorter ſide, and cloſe the old account by drawing lines under the ſums. Then open the new account immediately under the old one, or in a new folio if the old one be full, by writing on the Dr. *To balance of former account due by him.* If the balance be due by you to him, the entries are made on the oppoſite ſides, with the neceſſary alterations. When the new account is opened in the ſame folio, it is unneceſſary to repeat the title; but the year and month, as well as the day, are repeated at the date of the firſt article.

46. Sometimes when an account is balanced, one or more articles are left out on purpoſe: For example, goods lately bought on credit may be left out, and the ſettlement may only relate to articles of longer ſtanding. When this is the caſe, if the articles omitted be on the Dr. of the leger, we write on the Cr. thus, *By articles ſold him ſince 1ſt January replaced:* and when we have balanced the account, and opened a new one, we write on the Dr. *To articles replaced at ſettling, furniſhed ſince 1ſt January:* or, if the articles were left out for any other reaſon, we explain the ſame in the narration. If the omitted articles be on the Cr. the like entries are made on the oppoſite ſides. It ſhould be noticed in the waſte-book and journal when this operation is neceſſary.

47. When we poſt any common article from the journal, we enter the ſum on the Dr. of one account, and on the Cr. of another: when we balance an account, we place the balance ſum on the Dr. of the old account, and on the Cr. of the new one, or contrarywiſe: and when we replace an article, as above directed, to the Dr. or Cr. of the old account, we place it after balancing to the Cr. or Dr. of the new one. Thus, in theſe entries, as well as in common poſts, there are like ſums entered on the Dr. and Cr. of the leger, and the general equality of the ſides is ſtill preſerved.

48. Merchants generally balance their books once a-year. The deſign of this operation is to collect the various branches of their buſineſs, diffuſed through the books, into a conciſe abſtract; to aſcertain their gain or loſs ſince the laſt balance; and exhibit the preſent ſtate of their funds. If the buſineſs be of ſuch a kind, that moſt of the branches naturally come to an iſſue at a certain time of year, that time is the proper one for making the balance. Otherwiſe the end of the year, or the leaſt buſy time, may be choſen.

49. It is proper, after balancing, to ſettle as many perſonal accounts as poſſible; to clear all arrears and ſmall charges; to take an exact inventory of the goods on hand, as far as can be done; and affix a moderate value to each article, according to the current prices at the time: ſuch a value as you would be willing at preſent to buy for. It is more proper to value the goods on hand in conformity to the current prices, than at prime coſt: for the deſign of affixing any value is to point out the gain or loſs, and the gain is in reality obtained ſo ſoon as the prices riſe, or the loſs ſuffered ſo ſoon as they fall; therefore it is impoſſible to make up a juſt ſtate of the affairs, unleſs the preſent prices be attended to.

50. Theſe things being done, proceed to make the balance as follows: Prepare two ſheets of paper, ruled with money-columns, in the form of Dr. and Cr.; write *Profit and Loſs* as the title of the firſt, and *Balance* as the title of the ſecond.

Prepare alſo ſome paper for computing the balances, and mark down the folios, titles, and ſums of each account in the leger, in a regular order. If a trial-balance was made, the ſums may be tranſcribed from it. Paſs by ſuch accounts as are already cloſed; alſo the accounts of Stock and Profit and Loſs, which are always the laſt of being balanced. Then ſubtract the leſſer from the greater, and enter the difference on either of the ſheets that the nature of the article points out, and on the ſide of that ſheet which correſponds to the greater ſum of the account. More particularly,

In perſonal accounts, enter the difference, which is the debt owing to you, or by you, on the proper ſide of the balance-ſheet.

In the caſh-account, enter the difference, which is the money in hand, on the Dr. ſide of the balance-ſheet.

In accounts of goods or other property, if there be nothing remaining on hand, enter the difference, which is the gain or loſs, on the proper ſide of the profit and loſs ſheet.

If the whole be ſtill on hand, enter the preſent value on the Dr. of the balance-ſheet; and, if this be different from the prime coſt, charges included, enter the difference on the proper ſide of the profit and loſs ſheet.

If part be ſold, and part on hand, place the value of the quantity on hand under the ſum of the Cr. and add them. The ſum is the whole return that will be obtained, if the reſt of the goods be ſold at the eſtimated value; and this, being compared with the ſum of the Dr. which is the whole expence, ſhows the gain or loſs. Enter the ſame on the proper ſide of the profit and loſs ſheet, and enter the quantity and value on hand, on the Dr. ſide of the balance-ſheet.

Obſerve if the quantities in the inner columns be e-equal on both ſides, when the goods are all ſold; or, if the difference, when only part is ſold, be equal to the quantity on hand. If they correſpond, you have a juſt account of the goods. If the Dr. be greater, there is ſomething amiſſing, which you muſt enter on the Dr. of the balance-ſheet, and mark the cauſe of the deficiency, as inlake, waſte, or the like. If the Cr. be greater, there is an exceſs, which you muſt enter on the Cr. of the balance-ſheet, together with the occaſion of it, as difference of meaſure, or the like.

In accounts ſubſidiary to profit and loſs, enter the difference on the proper ſide of the profit and loſs ſheet.

When there is nothing written on one ſide of an account, enter the ſum of the article or articles on that ſheet which the kind of the account points out.

51. When you have collected all the balances, ſum up both ſheets, and add to the profit and loſs ſheet the ſums of the profit and loſs account in the leger: then ſubtract the leſſer ſum of each ſheet from the greater.

This being done, mark the ſums of the ſtock-account on your computation-paper, and add thereto the balance of the profit and loſs-ſheet on the ſide which correſponds with the greater ſum of that account: then ſubtract the leſſer from the greater. The remainder will be equal to the difference of the ſides of the balance-ſheet, if the books be right, and the balances exactly collected.

52. We ſhall prove that this equality muſt always hold, from the nature of the articles collected. The Dr. of the balance-ſheet contains every kind of property belonging to you, and every debt owing to you; and the Cr. contains every debt owing by you: therefore the difference of the ſides ſhows what your nett eſtate amounts to. The profit and loſs ſheet, when the articles from the leger are included, contains every thing you have gained on the Cr. and every thing you have loſt on the Dr.; and the difference of the ſides is your nett gain or loſs. The ſtock-account contained your effects and debts at the time the books were opened; and therefore, when the gain or loſs is added to the proper ſide, it muſt ſhow the extent of your nett eſtate at preſent. Thus the ſtock-account and balance-ſheet both point out how much you are worth at preſent; the one from your former ſtock, allowance being made for your gains or loſſes; the other from a view of your preſent effects and debts; and they will correſpond, becauſe both muſt be agreeable to the truth, if the books be correct.

53. Though the books muſt balance, if free from error, yet it is ſometimes difficult to adjuſt them exactly, eſpecially when the buſineſs is extenſive, and the errror trifling. If there be ſtill a difference, which we do not think it worth while to make further ſearch for, we may cloſe the books, by making Profit and Loſs Dr. and Cr. for the ſame. This introduces an article on one ſide of the leger, which has none correſponding to it on the other, but is balanced by ſome undiſcovered error.

54. The balance being ſtruck, your next work is to cloſe the books. Every article in the leger ſhould be poſted from the journal; therefore, the moſt regular way of finiſhing both is by inſerting the following articles in the journal, and poſting them in the common manner to the leger.

1ſt, *Profit and Loſs Dr. to Sundries, for loſs on the following accounts.* The particulars are taken from the Dr. of the Profit and Loſs ſheet.

2d, *Sundries Dr. to Profit and Loſs, for gain, on the following accounts.* The particulars are taken from the Cr. of the Profit and Loſs ſheet.

3d, *Balance-account Dr. to Sundries, for debts and property belonging to me.*

4th, *Sundries, Dr. to Balance-account for debts due by me.* The particulars of this and the former are taken from the reſpective ſides of the balance-ſheet.

5th, *Profit and Loſs Dr. to Stock, for nett gain*; or *Stock Dr. to Profit and Loſs for nett loſs.*

6th *Balance-account Dr. to Stock for nett ſtock.*

55. When the four firſt of theſe articles are poſted in the leger, all the perſonal, real, and ſubſidiary accounts will balance, and you may add them as you go along. In accounts of goods, if there be any deficiency, you muſt enter it on the Cr. in the inner column; and, if there be any outcome, you muſt enter it on the Dr. before you add the account. Then the ſums of every account and every column on the oppoſite ſides will be equal.

The only accounts that remain open are, *Profit and Loſs, Stock, and Balance.* The fifth poſt balances the profit and loſs account, and the ſixth balances the ſtock-account. It was noticed, § 14, that the whole ſums of Dr. and Cr. of the leger are equal; and therefore, if the ſides of every account, except one, be balanced, that one will balance of its own accord. The balance-account alone remains open, and, upon trial, you will find that the ſides are equal. This affords an additional proof, or, at leaſt, a different view, of what was demonſtrated, with reſpect to the balance of the books, in § 52.

The lines above and under the ſums, at a general balance, may be drawn with red ink; and, at the balancing of particular accounts, with black ink, for diſtinction.

56. Some chooſe to inſert the particulars of the profit and loſs and balance ſheets in the reſpective accounts of the leger. If this be done, it is unneceſſary to enumerate them alſo in the journal.—Some chuſe to balance the accounts of goods, whenever the quantity is ſold off; and we approve of this method, as it leſſens the work at the general balance, which is always ſufficiently laborious.

57. Thus is the ſtate of a perſon's affairs brought together, in a ſhort compaſs, under his view; and the articles of the balance-ſheet ſupply materials for a new inventory. It is convenient, however, to alter the order, and arrange the real accounts together, and the perſonal ones together.

58. It is not neceſſary to begin new books, nor open the accounts anew, unleſs the old folios be full. The accounts may be continued in the former folios; but it is beſt to begin a new leger, if the old one be not likely to hold all the buſineſs of the next year. When one comes to have ſeveral ſets of books, it is common to diſtinguiſh them by the letters of the alphabet. The firſt waſte-book, journal, and leger, are marked A, the ſecond, B; and ſo on.

In the following ſpecimen, the waſte-book and journal are placed on oppoſite pages, that the learner may eaſily compare them; and the rules referred to by their numbers.

(1) WASTE-BOOK.

Philadelphia, January 1. 1790.

INVENTORY of ready money, goods, and debts, belonging to James Oswald merchant in Philadelphia.					
Ready money - -		L75 10 —			
400 bushels wheat, at 6s 6d	L130 — —				
6hds Port wine, at L15	90 — —				
70 reams paper, at 10s 6d	36 15 —				
120 lb. bohea tea, at 2s 3d - -	13 10 —				
		270 5 —			
A house in Vine-street Philad. value		300 — —			
James Oswald merch. Phil. owes per account	L73 4 —				
Thomas Pirie mercht. Philadelphia owes per do	12 3 8				
Henry Hardy merch. New-York per bill	75 — —				
David Miller manufacturer Wilmington per receipt	18 — —				
		178 7 8			
§ 29			824	2	8
LIST of debts by the said James Oswald.					
To the bank of N. America per account		L230 — —			
To Tho. Smith merchant Boston per do		54 — —			
To Will. Nisbet carpenter Carlisle per do		28 7 3	312	7	3
§ 29					
3.					
Bought for ready money 105 yards calicoe, at 3s 2d			16	12	6
Rule III.					
Sold James Cuthbert merchant Richmond 100 bushels wheat, at 6s 7½d			33	2	6
Rule I.					
5.					
Bartered 60 lb bohea tea, at 2s 4d for 80 yards diaper, at 1s. 9d			7	—	—
Rule III.					
10.					
Paid William Nisbet in full - -			28	7	3
Rule I.					
13.					
Bought from Will. Bruce merchant Chester, 200 bushels of salt, at 1s 8d		L16 13 4			
320 stone iron, at 3s 4d		53 6 8	70	—	—
Rule II.					
15.					
Sold 30 rms paper to Ja. Boswell, at 12s		L18 — —			
12 to John Henderson stationer Philadelphia, at 12s		7 4 —			
5 for ready money at 11s		2 15 —	27	19	—
— 47 Rule I. III.					
19.					
Sold Will. Hunter merchant Bristol 150 bush. salt, at 1s 9d,	L13 2 6				
Received in part - -		L10 — —			
And he owes the balance -		3 2 6	13	2	6
Rule I. III.					

JOURNAL. (1)

Philadelphia, January 1. 1790.

	Sundries Dr. to Stock for articles belonging to James Oswald merchant Philadelphia.					
.1	*Cash* on hand - -		L75 10 —			
.1	*Wheat*. For 400 b. at 6s 6d	L130 — —				
.1	*Port-wine*. For 6 hds at L15	90 — —				
.2	*Paper*. For 70 rms at 10s 6d	36 15 —				
.2	*Tea*. For 120 lb bohea, at 2s 3d	13 10 —				
			270 5 —			
.2	*House in Vine-street Philadelphia* value		300 — —			
.2	*J. Boswell* mer. Phil. per ac.	L73 4 —				
.2	*Tho. Pirie* mer. Phil. per do	12 3 8				
.2	*Henry Hardy* merch. New-York per bill	75 — —				
.2 .1	*David Miller* manufacturer Wilmington, per receipt	18 — —				
			178 7 8	824	2	8
.1	*Stock Dr. to Sundries.*					
.2	*To Bank of North America* per account		L230 — —			
.3	*To Tho. Smith* merch. Boston per acc.		54 — —			
.3	*To Will Nisbet* carpenter Carlisle per do		28 7 5	312	7	3
	3.					
.3 .1	*Calicoe Dr. to Cash.* Bought 105 yards at 3s 2d			16	12	6
.3 .1	*James Cuthbert* merchant Richmond, *Dr to Wheat* sold 100 bushel, at 6s 7½d -			33	2	8
	5.					
.3 .1	*Diaper Dr. to Bohea Tea.* Delivered 60 lb. bohea tea in barter for 80 yards, at 1s 9d			7	—	—
	10.					
.3 .1	*William Nisbet Dr to Cash.* Paid him in full			28	7	3
	13.					
	Sundries Drs. to William Bruce merchant Chester.					
.3	*Salt*. For 200 bushels, at 1s 8d		L16 13 4			
.3	*Iron*. For 320 stones, at 3s 4d		53 6 8			
.3				70	—	—
	15.					
.2	*Sundries Drs. to Paper.*					
.4	*James Boswell, for* 30 rms, at 12s		L18 — —			
	John Henderson stationer					
.1	Philadelphia, for 12 12s		7 4 —			
.2	*Cash*. For - 5 11s		2 15 —	27	19	—
	— 47					
	19.					
	Sundries Drs to Salt, for 150 bsh. at 1s 9d, L13 . 2 6					
.1	*Cash*. Received in part -		L10 — —			
.4 .3	*William Hunter* merchant Bristol, for balance due by him -		3 2 6	13	2	6

(2) WASTE-BOOK.

	Philadelphia, January 22. 1790.						
/	Received from Henry Hardy in payment of his bill	L75	—	—			
	And for intereſt on do	2	10	—			
					77	10	—
	Rules II. VII.						
/	Paid the bank of North America -				100	—	—
	Rule I.						
	—26.—						
/	Bought from Alex. Sharp merch. Trenton 500lb. bohea tea, at 1s 11d L47 18 4						
	Paid him in part	L15	—	—			
	And the balance due him is	32	18	4			
					47	18	4
	Rules II. III.						
	—30.—						
/	Received 300 buſhels wheat, 6s 7d L98 15, in barter for 6 hds. Port-wine, at L16	L96	—	—			
	Paid the balance	2	15	—			
					98	15	—
	Rule III.						
	Philadelphia, 2d February 1790.						
/	Sold James Boſwell						
	48 buſh. ſalt, being the rem. at 1s 8¼d	L 4	2	—			
	60 lb tea, at 2s 3¼d	6	17	6			
	100 ſtone iron, at 3s 4¼d	16	17	6			
					27	17	—
	Rule I.						
	—3.—						
	Received from James Cuthbert in part				30	—	—
	Rule II.						
	—10.—						
/	Bartered 22 reams paper, at 12s	L13	4	—			
	60 buſhels wheat, at 6s 9d	20	5	—			
		33	9	—			
	For 334¼lb tea, at 2s				33	9	—
	Rule III.						
/	Taken for the uſe of my ſhop, the remaining ream paper, value				—	10	6
	Rule VI.						
	—16.—						
/	Received from William Hunter in full	L 3	2	6			
	from James Boſwell in part	70	—	—			
					73	2	6
	Rule II.						
/	Paid the Bank of North America				100	—	—
	Rule I.						
	—19.—						
/	Bartered 100 yards calicoe, at 3s 6d	L17	10	—			
	For 1hd Port-wine	14	10	—			
	Received the balance	3	—	—			
					17	10	—
	Rule III.						

JOURNAL. (2)

	Philadelphia, January 22. 1790.						
.1	*Caſh Dr. to Sundries.*						
.2	*To Henry Hardy*, Rec. paym. of his bill	L75	—	—			
.1	*To Profit and Loſs.* Rec. intereſt on do	2	10	—			
					77	10	—
.2	*Bank of North America Dr. to Caſh.* Paid them				100	—	—
.2							
	—26.—						
.2	*Tea Dr. to Sundries*, for 500 lb. bohea at 1s 11d L47 18 4						
—							
.1	*To Caſh.* Paid in part	L15	—	—			
.4	*To Alex. Sharp* merch. Trenton for bal.	32	18	4			
					47	18	4
	—30.—						
.1	*Wheat Dr. to Sund.* for 300 buſh. at 6s 7d L98 15						
—							
.1	*To Port-wine.* For 6hds. delivered in barter, L16	L96	—	—			
.1	*To Caſh.* Paid balance	2	15	—	98	15	—
	Philadelphia, 2d February, 1790.						
.2	*James Boſwell Dr. to Sundries.*						
.3	*To Salt*, for 48 buſhels, being the rem. at 1s 8d	L 4	2	—			
.2	*To Tea*, for 60 lb bohea, at 2s 3¼d	6	17	6			
.3	*To Iron*, for 100 ſtones, 3s 4¼d	16	17	6			
					27	17	—
	—3.—						
.1	*Caſh Dr. to James Cuthbert.* Received in part				30	—	—
.3							
	—10.—						
.2	*Tea Dr. to Sundries.* Fo 334¼ lb at 2s L33 9 —						
—							
.2	*To Paper.* For 22 reams delivered in barter at 12s	L13	4	—			
.1	*To Wheat.* For 60 buſhels at 6s 9d	20	5	—			
					33	9	—
.4	*Charges Merchandize Dr. to Paper*, taken for the uſe of ſhop, 1 ream, value				—	10	6
.2							
	—16.—						
.1	*Caſh Dr. to Sundries*						
.4	*To William Hunter.* Received in full	L 3	2	6			
.2	*To James Boſwell.* ——— in part	70	—	—			
					73	2	6
.2	*Bank of North America Dr. to Caſh.* Paid them				100	—	—
.1							
	—19.—						
	Sundries Drs. to Calicoes. For 100 yards delivered in barter, at 3s 6d L17 10 —						
.1	*Port-wine.* For 1 hd.	L14	10	—			
.1	*Caſh.* Received balance	3	—	—			
.3					17	10	—

Philadelphia,

(3) WASTE-BOOK.

Philadelphia, 19*th* FEBRUARY, 1790.

Sold 60 buſhels wheat for ready money						
at 6s 10d	L20	10	—			
90 to Henry Hardy, at 6s 11d	31	2	6			
54 to William Hunter, at 6s 11d	18	13	6			
104 to Bailie and Bell, Germantown, at 6s 11d	35	19	4	106	5	4
308 Rule I. III.						
23.						
Drawn on the Bank of North America				120	—	—
Rule II.						
Paid William Bruce in part	L50	—	—			
Alexander Sharp, in full	32	18	4			
And Tho. Smith's bill on me at ſight	35	—	—	117	18	4
Rule I.						
Philadelphia, 2*d* MARCH, 1790.						
Paid charges and cellar-rent for ſalt	L1	2	6			
Charges and loft-rent of wheat	3	3	—	4	5	6
Rule IV.						
4.						
Received from Thomas Pirie in full	L12	—	—			
Diſcounted him	—	3	8	12	3	8
Rules II. VI.						
5.						
Sold James Dalton, Brunſwick						
60 lb bohea tea, at 2s ¼d	L 6	1	3			
300 do do at 1 11¾	29	13	9	35	15	—
360 Rule I.						
12.						
Received from Jan Jonkheer Rotterdam 6 bags clover ſeed, qt. 200 lb each, amount per invoice *f*. 312, at 22d per *f*.	L28	12	—			
Paid freight and charges	1	5	—	29	17	—
Rules II. IV.						
17.						
Bartered with James Boſwell 2 bags clover ſeed, at L6, L12, for 2 hds flax-ſeed, at 55s	L5	10	—			
Received in money	5	—	—			
And he owes the balance	1	10	—	12	—	—
Rules III. I.						
Paid Tho. Smith in full	L19	—	—			
And for intereſt	1	10	—	20	10	—
Rules I. IV.						
21.						
Sold 140 lb clover-ſeed, to John Scott farmer at Frankfort, at 7¼d	L4	7	6			—
70 to James Cuthbert, at 7¼d	2	3	9			
120 for ready money at 7¼d	3	12	6	10	3	9
330						
Rules I. II.						

JOURNAL. (3)

Philadelphia, 19*th* FEBRUARY, 1790.

	Sundries Drs. to Wheat.						
.1	*Caſh.* For 60 b. wh. at 6s 10d	L20	10	—			
.2	*Henry Hardy.* For 90 6 11	31	2	6			
.4	*Wil. Hunter.* For 54 6 11	18	13	6			
.4	*Bailie & Bell* Germantown. For 104 6 11	35	19	4			
.1	308				106	5	4
	23.						
.1 .2	*Caſh Dr. to Bank of N. America.* Drawn on them				120	—	—
	Sundries Drs. to Caſh.						
.3	*William Bruce.* Paid him in part	L50	—	—			
.4	*Alexander Sharp.* Paid in full	32	18	4			
.3	*Tho. Smith.* Paid his bill on me at ſight	35	—	—			
.1					117	18	4
	Philadelphia, 2*d* MARCH, 1790.						
	Sundries Drs. to Caſh.						
.3	*Salt.* Paid charges and cellar-rent	L1	2	6			
.1	*Wheat.* Paid charges and loft-rent	3	3	—			
.1					4	5	6
	4.						
	Sundries. Drs. to Thomas Pirie.						
.1	*Caſh.* Received in full	L12	—	—			
.1	*Profit and Loſs.* Diſcounted him	—	3	8			
.2					12	3	8
	5.						
	James Dalton, Brunſwick, *Dr. to Tea.*						
.4	For 60 lb bohea at 2s 0¼d	L 6	1	3			
.2	And 300 do at 1 11¾d	29	13	9	35	15	—
	360						
	12.						
.4	*Clover-ſeed Dr. to Sundries.*						
.4	*To Jan Jonkheer*, for 6 bags, qt. 200 lb each, is 1200 lb amount per invoice, *f*. 312, at 22d	L28	12	—			
.1	*To Caſh.* Paid freight and charges	1	5	—	29	17	—
	17.						
	Sundries Drs. to Clover-ſeed. For 2 bags, at L 6,	L12	—	—			
.4	*Flax-ſeed*, for 2hds. recd. in bart. 55s.	5	10	—			
.1	*Caſh.* In part	5	—	—			
.4	*James Boſwell*, for balance	1	10	—	12	—	—
	Sundries Drs. to Caſh.						
.3	*Thomas Smith.* Paid him in full	L19	—	—			
.1	*Profit and Loſs.* Paid him intereſt	1	10	—			
.1					20	10	—
	21.						
	Sundries Dr. to Clover-ſeed.						
.5	*John Scott*, farmer at Frankfort, for 140 lb at 7¼d	L4	7	6			
.3	*James Cuthbert*, for 70 7¼d	2	3	9			
.1	*Caſh* for 120 7¼d	3	12	6			
.4	330				10	3	9

(4) WASTE-BOOK.

Philadelphia, 24th MARCH, 1790.

Jas. Boſwell has paid the Bank of N. America on my acct. Rule VIII.				40	—	—
—25.—						
Bought from William Ainſlie merchant Alloa ¼ ſhare of the ſhip Hazard, for Rule II.				150	—	—
—28.—						
Sold Bailie and Bell,						
150 ſtone Iron, at 3s 7d	L26	17	6			
1hd Port-wine	15	5	—			
Rule I.				42	2	6
Philadelphia, 2d APRIL, 1790.						
Sold for ready money						
50 yards diaper, at 1s 11d	L 4	15	10			
60 buſhels wheat, at 6s 3¼d	20	7	6			
1 hd. flax-ſeed	3	3	—			
160 lb. clover ſeed, at 7d¾d	5	3	4			
30 ſtone iron, at 3s 6d¼	5	6	3			
Rule III.				38	15	11
—6.—						
Drawn on the Bank of North America for Rule II.				60	—	—
Bought for ready money						
30 caſks train oil, at 22s	L33	—	—			
60 buſh. wheat, at 6s6d L19 10 —						
80 do. at 6s 7d 26 6 8						
—	45	16	0			
70				78	16	8
Rule III.						
Sold Will. Ainſlie 30 yds. diaper, at 2s	L3	—	—			
And paid him	30	—	—			
Rule I.				33	—	—
—8.—						
Bailie and Bell have paid Wil. Ainſlie at my deſire, balance of my ſhare of the ſhip Hazard Rule VIII.				117	—	—
—11.—						
Sold James Boſwell 20 caſks train-oil at 27s Rule I.				27	—	—
—14.—						
Sold George Gordon mercht. Briſtol						
10 caſks train oil, at 28s	L14	—	—			
1hd. flax-ſeed	3	5	—			
70 buſhels wheat, at 6s 10d	23	18	4			
	41	3	4			
Received in part	L35	—	—			
And he owes the balance	6	3	4			
Rules I. II.				41	3	4
—16.—						
Paid Baillie and Bell's bill on me to C. Cowan, at ſight Rule I.				38	18	2

JOURNAL. (4)

Philadelphia, 24th MARCH, 1790.

.2 .2	*Bank of North America Dr. to James Boſwell.* Paid them by him				40	—	—
	—25.—						
.5 .5	*Share of ſhip Hazard Dr. to William Ainſlie* merchant Alloa, bought ¼ ſhare for				150	—	—
	—28.—						
.4	*Bailie and Bell Drs to Sundries.*						
.3	*To Iron.* For 150 ſtone, at 3s 7d	L26	17	6			
.1	*To Port-wine.* For 1hd	15	5	—			
					42	2	6
	Philadelphia, 2d APRIL, 1790.						
.1	*Caſh Dr. to Sundries.*						
.3	*To Diaper.* For 50 yards, at 1s 11d	L4	15	10			
.1	*To Wheat.* For 60 buſhls, at 6s 9¼d	20	7	6			
.4	*To Flax-ſeed.* For 1hd	3	3	—			
.4	*To Clover-ſeed.* For 160lb. at 7¾d	5	3	4			
.3	*To Iron.* For 30 ſtone, at 3s 6¼d	5	6	3			
					38	15	11
	—6.—						
.1 .2	*Caſh Dr. to Bank of North America.* Drawn on them for				60	—	—
	Sundries Dr. to Caſh.						
.5	*Train-oil.* For 30 caſks, at 22s	L33	—	—			
.1	*Wheat.* For 60 buſh. at 6s 6d L19 10 —						
.1	And 40 at 6s 7d 26 6 8						
	—	45	16	8			
	70				78	16	8
.5	*William Ainſlie Dr. to Sundries.*						
.3	*To Diaper.* For 30 yards, at 2s	L 3	—	—			
.1	*To Caſh.* Paid him	30	—	—			
					33	—	—
	—8.—						
.5 .4	*William Ainſlie Dr. to Bailie and Bell.* Paid him by them on my account, being balance of ſhare of ſhip Hazard				117	—	—
	—11.—						
.5 .2	*James Boſwell Dr. to Train-oil.* Sold him 20 caſks at 27s				27	—	—
	—14.—						
.5	*George Gordon Dr. to Sundries.*						
.5	*To Train-oil.* For 10 caſks, at 28s	L14	—	—			
.4	*To Flax ſeed.* For 1hd	3	5	—			
.1	*To Wheat.* For 70 bolls, at 6s 10d	23	18	4			
					41	3	4
.1 .5	*Caſh Dr. to George Gordon.* Received in part				35	—	—
	—16.—						
.4 .1	*Bailie and Bell Dr. to Caſh.* Paid their bill on me to C. Cowan, at ſight				38	18	2

Philadelphia,

(5) WASTE-BOOK.

Philadelphia, 18*th* APRIL, 1790.

Entry	Detail	L	s	d
Taken for the uſe of my family, the remaining five yards calicoe, at 3s 2d Rule VI.		—	15	10
22.				
The Bank of North America have paid Jan Jonkheer's bill on me, 1 mdt. at my deſire Rule VIII.		28	12	—
25.				
Received my proportion of profits on a voyage to Rotterdam by the Hazard Rule V.		33	—	—
30.				
Paid for ſmall charges on my buſineſs ſince 1ſt January -	L 5 3 8			
Perſonal and family expences	32 — —			
Rule VI.		37	3	8
Due Thomas Sharp, my clerk, for wages Rule VI.		8	—	—
Due the Bank of North America for intereſt Rule VI.		2	11	2
Previous to the balancing of my books, I have taken an inventory of the goods in my ſhop and ware-houſe,				
248 buſhels wheat, at 6s 9d	L 83 14 —			
474 lb. bohea tea, at 2s	47 8 —			
40 ſtone iron, at 3s 4d	6 13 4			
300 lb. clover-ſeed, at 6d	7 10 —			
	L145 5 4			
I value my houſe at	300 — —			
And my ſhare of ſhip Hazard	140 — —			
	L585 5 4			

JOURNAL. (5)

Philadelphia, 18*th* APRIL, 1790.

Fol.	Entry	Detail	L	s	d
.5 .3	*Proper expences Dr. to Calicoes.* For 5 yards taken for family uſe at 3s 2d -		—	15	10
	22.				
.4 .2	*Jan Jonkheer Dr. to Bank of North America.* For his bill on me 1mdt paid by them		28	12	—
	25.				
.1 .5	*Caſh Dr. to Share of Ship Hazard.* Received my proportion of profits on a voyage to Rotterdam.		33	—	—
	30.				
	Sundries Drs. to Caſh.				
.4 .5	*Charges Merchandize.* Paid ſmall charges ſince Jan. 1, -	L 5 3 8			
.1	*Prop. Exp.* Paid perſ. and family charges	32 — —	37	3	8
.4 .5	*Charges of Merchandize Dr. to Thomas Sharp,* my clerk. Due him for wages -		8	—	—
.1 .2	*Prof. and Loſs Dr to B of N. Amer.* Due them for int.		2	11	2
.1	*Profit and Loſs Dr. to Sundries,* for articles of loſs.				
.3	*To Salt* - -	L— 11 4			
.4	*To Charges Merchandize* -	13 14 2			
.5	*To Proper Expences* -	32 15 10			
	See § 54.		47	1	4
	Sundries Drs. to Profit and Loſs, for articles of gain.				
.1	*Wheat* - - -	L 9 18 —			
.1	*Port-wine* - -	6 15 —			
.2	*Paper* - -	4 18 6			
.2	*Tea* - -	2 3 2			
.3	*Calicoe* - -	1 13 4			
.3	*Diaper* - -	— 15 10			
.3	*Iron* - -	2 7 11			
.4	*Clover-ſeed* - -	5 — 1			
.4	*Flax-ſeed* - -	— 18 —			
.5	*Share of ſhip Hazard* - -	23 — —			
.5	*Train-oil* - -	8 — —			
.1			65	9	10
.5	*Bal. Account Dr. to Sun.* for articles belonging to me.				
.1	*To Caſh* - -	L 8 3 10			
.1	*To Wheat.* For 248 buſhels, at 6s 9d	83 14 —			
.2	*To Tea.* For 474 lb. at 2s Amiſſing ¼ pound.	47 8 —			
.2	*To Houſe in Vine-ſtreet* -	300 — —			
.2	*To James Boſwell* -	37 11 —			
.2	*To Henry Hardy* -	31 2 6			
.2	*To David Miller* - -	18 — —			
.3	*To James Cuthbert* -	5 6 3			
.3	*To Iron.* For 40 ſtone, at 3s 4d	6 13 4			
.4	*To John Henderſon* - -	7 14 —			
.4	*To William Hunter* - -	18 13 6			
.4	*To James Dalton* - -	35 15 —			
.4	*To Clover-ſeed.* For 300lb. at 6d Inlake 10lb.	7 10 —			
.5	*To John Scott* - -	4 7 6			
.5	*To Share of ſhip Hazard* -	140 — —			
.5	*To George Gordon*	6 3 4			
			757	12	3

Philadelphia,

(6) JOURNAL.

	Philadelphia, 30th APRIL 1790.					
	Sundries Drs. to Balance-account.					
.1	*Wheat.* 6 Buſhels.					
.2	*Bank of North America* -		L201 3 2			
.3	*William Bruce,* - -		20 — —			
.5	*Thomas Sharp*		8 — —			
.5				129	3	2
.1 .1	*Profit and Loſs Dr. to Stock,* for nett gain			16	13	8
.1 .5	*Stock Dr. to Balance-Account,* for nett ſtock.			528	9	1
	The next JOURNAL would begin thus.					
	Sundries Drs. to Stock.					
	Caſh on hand		L8 3 10			
	Wheat. For 248 buſ. at 6s 6d	L83 14 —				
	Tea. For 474 lb. at 2s	47 8 —				
	Iron. For 40 ſtone, at 3s 4d	6 13 4				
	Clover-ſeed. For 300 lb. at 6d	7 10 —				
			145 5 4			
	Houſe in Vine-ſtreet Philadelphia, value	L300 — —				
	Share in Ship Hazard. For one-third	140 — —				
			440 — —			
	James Boſwell Philadelphia. Due by him	L37 11 —				
	Henry Hardy New-York. Do	31 2 6				
	Dav. Miller Wilmington. Do	18 — —				
	James Cuthbert Richmond Do	5 6 3				
	John Henderſon Philadel. Do	7 4 —				
	William Hunter Briſtol. Do	18 13 6				
	James Dalton Lancaſter. Do	35 15 —				
	John Scott Newcaſtle. Do	4 7 6				
	George Gordon Briſtol. Do	6 3 4				
			164 3 1			
				757	12	3
	Stock Dr. to Sundries.					
	To Bank of North America. Due them		L201 3 2			
	To William Bruce Dover. Due by him		20 — —			
	Thomas Sharp, my clerk. Do		8 — —			
				229	3	2

Stock,

(1) LEDGER. FO.

Dr.		*Stock,*				
1790						
Jan.	1	To Sundries, per J.		312	7	3
Apr.	30	To balance-account, for nett ſtock	5	528	9	1
				840	16	4

		Contra *Cr.*				
1790						
Jan.	1	By Sundries, per J.		824	2	8
Apr.	30	By Profit and Loſs, for nett gain	1	16	13	8
				840	16	4

Dr.		*Profit and Loſs,*				
1790						
Mar.	4	To Thomas Pirie, diſcounted him	2	—	3	8
Apr.	17	To Caſh, paid Tho. Smith intereſt	1	1	10	—
	30	To Bank of N. America, for intereſt due them	2	2	11	2
	—	To Sundries, per J.		47	1	4
	—	To Stock, for nett gain	1	16	13	8
				67	19	10

		Contra *Cr.*				
1790						
Jan.	22	By Caſh, received int. on Hen. Hardy's bill	1	2	10	—
Apr.	30	By Sundries, per J.		65	9	10
				67	19	10

Dr.		*Caſh,*				
1790						
Jan.	1	To Stock on hand	1	75	10	—
	15	To Paper, for 5 reams, at 11s	2	2	15	—
	19	To Salt, in part, per J.	3	10	—	—
	22	To Sundries for Hen. Hardy's bill, with int.		77	10	—
Feb.	3	To James Cuthbert, in part	3	30	—	—
	16	To Sundries, per J.		73	2	6
	19	To Calicoes, for bal. of 100 yards, per J.	3	3	—	—
	—	To Wheat for 60 buſhels, at 6s 10d	1	20	10	—
	20	To Bank of North America, drawn on them	2	120	—	—
Mar.	4	To Thomas Pirie, in full	2	12	—	—
	17	To Clover-ſeed, in part, of 2 bags	4	5	—	—
	21	To Clover-ſeed, for 120 lb. at 7¼ d	4	3	12	6
Apr.	2	To Sundries, per J.		38	15	11
	6	To Bank of North America, drawn on them	2	60	—	—
	14	To George Gordon, in part	5	35	—	—
	25	To Share of ſhip Hazard for ſhare profits per J.	5	33	—	—
				599	15	11

		Contra *Cr.*				
1790						
Jan.	3	By Calicoes, for 105 yards, at 3s 2d	3	16	12	6
	10	By William Niſbet, in full	3	28	7	3
	22	By Bank of North America, paid them	2	100	—	—
	26	By Tea, in part, for 500 lb bohea	2	15	—	—
	30	By Wheat, paid balance of 300 buſhels	1	2	15	—
Feb.	16	By Bank of North America, paid them	2	100	—	—
	21	By Sundries, per J.		117	18	4
Mar.	2	By Sundries, per J.		4	5	6
	12	By Clover-ſeed, paid freight and charges	4	1	5	—
	17	By Sundries, paid Tho. Smith, with int. per J.		20	10	—
Apr.	6	By Sundries per J.		78	16	8
	—	By William Ainſlie, paid him	5	30	—	—
	16	By Baille and Bell, paid their bill on me ſt.	4	38	8	2
	30	By Sundries, for charges and expences per J.		37	3	8
	—	By Balance-account	5	8	3	10
				599	15	11

Dr.		*Wheat,*					
1790			*Buſh.*				
Jan.	1	To Stock on hand at 6s 6d	400	1	130	—	—
	30	To Sundries, per J. at 6s 7d	300		98	15	—
Mar.	2	To Caſh, paid charges and loft-rent	—	1	3	3	—
Apr.	6	To Caſh, per J.	140	1	45	16	8
	30	To Profit and Loſs, for gain	—	1	9	18	—
		Outcome - -	6				
			846		287	12	8

		Contra *Cr.*					
1790			*Buſh.*				
Jan.	3	By James Cuthbert, at 6s 7¼d	100	3	33	2	6
Feb.	10	By Tea in barter, at 6s 9d	60	2	20	5	—
	19	By Sundries, per J.	308		100	5	4
Apr.	2	By Caſh, at 6s 9¼d	60	1	20	7	6
	14	By George Gordon, at 6s 10d	70	5	23	10	4
	30	By Balance-account, at 6s 8d	248	5	83	14	—
			846		287	12	8

Dr.		*Port-wine,*					
1790			*Hhds*				
Jan.	1	To Stock on hand, at L 15	6	1	90	—	—
Feb.	19	To Calicoes, in barter -	1	3	14	10	—
Apr.	30	To Profit and Loſs, for gain		1	6	15	—
			7		111	5	—

		Contra *Cr.*					
1790			*Hhds*				
Jan.	10	By Wheat, in barter, at L 16	6	1	96	—	—
Mar.	28	By Baille and Bell	1	4	15	5	—
			7		111	5	—

(2) LEDGER.

				Fo.								Fo.			
Dr.		Paper,								Contra	Cr.				
1790			R.					1790			R.				
Jan.	1	To Stock on hand at 10s 6d	70	1	36	15	—	Jan.	15	By Sundries, per J.	47		27	19	—
Apr.	30	To Profit and Loſs, for gain		1	4	18	6	Feb.	10	By Tea in barter, at 12s	22	2	13	4	—
									—	By charges Merchandize, for ſhop-uſe	1	4	—	10	6
			70		41	13	6				70		41	13	6
Dr.		Tea,								Contra	Cr.				
								1790							
1790			lb.					Jan.	5		lb.				
Jan.	1	To Stock on hand, at 2s 3d	120	1	13	10	—	Feb.	2	By Diaper, at 2s 4d	60	3	7	—	—
	26	To Sundries, per J. at 1s 11d	500		47	18	4	Mar.	5	By James Boſwell, at 2s 3½d	60	2	6	17	6
Feb.	10	To Sundries, per J. at 2s	334½		33	9	—	Apr.	30	By James Dalton, per J.	360	4	35	15	—
Apr.	30	To Profit and Loſs, for gain	—	1	2	3	2			By Balance-account, at 2s	474	5	47	8	—
										Amiſſing,	½		—	—	—
			954½		97	—	6				954½		97	—	6
Dr.		*Houſe in Vine-ſtreet.*								Contra	Cr.				
1790								1790							
Jan.	1	To Stock, for value		1	300	—	—	Apr.	30	By Balance-account.		5	300	—	—
Dr.		*Ja. Boſwell merchant Philadelphia,*								Contra	Cr.				
1790								1790							
Jan.	1	To Stock due by him, per account		1	73	4	—	Feb.	16	By Caſh, in part		1	70	—	—
	15	To Paper, for 30 reams, at 12s		2	18	—	—	Mar.	24	By Bank of North America, paid in by him		2	40	—	—
Feb.	2	To Sundries, per J.			27	17	—	Apr.	30	By balance-account		5	37	11	—
Mar.	17	To Clover-ſeed, for bal. of 2 bags, per J.		4	1	10	—								
Apr.	11	To Train-oil, for 20 caſks, at 27s		5	27	—	—								
					147	11	—						147	11	—
Dr.		*Thomas Pirrie, merchant, Philadelphia,*								Contra	Cr.				
1790								1790							
Jan.	1	To Stock due by him per account		1	12	3	8	Mar.	4	By Sundries in full, with diſcount per J.			12	3	8
Dr.		*Henry Hardy, merchant, New-York,*								Contra	Cr.				
1790								1790							
Jan.	1	To Stock due by him, per bill		1	75	—	—	Jan.	22	By Caſh, in full		1	75	—	—
Feb.	19	To Wheat for 90 buſhels, at 6s 11d		1	31	2	6	Apr.	30	By Balance-account		5	31	2	6
Dr.		*David Miller, manufacturer, Wilmington,*								Contra	Cr.				
1789								1790							
Jan.	1	To Stock due by him, per receipt		1	18	—	—	Apr.	30	By Balance-account		5	18		—
Dr.		*Bank of North America,*								Contra	Cr.				
1790								1790							
Jan.	22	To Caſh paid, them		1	100	—	—	Jan.	1	By Stock, due them per account		1	230	—	—
Feb.	16	To Caſh, paid them		1	100	—	—	Feb.	23	By Caſh, drawn on them		1	120	—	—
Mar.	24	To Ja. Boſwell, paid them by him		2	40	—	—	Apr.	6	By Caſh, drawn on them		1	60	—	—
Apr.	30	To balance-account		5	201	3	3		22	By J. Jonkheer, for his bill paid them, p. J.		4	28	12	—
									30	By Profit and Loſs, for intereſt due them		1	2	11	2
					441	3	2						441	3	2

Dr.		*Thomas Smith merchant Charleston,*								*Contra* Cr.					
1790								1790							
Feb.	23	To Cash, paid his bill on me at sight		1	35	—	—	Jan.	1	By Stock, due him per account		1	54	—	—
Mar.	17	To Cash, in full		1	19	—	—								
					54	—	—						54	—	—

Dr.		*Will. Nisbet carpenter New-York,*								*Contra* Cr.					
1790								1790							
Jan.	10	To Cash, paid him in full		1	28	7	3	Jan.	1	By Stock, due him per account.		1	28	7	3

Dr.		*Calicoes,*								*Contra* Cr.					
1790			*Yds*					1790			*Yds*				
Jan.	3	To Cash, at 3s 2d	105	1	16	12	6	Feb.	19	By Sundries, per J. at 3s 6d	100		17	10	—
Apr.	30	To Profit and Loss, for gain			1	13	4	Apr.	19	By proper Expences taken at 3s 2d	5	5	—	15	10
			105		18	5	10				105		18	5	10

Dr.		*Ja. Cuthbert merchant Philadelphia,*								*Contra* Cr.					
1790								1790							
Jan.	3	To Wheat, for 100 bushels, at 6s 7½d		1	33	2	6	Feb.	3	By Cash in part		1	30	—	—
Mar.	21	To Clover-seed, for 70 lb. at 7½d		4	2	3	9	Apr.	30	By Balance account		5	5	6	3
					35	6	3						35	6	3

Dr.		*Diaper,*								*Contra* Cr.					
1790			*lb.*					1790			*Yds*				
Jan.	5	To Tea in barter, at 1s 9d	80	2	7	15	10	Apr.	2	By Cash at 1s 11d	50	1	4	15	10
Apr.	30	To Profit and Loss, for gain		1	—	—	—		3	By William Ainslie, at 2s	30	5	3	—	—
			30		7	15	10				80		7	15	10

Dr.		*Salt,*								*Contra* Cr.					
1790			*Bush*					1790			*Bush.*				
Jan.	13	To William Bruce, at 1s 8d	200	3	16	13	4	Jan.	19	By Sundries, per J. at 1s 9d	150		13	2	6
Mar.	2	To Cash, paid charges and cellar-rent		1	1	2	6	Feb.	2	By J. Boswell, for the rem. at 1s 8½d	48	2	4	2	—
								Apr.	30	By Profit and Loss,	—	1	—	11	4
										Inlake	2				
			200		17	15	10				200		17	15	10

Dr.		*William Bruce merchant Boston,*								*Contra* Cr.					
1790								1790							
Feb.	23	To Cash in part		1	50	—	—	Jan.	13	By Sundries per J.			70	—	—
Apr.	30	To Balance-account		5	20	—	—								
					70	—	—						70	—	—

Dr.		*Iron,*								*Contra* Cr.					
1790			*Stones*					1790			*Stones*				
Jan.	13	To William Bruce, at 3s 4d	320	3	53	6	8	Feb.	2	By James Boswell, at 3s 4½d	100	2	16	17	6
Apr.	30	To Profit and Loss, for gain		1	2	7	11	Mar.	28	By Baillie and Bell, at 3s 7d	150	4	26	17	6
								Apr.	2	By Cash, at 3s 6½d	30	1	5	6	3
									30	By Balance-account, at 3s 4d	40	5	6	13	4
			320		55	14	7				320		55	14	7

(4) LEDGER. Fo. | LEDGER. Fo. (4)

Dr.		*Jo. Henderſon ſtationer Philadelphia,*								*Contra* *Cr.*					
1790								1790							
Jan.	14	To paper, for 12 reams at 12s		2	7	4	—	Apr.	30	By Balance-account		5	7	4	—
Dr		*William Hunter merchant Briſtol,*								*Contra* *Cr.*					
1790								1790							
Jan.	19	To Salt, for balance of 150 buſhels, per J.		3	3	2	6	Feb.	16	By Caſh in full		1	3	2	6
Feb.	19	To Wheat, for 54 buſhels, at 6s 11d		1	18	13	6	Apr.	30	By Balance-account		5	18	13	6
Dr.		*Alexander Sharp merchant Trenton,*								*Contra* *Cr.*					
1790								1790							
Feb.	23	To Caſh, in full		1	32	18	4	Jan.	20	By Tea, for balance of 300 lb per J.		2	32	18	4
Dr		*Charges Merchandize,*								*Contra* *Cr.*					
1790								1790							
Feb.	10	To paper, taken for ſhop-uſe, 1 ream		2	—	10	6	Apr.	30	By Profit and loſs		1	13	14	2
Apr.	30	To caſh, for ſmall charges ſince 1ſt Jan.		1	5	3	8								
		To Tho. Sharp, for wages		5	8	—	—								
					13	14	2						13	14	2
Dr.		*Baillie and Bell Germantown,*								*Contra* *Cr.*					
1790								1790							
Feb.	19	To Wheat, for 104 buſhels, at 6s 11d		1	35	19	4	Apr.	8	By William Ainſlie, paid him by them		5	117	—	—
Mar.	28	To Sundries, per J.			42	2	6								
Apr.	16	To Caſh, pd their bill on me to C. Cowan, st		1	38	18	2								
					117	—	—						117	—	—
Dr.		*James Dalton Lancaſter,*								*Contra* *Cr.*					
1790								1790							
Mar.	5	To Tea, for 360 lb. bohea, per J.		2	35	15	—	Apr.	7	By Balance account		5	35	15	—
Dr.		*Clover-ſeed,*								*Contra* *Cr.*					
1790			*lb.*					1790			*lb.*				
Mar.	12	To Sundries per J. for pr. coſt and char.	1200		29	17	—	Mar.	7	By Sundries, per J.	400		12	—	—
Apr.	30	To profit and Loſs, for gain		1	5	—	1		17	By Sundries, per J.	330		10	3	9
								Apr.	2	By Caſh, at 7¾d	160	1	5	3	4
									30	By Balance-account, at 6d	300	5	7	10	—
										Inlake	10				
			1200		34	17	1				1200		34	17	1
Dr.		*J. Jonkheer merchant Rotterdam,*								*Contra* *Cr.*					
1790								1790							
Apr.	22	To Bank of North America, for his bill on me paid by them		2	28	12	—	Mar.	12	By Clover-ſeed, for 6 bags, per J.		6	28	12	—
Dr.		*Flax-ſeed,*								*Contra* *Cr.*					
1790			*Hds.*					1790			*Hds.*				
Mar.	17	To Clover-ſeed, in barter at 55s	2	4	5	10	—	Apr.	2	By Caſh	1	1	3	3	—
Apr.	30	To Profit and Loſs, for gain	—	1	—	18	—		14	By George Gordon	1	5	3	5	—
			2		6	8	—				2		6	8	—

Dr.

(5) LEDGER. Fo. | LEDGER. Fo. (5)

Dr.		*John Scott Farmer at Frankfort,*	Fo.	£	s	d			*Contra* Cr.	Fo.	£	s	d
1790							1790						
Mar.	21	To Clover-ſeed, for 140 lb at 7½d	4	4	7	6	Apr.	30	By Balance-account	5	4	7	6

Dr.		*Share of ſhip Hazard,*	Fo.	£	s	d			*Contra* Cr.	Fo.	£	s	d
1790							1790						
Mar.	25	To William Ainſlie, bought ½ ſhare for	5	150	—	—	Apr.	25	By Caſh for ſhare profit of a voyage to Rot.	1	33	—	—
Apr.	30	To Profit and Loſs,	1	23	—	—		30	By Balance-account,	5	140	—	—
				173	—	—					173	—	—

Dr.		*William Ainſlie merchant Alloa,*	Fo.	£	s	d			*Contra* Cr.	Fo.	£	s	d
1790							1790						
Apr.	6	To Sundries, per J.		33	—	—	Mar.	25	By Share of Ship Hazard, for ½ bt. from him	5	150	—	—
	10	To Baillie and Bell, for bal paid him by them	4	117	—	—							
				150	—	—					150	—	—

Dr.		*Train-oil,*	Caſks	Fo.	£	s	d			*Contra* Cr.	Caſks	Fo.	£	s	d
1790								1790							
Apr.	6	To Caſh, at 22s	30	1	33	—	—	Apr.	11	By James Boſwell, at 27s	20	2	27	—	—
	30	To Profit and Loſs, for gain		1	8	—	—		14	By George Gordon, at 28s	10	5	14	—	—
			30		41	—	—				30		41	—	—

Dr.		*George Gordon merchant Briſtol,*	Fo.	£	s	d			*Contra* Cr.	Fo.	£	s	d
1790							1790						
Apr.	14	To Sundries, per J.		41	3	4	Apr.	14	By Caſh, in part	1	35	—	—
								30	By balance-account	5	6	3	4
				41	3	4					41	3	4

Dr.		*Proper Expences,*	Fo.	£	s	d			*Contra* Cr.	Fo.	£	s	d
1790							1790						
Apr.	18	To Calicoes, for 5 yards at 3s 2d	3	—	15	10	Apr.	30	By Profit and Loſs,	1	32	15	10
	30	To Caſh for charges ſince 1ſt January	1	32									
				32	15	10					32	15	10

Dr.		*Thomas Sharp my clerk,*	Fo.	£	s	d			*Contra* Cr.	Fo.	£	s	d
1790							1790						
Apr.	30	To balance-account,	5	8	—	—	Apr.	30	By Charges Merchandize, due him for wages	4	8	—	—

Dr.		*Balance-account,*	Fo.	£	s	d			*Contra* Cr.	Fo.	£	s	d
1790							1790						
Apr.	30	To Sundries per J.		757	12	3	Apr.	30	By Sundries, per J.		229	3	2
									By Stock	1	528	9	1
				757	12	3					757	12	3

TRIAL-BALANCE.

		Dr.						Cr.					
1	Stock	L 312	7	3				L 824	2	8			
	Profit and Loſs	4	4	10				2	10	—			
	Caſh	599	15	11				591	12	1			
					L 916	8	—				L 1418	4	9
2	Wheat	L 277	14	8				L 203	18	8			
	Port-wine	104	10	—				111	5	—			
	Paper	36	15	—				41	13	6			
	Tea	94	17	4				49	12	6			
1	Houſe in Philadelphia	300	—	—				—	—	—			
					813	17	—				406	9	8
3	James Boſwell	L 247	11	—				L 110	—	—			
	Henry Hardie	31	2	6				—	—	—			
	David Miller	18	—	—				—	—	—			
	Bank of North America	140	—	—				441	3	2			
					436	13	6				551	3	2
4	Calicoes	L 16	12	6				L 18	5	10			
	James Cuthbert	35	6	3				30	—	—			
	Diaper	7	—	—				7	15	10			
	Salt	17	15	10				17	4	6			
					76	14	7				73	6	2
5	Iron	L 53	6	8				L 49	1	3			
	William Bruce	50	—	—				70	—	—			
	John Henderſon	7	4	—				—	—	—			
	William Hunter	18	13	6				—	—	—			
	Charges Merchandize	13	14	2				—	—	—			
					142	18	4				119	1	3
6	James Dalton	L 35	15	—				L	—	—			
	Clover-ſeed	29	17	—				27	7	1			
	Flax-ſeed	5	10	—				6	8	—			
	John Scott	4	7	6				—	—	—			
	Share of Ship Hazard	150	—	—				33	—	—			
					225	9	6				66	15	1
7	Train-oil	L 33	—	—				L 41	—	—			
	George Gordon	41	3	—				35	—	—			
	Proper Expences	32	15	10				—	—	—			
	Thomas Sharp	—	—	—				8	—	—			
					106	19	2				84	—	—
					L 2719	—	1				L 2719	—	—

COMPU-

COMPUTATIONS.

	Dr.	Cr.
Caſh	L 599 15 11	L 591 12 1
	591 12 1	
	L 8 3 10	
2 Wheat	L 277 14 8	L 203 18 8
Dr. 840 buſhels		83 14 —
Cr. 598	L 83 14 —	
		L 287 12 8
242		277 14 8
248		
	Profit	L 9 18 —
6 outcome		
Port-wine	L 104 10 —	L 111 5 —
		104 10 —
	Profit	L 6 15 —
Paper	L 36 15 —	L 41 13 6
		36 15 —
	Profit	L 4 18 6
Tea	L 94 17 4	L 49 12 6
lb.		47 8 —
834¼ 120	L 47 8 —	
360 120		L 91 — 6
		94 17 4
474¼		
Amiſſing ¼	Profit	L 2 3 2
Houſe in Philadelphia	L 300 — —	
3 Ja. Boſwell	L 147 11 —	L 110 — —
	110 — —	
	L 27 11 —	
Henry Hardy	L 31 2 6	
David Miller	L 18 — —	
Bank of North-America	L 240 — —	L 441 3 2
		240 — —
		L 201 3 2
4 Calicoes	L 16 12 6	L 18 5 10
		16 12 6
	Profit	L 1 13 4
J. Cuthbert	L 35 6 3	
	30 — —	
	L 5 6 3	
Diaper	L 7 — —	L 7 15 10
		7 — —
	Profit	L — 15 10

	Dr.	Cr.
4 Salt	L 17 15 10	L 17 4 6
	17 4 6	
Loſs	L — 11 4	
4 William Bruce	L 50 — —	L 70 — —
		50 — —
		L 20 — —
Iron	L 53 6 8	L 49 1 3
320 ſtone		6 13 4
280	L 6 14 4	
		L 55 14 7
40		53 6 8
	Profit	L 2 7 11
J. Henderſon	L 7 4 —	
W. Hunter	L 18 13 6	
Char. Merchan.	L 13 14 2 loſs.	
6 Ja. Dalton	L 35 15 —	
Clover-ſeed	L 29 17 —	L 27 7 1
1200 lb.		7 10 —
890	7 10 —	
		L 34 17 1
310		29 17 —
300		
	Profit	L 5 — 1
10 inlake		
Flax-ſeed	L 5 10 —	L 6 8 —
		5 10 —
	Profit	L — 18 —
J. Scott	L 4 7 6	
Share Hazard	L 150 — —	33 — —
		140 — —
	L 140 — —	
		L 173 — —
		150 — —
	Profit	L 23 — —
7 Train-oil	L 33 — —	L 41 — —
		33 — —
	Profit	8 — —
George Gordon	L 41 3 4	L 35 — —
	35 — —	
	L 6 3 4	
Proper Ex.	L 32 15 10 loſs.	
Thomas Sharp		L 8 — —
STOCK	L 312 7 3	L 824 2 8
Balance	528 9 1	prof. 16 13 8
	L 840 16 4	L 840 16 4

PROFIT

PROFIT AND LOSS SHEET.

Salt	L —	11	4	Wheat	L 9	18	—
Charges Merchandize	13	14	2	Port-wine	6	15	—
Proper Expences	32	15	10	Paper	4	18	6
				Tea	2	3	2
	L 47	1	4	Calicoes	1	13	4
In Ledger	4	4	10	Diaper	—	15	10
				Iron	2	7	11
	L 51	6	2	Clover-ſeed	5	—	1
				Flax-ſeed	—	18	—
				Share of Ship Hazard	23	—	—
				Train-oil	8	—	—
					L 65	9	10
Nett gain	16	13	8	In Ledger	2	10	—
	L 67	19	10		L 67	19	10

BALANCE-SHEET.

Caſh	L 8	3	10	Wheat, outcome 6 buſh.			
Wheat, 248 buſh. at 6s 8d	83	14	—	Bank of North America	L 201	3	2
Tea, 474 lb. at 2s	47	8	—	William Bruce	20	—	—
Amiſſing ½				Thomas Sharp	8	—	—
Houſe in Philadelphia	300	—	—				
James Boſwell	37	11	—		L 229	3	2
Henry Hardie	31	2	6				
David Miller	18	—	—				
J. Cuthbert	5	6	3				
Iron, 40 ſtone, at 3s 4d	6	13	4				
J. Henderſon	7	4	—				
W. Hunter	18	13	6				
James Dalton	35	15	—				
Clover-ſeed, 300 lb. at 6d	7	10	—				
Inlake 10 lb.							
J. Scott	4	7	6				
Share of ſhip Hazard	140	—	—				
George Gordon	6	3	4	STOCK	528	9	1
	L 757	12	3		L 757	12	3

The preſent article it is hoped, will appear ſufficiently extended for a work of this nature. It contains the general principles of Italian book-keeping; and is ſufficient to unfold the nature and deſign of that art to the ſpeculative inquirer, to direct the accountant in common and eaſy caſes, and prepare him for underſtanding thoſe that are more complicated. In fact, if he has a clear apprehenſion of the ſenſe of the tranſactions, the tendency of the journal-entries, and the import of the balances in the ledger, he will ſeldom be at a loſs how to proceed.

Subſidiary Books *uſed by merchants.*

Though all merchant-accounts may be kept by the *Waſte-book*, *Journal*, and *Ledger*, alone; yet men of great buſineſs find it convenient, either for abridging theſe, or for other ends, to uſe ſome others, generally called *Subſidiary* or *Subſervient Books;* the moſt common of which are theſe nine following, *viz.*

1. *Caſh-book.* This book is kept in a folio form, like the ledger, and ſerves to abridge the caſh-account there. On the left-hand page, or Dr. ſide, *Caſh* is charged Dr. for all the ſums received; and on the right-hand page, *Caſh* is made Cr. for all the ſums paid. Once a-week, or, which is more ordinary, once a month, this book is poſted to the ledger; or, if you pleaſe, firſt to the journal, by two entries, *viz. Caſh* Dr. to *Sundries*, for all the receipts, and *Sundries* Drs. to *Caſh* for all the payments. By this means the caſh-account in the ledger will be ſo far contracted as to conſiſt of 12 lines, *viz.* one for each month in the year.

2. *Book of Charges of Merchandize.* This book is only paged, and deſigned to abbreviate the caſh-book. It contains particular charges on goods and voyages; ſuch as carriage, cuſtom, freight, cranage, wharfage, &c.: as alſo other expences that affect trade in general; ſuch as warehouſe-rent, ſhop-rent, accountant's wages, poſtage of letters, and the like. At the end of each month the money-columns of this book are added up, and the ſum carried to the credit-ſide of the caſh-book.

3. *Book of Houſe-expences.* This book is alſo paged, and deſigned likewiſe to eaſe the caſh-book. It contains all diſburſements for family proviſions, ſervant's wages, houſe-rent, apparel, utenſils, &c. The money-columns of this book are alſo added up at the end of each month, and the ſum transferred to the credit-ſide of the caſh-book.

4. *Invoice-book.* This book, which is uſed chiefly by factors, is paged, and contains doubles or copies of the invoices of goods ſent to ſea, or of goods received from abroad.

5. *Sales-book.* This book too is chiefly uſed by factors; and into it is poſted, from the waſte-book, the particular ſales of every conſigned cargo; by which means the ſeveral articles of a ſale, that lie ſcattered in the waſte-book, are brought together, and repreſented under one view, and that in a manner more full and minute than they are collected in the ledger account. This book exhibits the ſales of every conſignment ſeparately and by themſelves; to which are ſubjoined the reſpective charges, ſuch as freight, cuſtom, the factor's commiſſion, as alſo abatements allowed to buyers, &c. whoſe ſum ſubtracted from the groſs amount of ſales gives the neat proceeds. From this book, when a cargo is ſold off, an account of ſales is drawn out, in order to be tranſmitted to the employer.

6. *Bill-Book.* The deſign of this *Bill-book*, or *Month-book*, is to furniſh a merchant with a ready way of knowing the time when bills or other debts become payable to or by him. It conſiſts of 12 folios, one for each month in the year. The left-hand page contains the debts that fall due to the merchant in the month on the top, and the right-hand page contains the debts payable by him to others in the ſame month.

7. *Receipt-book.* In this book a merchant takes receips of the payments he makes. The receipt ſhould contain the date; the ſum received, expreſſed in words at large, and alſo in figures in the money columns: the reaſon why; and whether in full or part; and muſt be ſigned by the perſon receiving. But there is no occaſion to mention the merchant's name; for the book being his own, ſufficiently implies that.

4. *Letter-book.* It is very imprudent in any perſon to ſend away a letter of buſineſs, without keeping a double of it to himſelf; and therefore to prevent the bad conſequences of ſuch a careleſs practice, merchants are provided with a large book in folio, into which is copied *verbatim* every letter of buſineſs before it be ſent off. So that this book, together with the letters received (which muſt alſo be carefully kept in files or boxes), makes a complete hiſtory of all the dealings that paſs betwixt a merchant and his correſpondents, which may be very uſeful and neceſſary on many occaſions.

9. *Pocket*-book. This is a ſmall book, of a portable ſize, which a merchant carries in his pocket when buſineſs calls him abroad to a tavern, a fair, the country, or other places. In this he ſets down the bargains he makes, the expences he is at, the debts he pays, or ſums he receives, with every other part of buſineſs he tranſacts while abroad: as alſo any occurrence or piece of news he thinks worth while to record. And when he comes home to his counting-houſe or ſhop, he transfers the things contained in this book, each to their proper places in the waſte-book, or books ſubſidiary.

Factors of great buſineſs ſometimes keep another ſmall book called the *Memorandum-book.* Into this book is copied, from letters as they come to hand, ſhort notes of the ſeveral commiſſions for buying goods contained in them; and as the commiſſions are effected the notes are croſſed, or have ſome mark affixed to them. This is more convenient in doing buſineſs, than to be continually running to the letters themſelves.

The above are the ſubſidiary books moſt in uſe: but a merchant is not tied down or reſtricted to them; he may keep ſome, and neglect others, or invent more as the nature of his buſineſs requires, and he finds convenient.

BOOKSELLER, one who trades in books, whether he prints them himſelf, or gives them to be printed by others.

Booksellers, among us, are the ſame with *bibliopolæ* among the ancients, whoſe office was diſtinct from that of *librarii.* Petty dealers, or venders of ſmall ware, like our publiſhers, were more particularly denominated *libelliones*. At Rome, the Argiletum was the mart of books, as Paul's Church yard, or Fleet-ſtreet, and Paternoſter-row, in London: whence that of Martial,

Argiletanas mavis habitare tabernas,
Cum tibi, parve liber, ſcrinia noſtra vacent.

Bookſellers in many places are ranked among the members of univerſities, and intitled to the privileges of ſtudents: as at Tubingen, Saliſburg, and Paris, where they have always been diſtinguiſhed from the vulgar and mechanical traders, and exempted from divers taxes and impoſitions laid on other companies.

Formerly, the offices of bookſellers and printers were united in the ſame perſons. Labbe gives a liſt of learned bookſellers; moſt of whom were alſo authors. Of late, bookſellers have drawn their buſineſs into leſs compaſs, and leaving the labour of compoſing books to one ſet of perſons, and that of printing them to another, content themſelves with the gainful part; thus miniſtering to the republic of letters not with the head or the hand, but the purſe only. In this view, they have been very important and uſeful agents between authors and the public; and have contributed, in no ſmall degree, to the encouragement of genius and literary induſtry, and the ſpread of ſcience. There are few authors, who have undertaken the printing and publiſhing of any work likely to be tranſmitted to poſterity, without being connected with ſome bookſeller, or bookſellers, eminent in their profeſſion.

The fairs of Frankfort and Leipſic are famous for the reſort of bookſellers, not only from all parts of the empire, but Holland, Flanders, &c. They have each their ſhop or warehouſe, over which is inſcribed the name of ſome celebrated bookſeller of former times; *officina, Elzeviriana, Frobeniana, Morelliana, Janſoniana*, &c.

An acquaintance with the bookſellers marks or ſigns, frequently expreſſed on the title-pages of their books, is of ſome uſe: becauſe many books, eſpecially in the laſt century, have no other deſignation either of printer, bookſeller, or even city. The anchor is the mark of Raphelengius at Leyden; and the ſame with a dolphin twiſted round it, of the Manutii at Venice and Rome; the Arion denotes a book printed by Oporinus at Baſil; the caduceus, or pegaſus, by the Wecheliuſes at Paris and Francfort; the cranes, by Cramoiſy; the compaſs, by Plantin at Antwerp; the fountain, by Vaſcoſan at Paris; the ſphere in a balance, by Janſon or Blaew, at Amſterdam; the lily, by the Juntas at Venice, Florence, Lyons, and Rome; the mulberry-tree, by Morel at Paris; the olive-tree, by the Stephenſes at Paris and Geneva, and the Elzeviers at Amſterdam and Leyden; the bird between two ſerpents, by the Frobeniuſes at Baſil; the truth, by the Commelins at Heidelberg and Paris; the Saturn, by Colinæus; the printing preſs, by Badius Aſcencius, &c.

The traffic of books was anciently very inconſiderable, inſomuch that the book-merchants of England, France, Spain, and other countries, were diſtinguiſhed by the appellation of *ſtationers*, as having no ſhops, but only ſtalls and ſtands in the ſtreets. During this ſtate, the civil magiſtrates took little notice of the bookſellers, leaving the government of them to the univerſities, to whom they were ſuppoſed more immediate retainers; who accordingly gave them laws and regulations, fixed prices on their books, examined their correctneſs, and puniſhed them at diſcretion. But when, by the ivention of printing, books and bookſellers began to multiply, it became a matter of more conſequence: and the ſovereigns took the direction of them into their own hands, giving them new ſtatutes, appointing officers to fix prices, and granting licences, privileges, &c.

BOOM, in the ſea language, a long piece of timber with which the clew of the ſtudding ſail is ſpread out: and ſometimes the boom is uſed to ſpread or boom out the clew of the main-maſt.

BOOM, denotes alſo a cable ſtretched athwart the mouth of a river or harbour; with yards, top-maſts, battling or ſpars of wood laſhed to it, to prevent an enemy's coming in.

BOOMING, among ſailors, denotes the application of a boom to the ſails. A ſhip is ſaid to come booming forwards, when ſhe comes with all the ſail ſhe can make.

BOONEN (Arnold), portrait painter, was born at Dort in 1669, and at firſt was a diſciple of Arnold Verbuis, a painter of hiſtory and portrait. Afterwards he placed himſelf with Godfrey Schalcken, and continued with that artiſt for ſix years. The ſweetneſs of his colouring, and the neatneſs of his touch, with a ſtriking likeneſs in his portraits, procured him a number of admirers. He painted in the manner of his maſter, particularly ſubjects by candle-light, which were very delicate, and very natural; and much more of his work was requeſted by the lovers of the art than it was poſſible for him to undertake. He had the honour to paint the portraits of the Czar of Muſcovy; of Federick I. King of Pruſſia; of the victorious Duke of Marlborough, as well as many of the princes of Germany; and moſt of the noblemen who attended the Czar. His ſtyle of colouring was extremely good, and he had an elegant manner of diſpoſing the attitudes of his figures; his handling was neat, and the whole had ſo much harmony that he was juſtly ranked among the ableſt artiſts of his time. The ſmall pictures of Boonen are in the taſte of his maſter Schalcken; but his exceſſive application, to anſwer the multitude of his engagements, impaired his health, and deſtroyed while it enriched him. He died in 1729.

BOOPTHALMUS, a kind of agate with large circles in it, bearing ſome reſemblance to an ox's eye, from whence it has got this name.

BOOPS, in zoology, the trivial name of a ſpecies of balæna. See BALÆNA.

BOOSHATTER, formerly the city of Uttica, famous for the retreat and death of Cato, lies about ſeven miles inland from PORTO FARNIA in the bay of TUNIS. Nothing remains of its ancient grandeur except part of a large aqueduct, ſome ciſterns, and other magnificent ruins, which cover a large extent of ground; and ſhow it to have been a very conſiderable place. The ſea, it is known, came up anciently to this city, though now ſeven miles diſtant.

BOOT, a leathern cover or defence for the leg, uſed on horſeback, both to keep the body more firm, and defend the part from the injuries of the weather. Boots ſeem to have taken their name from the reſemblance they bear to a ſort of jacks or leathern bottles formerly in uſe, and called *bottæ*, in the old French *bouts*. Borel derives the name from the old French word *bot*, a ſtump, by reaſon the boot gives the leg this appearance. The Chineſe have a kind of boots made of ſilk or fine ſtuff lined with cotton, a full inch thick, which they always wear at home. This people are always booted; and when a viſit is made them, if they happen to be without their boots, their gueſt muſt wait till they put them on. They never ſtir out of doors without their boots on; and their ſcrupulouſneſs in this reſpect is the more remarkable as they are always carried in their chairs.

The boot was much uſed by the ancients, by the foot as well as by the horſemen. It was called by the ancient Romans *ocrea*; in middle-age writers, *greva*, *gamberia*, *bainberga*, *bembarga*, or *benbarga*. The boot is ſaid to have been the invention of the Carians. It was at firſt made of leather, afterwards of braſs or iron, and was proof both againſt cuts and thruſts. It was from this that Homer calls the Greeks *brazen-booted*. The boot only covered half the leg; ſome ſay the right leg, which was more advanced than the left, it being advanced forwards in an attack with the ſword; but in reality it appears to have been uſed on either leg, and ſometimes on both. Thoſe who fought with darts or other miſſile weapons, advanced the left leg foremoſt, ſo that this only was booted.

Fiſhing-Boots, are a thick ſtrong ſort uſed in dragging ponds, and the like. Hunting-boots, a thinner kind uſed by ſportſmen. Jack-boots, a kind of very ſtrong boots uſed by the troopers.

Boot, is likewiſe a kind of torture for criminals; to extort a confeſſion, by means of a boot, ſtocking, or buſkin of parchment; which being put on the leg moiſt, and brought near the fire, in ſhrinking ſqueezes the leg violently, and occaſions intolerable pain.

There is alſo another kind of boot; conſiſting of four thick ſtrong boards bound round with cords: two of theſe are put between the criminal's legs, and the two others placed one on the outſide of one leg and the other on the other; then ſqueezing the legs againſt the boards by the cords, the criminal's bones are ſeverely pinched, or even broken, &c.

The boot is now diſuſed in England and Scotland; but it ſubſiſts ſtill in ſome other countries.

Boot-Tree, or *Boot-laſt*, an inſtrument uſed by ſhoemakers to widen the leg of a boot. It is a wooden cylinder ſlit into two parts, between which, when it is put into the boot, they drive by main force a wedge or quoin.

BOOTES, a conſtellation of the northern hemiſphere, conſiſting of 23 ſtars according to Ptolemy's catalogue, of 18 in Tycho's, of 34 in Bayer's, of 52 in Hevelius's, and of 54 in Mr Flamſtead's catalogue.

BOOTH (Barton), a famous Engliſh actor, born in Lancaſhire in 1681, and educated in Weſtminſter ſchool under the celebrated Dr Buſhby, where his ſucceſs in the Latin plays cuſtomarily performed by the ſcholars gave him an inclination for the ſtage. He was intended for the church; but running away from ſchool to Dublin, he there commenced actor. His firſt appearance was in the part of Oroonoko, in which he came off with every teſtimonial of approbation from the audience. From this time he continued daily improving; and, after two ſucceſsful campaigns in that kingdom, conceived thoughts of returning to his native country, and making a trial of his abilities on the Engliſh ſtage. To this end, he firſt, by letter, reconciled himſelf to his friends; and then, as a farther ſtep towards inſuring his ſucceſs, obtained a recommendation from Lord Fitzharding (one of the lords of the bedchamber to prince George of Denmark) to Mr Betterton, who with great candour and good nature took him under his care, and gave him all the aſſiſtance in his power. The firſt part Mr Booth appeared in at London was that of Maximus in Lord Rocheſter's Valentinian, his reception in which exceeded even his moſt ſanguine expectations; and very ſoon after his performance of Artaban, in Rowe's Ambitious Stepmother, which was a new tragedy, eſtabliſhed his reputation, as ſecond at leaſt to his great inſtructor. Pyrrhus, in the Diſtreſſed Mother, was another part in which he ſhone without a rival. But he was indebted to a happy coincidence of merit and chance, for that height of fame which he at length attained in the character of Cato, as drawn by Mr Addiſon, in 1712. For this play being conſidered as a party one, the Whigs, in favour of whoſe principles it was apparently written, thought it their duty ſtrongly to ſupport it, while at the ſame time the Tories, who had too much ſenſe to appear to conſider it as a reflection on their adminiſtration, were ſtill more vehement in their approbation of it, which they carried to ſuch an height, as even to make a collection of 50 guineas in the boxes during the performance, and preſent them to Mr Booth, with this compliment, "That it was a ſlight acknowledgement for his honeſt oppoſition to a perpetual dictator, and his dying ſo bravely in the cauſe of liberty" Beſides this, he had a preſent of an equal ſum from the managers, in conſideration of the great ſucceſs of the play, which they attributed in a good meaſure to his extraordinary merit in the performance; and certain it is, that no one ſince that time has ever equalled, or even nearly approached, his excellence in that character.—But theſe were not the only advantages which were to accrue to Mr Booth from his ſucceſs in this part; for Lord Bolingbroke, then one of the principal ſecretaries of ſtate, in a little time after procured a ſpecial licence from queen Anne, recalling all the former ones, and nominating Mr Booth as joint manager with Wilks, Cibber, and Dogget; none of whom were pleaſed at it; but the laſt eſpecially took ſuch diſguſt as to withdraw himſelf from any further ſhare in the management. In 1704, Mr Booth had married a daughter of Sir William Barkham Bart. who died in 1710, without iſſue. Being now eſtabliſhed in the management, he once more turned his thoughts towards matrimony; and in the year 1719 united himſelf to the celebrated Miſs Heſter Santlow, a woman of a moſt amiable diſpoſition, whoſe great merit as an actreſs, added to the utmoſt diſcretion and prudential œconomy, had enabled her to ſave up a conſiderable fortune. During the 20 years in which Mr Booth continued a manager, the theatre was in the greateſt credit; and his illneſs and death, which happened on the 10th of May 1733, contributed not a little to its decline.

Mr Booth wrote a dramatic entertainment called *Dido and Æneas*; but his maſter-piece was a Latin inſcription to the memory of Mr William Smith, a celebrated actor, who died while he was young.—As an actor, his excellency lay wholly in tragedy, not being able to endure ſuch parts as had not ſtrong paſſion to inſpire him. And even in this walk, dignity rather than complacency, rage rather than tenderneſs, ſeemed to be his taſte. For a particular idea of his abilities, we muſt refer to the deſcription Mr Cibber has given of him in his Apology; and the admirable character drawn of him by that excellent judge of dramatic perfection, Aaron Hill, Eſq. in a political paper publiſhed by him called the *Prompter*, which may be ſeen at length in Theoph. Cibber's Lives of the Poets, and Chetwood's Hiſtory of the Stage.—His character as a man was adorned with many amiable qualities, among which, a goodneſs of heart, the baſis of every virtue, was remarkably conſpicuous; and ſo particularly was he diſtinguiſhed and careſſed, and his company ſought by the great, that, as Chetwood relates of him, not one nobleman in the kingdom had ſo many ſets of horſes at command as he had.

BOOTY, whatever is taken from an enemy in time of war.—Among the Greeks, the booty was divided in common among the army, the general only claiming a larger ſhare. By the military diſcipline of the Romans, ſpoils taken from the enemy belonged to the republic, particular perſons having no right to them. The generals who piqued themſelves on their probity carried it wholly to the public treaſury. Sometimes indeed they divided it among the ſoldiery, to animate them, and ſerve in lieu of a reward. But this diſtribution depended on the generals, who were to conduct themſelves herein with great equity and moderation; otherwiſe it became a crime of peculate to lay hands on the pillage, as regularly belonging only to the eſtate. The conſuls Romulus and Vaturius were condemned for having ſold the booty taken from the Æqui.—Among the Jews, the booty was divided equally between the army and the people, though under the kings a different kind of diſtribution obtained.—Among the Mahometans, two thirds of the ſpoils are allowed to the army: the other third to God, to Mahomet and his relations, and to the orphans, the poor, and the pilgrims.—Among the Britons, formerly the booty was divided among the ſoldiery. If the general be in the field, every body takes what he can lay hold on: if the general be abſent, the booty is diſtributed among the ſoldiery, two parts being allowed to the cavalry, and one to the infantry. A captain is allowed ten ſhares, a lieutenant ſix, and a coronet four.

BOPPART, a town of Germany, in the circle of the Rhine, and electorate of Treves; it is ſeated at the foot of a mountain near the Rhine, in E. Long. 7. 35. N. Lat. 50. 19.

BOPSINGEN, a town of Suabia in Germany, ſeated on the river Egar, in E. Long. 9. 55. N. Lat. 48. 51.

BOQUINIANS, in church-hiſtory, a ſect of heretics, ſo called from Boquinus their founder, who taught that Chriſt did not die for all mankind, but only for the faithful, and conſequently was only a particular Saviour.

BORAGO, in botany, a ſynonime of the ANCHUSA.

BORAK, among Mahometans, a fabulous animal, ſuppoſed to be of the middle kind between an aſs and a mule, whereon their prophet was carried in his nocturnal flight from Jeruſalem into the heavens. This animal the Arabians call *Al Borak*, q. d. *ſhining*. The night when the journey was performed is called *Lailat al Meeraga*, e. i. *the night of aſcenſion*; and the flight itſelf *Al Meſra*; concerning which there are a multitude of traditions.

BORAX, in chemiſtry, a ſalt in appearance ſomewhat ſimilar to cryſtals of alum, brought originally from the Eaſt-Indies in an impure ſtate, and afterwards freed from its impurities by certain proceſſes in the European countries. It was long a matter of uncertainty whether this ſalt be a natural or actitious ſubſtance in thoſe countries from whence it is brought; but it is now beyond a doubt, that it is naturally produced in the mountains of Thibet, from whence other parts of the eaſtern continent are ſupplied. Mr Kirwan, in his mineralogy, informs us, that Mr Grill Adamſon ſent ſome to Sweden in the year 1772, in the cryſtalline form, as dug out of the earth in the kingdom of Thibet, where it is called *pounxa*, *my poun*, and *houi poun*. It is ſaid to have been found in Saxony in ſome coal-pits.

In the Philoſophical Tranſactions, vol. 77. we have two different accounts of the place where it is found, and the manner of obtaining it. One of theſe is by William Blane, Eſq. who tells us that in the language of the country it is called *ſwagah*, and is brought into Hindoſtan from the mountains of Thibet. It is produced in the kingdom of Jumlate, about 30 days journey north from Betowle, a ſmall principality about 200 miles N. E. of Lucknow. The place where it is found is ſaid to be a ſmall valley ſurrounded with ſnowy mountains, in which is a lake about ſix miles in circumference; the water of which is conſtantly ſo hot that the hand cannot bear it for any time. Around this lake the ground is perfectly barren, not producing even a blade of graſs; and the earth is ſo full of a ſaline matter, that after falls of rain or ſnow it concretes in white flakes on the ſurface like the natron of Hindoſtan. On the banks of this lake, in the winter ſeaſon, when the falls of ſnow begin, the earth is formed into ſmall reſervoirs ſix inches high: when theſe are filled with ſnow, the hot water from the lake is thrown upon it; which, together with the water from the melted ſnow, remains in the reſervoir, to be partly abſorbed by the earth and partly evaporated by the ſun; after which there remains at the bottom a cake of ſometimes half an inch thick of crude borax, which is taken up and reſerved for uſe. It can only be made in the winter ſeaſon, becauſe the falls of ſnow are indiſpenſably requiſite, and alſo becauſe the ſaline appearances upon the earth are ſtrongeſt at that time. When once it has been made on any ſpot, it cannot be made again on the ſame until the ſnow has fallen and diſſolved three or four times, when the ſaline effloreſcence appears as before. The borax, in the ſtate in which it is taken off the earth, is carried from hill to hill upon goats, and paſſes through many hands, which increaſes the difficulty of obtaining any authentic information concerning the original manufacture. When brought down from the hills, it is refined from the groſs impurities by boiling and cryſtallization. Our author could obtain no anſwer from thoſe who gave him the account, to any of his queſtions concerning the quality of the water and the mineral productions of the ſoil. All they could tell him was, that the water was very hot, very foul, and as it were greaſy; that it boils up in many places, and has a very offenſive ſmell; and that the ſoil is remarkable only for the ſaline appearances already mentioned. The country in general produces conſiderable quantities of iron, copper, and ſulphur; and our author was aſſured that all the borax in India came from this place.

As this part of Aſia is entirely unfrequented by Europeans, our author could only obtain his information from the natives: however, as he had an opportunity of ſeeing ſome of thoſe who reſided near the ſpot, it might be reckoned as genuine as could well be expected. The place, he tells us, is inacceſſible not only to the Europeans, but even to the inhabitants of Indoſtan, being never viſited by any of them except a few wandering Faquirs, who have been ſometimes led there, either with a view to viſit ſome of the temples in the mountains, or to do penance. They deſcribe the cold in winter to be ſo intenſe, that every thing is frozen up; and life can only be preſerved by loads of blankets and ſkins. In the ſummer, again, the reflection of heat from the ſides of the mountains, which are ſteep and cloſe to one another, renders the heat intolerable. With reſpect to the credibility of the account, he obſerves, firſt, "That borax is really brought from the mountains of Thibet is certain, as he himſelf often had occaſion to ſee large quantities of it brought down, and had purchaſed it from the Tartar mountaineers, who brought it to market; ſecondly, he had never heard of its being produced or brought into India from any other quarter; and, thirdly, if it was made on the coaſt of Coromandel, as ſome books mention, he thinks there can be little doubt but that the whole proceſs would have been fully inquired into, and given to the public long before this time."

The other account is from father Joſeph de Ravato, preſident of the miſſion of Thibet, and ſent in a letter to the Royal Society, communicated by Joſeph Banks, Eſq. He pretends alſo to have had his intelligence from a native of the country where the borax is made, though it differs very conſiderably from that of Mr Blane. "In the province or territory of Marme (ſays he), 28 days journey to the north of Nepal, and 25 to the weſt of Laſſa, the capital of Thibet, there is a vale about eight miles broad. In a part of this vale there are two villages or caſtles, the inhabitants of which are wholly employed in digging the borax which they ſell into Thibet and Nepal, they have no other means of ſubſiſtence, the ſoil being ſo barren as to produce nothing but a few ruſhes. Near theſe two caſtles there is a pool of moderate ſize, and ſome ſmaller ones, where the ground is hollow and the rain water collects. In theſe pools, after the water has been ſome time detained in them, the borax is formed naturally: the men wading into the water, feel a kind of a pavement under their feet, which is a ſure indication that borax is there formed; and there they accordingly dig it. Where there is little water, the layer of borax is thin; where it is deep, it is thicker; and near the latter there is always an inch or two of ſoft mud, which is probably a depoſit of the water after it has been agitated by rain or wind. Thus is the borax produced merely by nature, without either boiling or diſtillation. The water in which it is formed is ſo bad, that the drinking a ſmall quantity of it will occaſion a ſwelling of the abdomen, and in a ſhort time death itſelf. The earth that yields the borax is of a whitiſh colour; and in the ſame valley, about four miles from the pools, there are mines of ſalt, which is there dug in great abundance for the uſe of all the inhabitants of theſe mountains, who live at a great diſtance from the ſea. The natives, who have no other ſubſiſtence on account of the ſterility of the ſoil, pay nothing for digging borax; but ſtrangers muſt pay a certain retribution, and uſually agree at ſo much per workman. Ten days journey farther north, there is another valley named *Tapre*, where they dig borax; and another ſtill farther to the northward, named *Cioga*. Borax, in the Hindoo and Nepaleſe languages, is called *Soaga*. If it be not purified, it will eaſily deliqueſce; and in order to preſerve it for ſome time till they have an opportunity of ſelling it, the people often mix it with earth and butter. In the territory of Mungdan, 16 days journey to the north of Nepal, there are rich mines of arſenic; and in various other places are found mines of ſulphur, as alſo of gold and ſilver, whoſe produce is much purer than thoſe of the mines of Pegu."

Mr Fourcroy informs us, that borax is found in commerce in three different ſtates. 1. Crude borax, tincal, or chryſocolla, which comes from Perſia. He deſcribes it as conſiſting of a greeniſh maſs of a greaſy feel, or in opaque cryſtals of an olive green, which are ſix-ſided priſms terminated by irregular priſms. There are two varieties of theſe cryſtals, differing in magnitude: this ſalt is very impure by the addition of foreign matters. Mr Kirwan tells us, that this kind is called *brute borax*, *tincal*, or *chryſocolla*, and that it is in the form of large, flat, hexangular, or irregular cryſtals, of a dull white or greeniſh colour, greaſy to the touch; or in ſmall cryſtals, as it were cemented together by a rancid, yellowiſh, oily ſubſtance, intermixed with marl, gravel, and other impurities. Mr Engeſtrom, he adds, has a ſuſpicion that the tincal is only the reſiduum of the mother liquor of borax evaporated to dryneſs; and that the greaſineſs ariſes from its being mixed with butter-milk, to prevent its effloreſcence.

2. Borax of China is ſomewhat purer than the foregoing, and is met with in the form of ſmall plates or maſſes irregularly cryſtallized, and of a dirty white. It appears to conſiſt of fragments of priſms and pyramids confounded together without any ſymmetrical arrangement: a white powder is obſerved on the ſurface, which is thought to be of an argillaceous nature.

3. The Dutch or purified borax, in the form of portions of tranſparent cryſtals of conſiderable purity. Pyramids with ſeveral facets may be obſerved among them, the cryſtallization appearing to have been interrupted. "This form (ſays Mr Fourcroy) ſhows to a certainty that the Dutch refine this ſalt by ſolution and cryſtallization."—Mr Kirwan ſays, that it is purified by ſolution, filtration, and inſtallization; and the cryſtals thus obtained are calcined, to free them ſtill farther from greaſineſs; and then diſſolved, filtered, and cryſtallized, a ſecond time. Sometimes more mineral alkali is added, as tincal is ſaid to contain an exceſs of ſedative ſalt. Mr Fourcroy tells us, that a purified borax, not inferior to the Dutch, but perhaps

even of greater purity, is prepared by ſome chemiſts at Paris.

The ſame author informs us, that M. La Piame, an apothecary at Paris, has diſcovered, that it is continually formed in the ſoap-ſuds and refuſe-waters of the kitchen, which a perſon preſerves in a kind of ditch; and from which, at the end of a certain time, he obtains true borax in fine cryſtals. "All that we can deduce (ſays he) from the known facts concerning its formation, is ſimply, that it is produced in ſtagnant waters which contain fat matters." Some authors affirm, that is produced by art in China. A mixture of greaſe, clay, and dung, is ſaid to be depoſited in a ditch, *ſtratum ſuperſtratum*. This mixture is ſprinkled with water, and ſuffered to remain for ſome years; at the end of which time it is lixiviated, and affords crude borax by evaporation. Others have ſuppoſed that it is obtained from water, which filters through copper mines. Mr Beaume poſitively aſſerts, that the former of theſe proceſſes ſucceeded very well with him; but Dr Black gives little credit to his aſſertions.

Borax ſerves as a flux to vitrifiable earths, with which it forms a good glaſs, and is employed in making artificial gems. It vitrifies clay, but much leſs completely than ſiliceous earths; and from this property it adheres to the inſide of crucibles, and glazes them.

Borax, as is related at length under the article CHEMISTRY, is a peculiar neutral ſalt formed by the union of a kind of acid with mineral alkali. This acid, from ſome ſuppoſed properties of allaying the heat of fevers, had the name of *ſal ſedativus*, which it ſtill retains. It has been ſuppoſed to be an artificial product, and perhaps may be artificially made*: but Mr Hoefer, apothecary to the grand duke of Tuſcany, has diſcovered that the waters of ſeveral lakes of that country contain it in a ſtate of great purity; and the chemiſts of the academy of Dijon have confirmed this diſcovery by analyſing the waters of Monte Rotondo, which were ſent to them; and in which they found ſedative ſalt, as diſcovered by Mr Hoeffer. It is probable (ſays our author) that it may hereafter be found in other mineral waters; and it ſeems to be produced by the putrefaction of fat ſubſtances.

* See *Chemiſtry*.

Magellan's Notes on Cronſtedt's Mineralogy p. 315.

Mr Hoefer firſt diſcovered this acid in the waters of the Lagoon named *Cerchiaio* near Monte Rotondo, of which diſcovery an account was publiſhed in the year 1778. The ſame was found, in a concrete ſtate, by Mr Paul Maſgagni profeſſor of anatomy, in ſeveral ſtreams of the Lagoon in the neighborhood of Sienna and Volterra. He enumerates ſix places; viz. the lake of *Travale*, 20 miles to the weſt of Sienna; that of *Rotondo*, which lies 30 miles to the weſtward of the ſame town; of *del Saſſo*, three miles further; at another called *Sarazzano*, ſix miles from Monte Rotondo; another named *Caſtel Nuovo*, ſeven miles from Monte Rotondo, and 24 from Sienna; and that of *Monte Cerboli*, four miles diſtant from *Caſtel Nuovo*. In the neighbourhood of all theſe lakes are conſiderable ſprings of hot water ruſhing out of the earth, ſome clear, and ſome muddy; either of a dark or a whitiſh colour; and, in ſome, a kind of metallic cruſt or pellicle is perceived on the ſurface of the water. Many cavities from which the waters ruſh out ſeem to be true ſmall volcanic craters, and continually emit from the earth vapours of a ſulphureous and ammoniacal nature. Theſe waters not only contain the acid of borax, both in the fluid and concrete ſtate, but various other concretions are there obſerved, ſuch as martial vitriol, ammoniacal, aluminous, concrete boracic ſalts, brimſtone, &c.

"It is remarkable (ſays our author, p. 363.), that, near 40 years ago, Dr Hill, in his notes to *Theophraſtus's Treatiſe on Stones*, aſſerted, that borax was a ſalt made by evaporation of an ill taſted and foul water, of which there were ſprings in Perſia, Muſcovy, and Tartary. But he was hardly believed, on account of the many bold and groundleſs aſſertions of which he had been found guilty in almoſt all his numerous works. Mr Beaumé at Paris pretended to have diſcovered the method of making the ſedative ſalt by a long maceration of greaſy and earthy ſubſtances; but nobody has yet been able to verify this fanciful diſcovery.

"The unrefined borax which is brought to Europe under the name of *tincal*, looks like ſoft ſoap, is fat, and covers or encruſts the borax cryſtals. The mine-maſter, Mr Swab, has publiſhed ſome experiments upon this tincal in the acts of the Royal Academy of Sciences at Stockholm for 1756. He found in it a martial earth, and a fat ſubſtance, which, to ſmell and other circumſtances, comes neareſt to a mineral fat: as alſo, that pure borax does not yield any *hepar ſulphuris* when united with a phlogiſton and a vitriolic acid; from which he concludes, that borax is prepared from its own particular mineral ſubſtance.

"Profeſſor Pott and M. de Henouville have very carefully examined the refined borax; and from their experiments, which have been publiſhed, it is evident, that it is of a peculiar nature. However, there remains to be known, for certain, from whence it is prepared by the Indians: for if it is produced from a mineral ſubſtance, as is very probable, there muſt exiſt other mixtures and compoſitions as yet unknown to the learned world.

"I have alſo found in the tincal ſome bits of leather, bones, and ſmall pebbles, whence there is no certainty to be concluded on from its examination; but if it ſhould happen that it is prepared from animal ſubſtances, it muſt be allowed, that nature has formed an alkaline ſalt in the animal kingdom, analogous to the *ſal fuſibile microcoſmicum*. Some years ago a report was propagated from Saxony, that ſomebody had diſcovered there a ſubſtance out of which borax could be made, and alſo the art of preparing it: but nothing more has tranſpired ſince, than that the author ſhowed it in ſecret to his friends, and gave a deſcription of it which was only intended to miſlead them, if he really did poſſeſs the art."

According to Mr Kirwan, 100 parts of purified borax contains 32 of real boracic acid, 17 of mineral alkali, and about 47 of water; but of this quantity of mineral alkali, only about five parts are ſaturated; whence, in many caſes, borax acts as an alkali. Bergman informs us, that it requires an equal weight of acid to make the alkaline properties entirely diſappear; and Dr Withering, that double the quantity of acid is required for this purpoſe, both in the tincal and refined borax.

This acid, like the borax in ſubſtance, is made uſe of to fuſe vitrifiable earths, with which it forms clear and nearly colourleſs glaſſes: by the aſſiſtance of heat it diſſolves the earth precipitated from the liquor of flints. It unites with ponderous earth, magneſia, lime, and alkalis, and forms, with theſe different ſubſtances, ſalts diſtinguiſhed by one general name of borax, though only that formed by the combination of ſedative ſalt and mineral alkali is uſed in the arts. It is uſed in many other chemical operations as a flux, beſides that of glaſs-making; and the dyers alſo uſe it for giving a gloſs to ſilks. In medicine it has been given as a narcotic, and was formerly an ingredient in a powder for promoting delivery, but is now diſuſed.

BORBETOMAGUS, (anc. geog.), a city of the Vangiones on the Rhine; now *Worms*, in Germany.

BORBONIA, in botany: A genus of the decandria order, belonging to the diadelphia claſs of plants; and in the natural method ranking under the 32d order, *Caryophylleæ*. The ſtigma is emarginated; the calyx has pointed ſpines; and the legumen is pointed.—There are ſix ſpecies, all of which are natives of warm countries. They are a kind of broom; and in the places where they grow naturally, they riſe to the height of ten or twelve feet, but in Europe ſeldom riſe more than four or five. They muſt be kept conſtantly in the ſtove, and may be propagated by laying down the young ſhoots; but as theſe are generally two years before they put forth proper roots, the moſt eligible method is by ſeeds, which muſt be procured from thoſe places where they grow naturally, as they do not come to perfection in Europe.

BORBORITES, in church-hiſtory, a ſect of gnoſtics, in the ſecond century, who, beſides embracing the errors of theſe heretics, denied the laſt judgment. Their name comes from the Greek *Borbores*, "filth;" on account of a cuſtom they had of daubing their faces and bodies with dirt and filth.

BORCH, a town of the ducy of Magdeburgh in Lower Saxony, ſeated on the river Elbe, in E. Long. 12. 14. N. Lat. 52. 25.

BORCHLOEN, a town of the biſhopric of Liege in Germany, ſituated in E. Long. 5. 28. N. Lat. 50. 50.

BORCOVIUM, (anc. geog.), a town of the Ottadini in Britain, now *Berwick on Tweed*.

BORD-HALFPENNY, a ſmall toll by cuſtom paid to the lord of the town for ſetting up boards, tables, booths, &c. in fairs and markets.

Bord-Lands, the demeſnes which lords keep in their hands for the maintenance of their board or table.

Bord-Lode, a ſervice required of tenants to carry timber out of the woods of the lord to his houſe. It is alſo uſed to ſignify the quantity of proviſion which the bordarii or bordmen paid for their bord-lands.

Bord-Service, the tenure of bord-lands, by which ſome lands in certain places are held of the biſhop of London, and the tenants now pay ſixpence per acre, in lieu of ſending proviſion anciently for their lord's table.

BORDAT, in commerce, a ſmall narrow ſtuff, which is manufactured in ſome parts of Egypt, particularly at Cairo, at Alexandria, and Damieta.

BORDE (Andrew), a phyſician, was born at Pevenſey in Suſſex, early in the 16th century, and ſuppoſed to have been educated at Weſtminſter ſchool. In his *Introduction to Knowledge*, he ſays, that he was a ſtudent of Oxford; but of what college he does not mention. He left the univerſity without a degree, and entered himſelf a brother of a Carthuſian convent in or near London; but, not liking the ſevere diſcipline of that order, he returned to Oxford, and applied himſelf to the ſtudy of phyſic. Some time after, he embarked for the Continent; and, as he himſelf expreſſes it, "travelled through and round about Chriſtendom, and out of Chriſtendom into ſome parts of Africa." In the years 1541 and 1542, he reſided at Montpelier in France, where he was made doctor of phyſic, and after his return to England was incorporated into the ſame degree at Oxford. From the preface to his *introduction* above mentioned, it appears that he had been in Scotland, which probably was ſoon after his return from France. Having now ſatiſfied his inclination for travelling, he ſettled firſt at Pevenſey where he was born, afterwards at Wincheſter, and finally at London, where he is ſaid to have become a fellow of the college of phyſicians, and firſt phyſician to king Henry VIII. But, notwithſtanding his eminence in his profeſſion, he had the misfortune to ſpend the latter end of his life in the Fleet-priſon, where he died in the year 1549. As to his character, Wood ſays, that "he was eſteemed a noted poet, a witty and ingenious perſon, and an excellent phyſician." Pits calls him a man of ſufficient learning, but too volatile and inconſtant. Bale and ſome others, on the contrary, abuſe him groſsly. His writings are, 1. A book of the introduction of knowledge, the whych doth teach a man to ſpeak part of all manner of languages, &c. Lond. 1542, 4to; dedicated, from Montpelier, to the lady Mary daughter to Henry VIII. It is written partly in verſe, and partly in proſe, containing 39 chapters, before each of which is a wooden print of a man. 2. The breviary of health, wherein are remedies for all manner of ſickneſs and diſeaſes, &c. Lond. 1547, &c. 4to. 3. Dietary of health, Lond. 1576, 8vo. 4. The merry tales of the madmen of Gotham. Printed, ſays Wood, in the time of Henry VIII. in whoſe reign, and after, it was accounted a book full of wit and mirth by ſcholars and gentlemen. Afterwards being often printed, it is now ſold only on the ſtalls of ballad-ſingers. 5. A right pleaſant and merry hiſtory of the mylner of Abington, with his wife and his fair daughter, and of two poor ſcholars of Cambridge. Lond. printed by Richard Jones, 4to. 6. A book of every region, country, and province; which ſhows the miles and leagues diſtance from city to city, and from town to town, with the noted things in the ſaid cities and towns. Wood ſays that the author lent the manuſcript of this book to his friend Thomas Cromwell, who loſt it, to the great grief of the author, who would otherwiſe have publiſhed it. In this inſtance, however, the antiquary was miſinformed; for it has ſince been publiſhed by Hearne at the end of *Benedictus abbas Peterb. de vita Henrici* II. Oxf. 1735, 8vo. 7. The principles of aſtronomy, the whych diligently perſecuted is in a manner a prognoſtication to the world. Lond. printed by Robert Copland, 12mo. The author ſays that he wrote this little book in four days, with one old pen without mending.

BORDER, in gardening, is made to incloſe parterres, that they may not be injured by walking in them. Borders are made either circular, ſtraight, or in cants; and are turned into knots, ſcrolls, volutes, and other compartments. They are rendered very ornamental by the flowers, ſhrubs, yews, &c. that are raiſed in them. They are always laid with a ſharp riſing in the middle; becauſe, if they are flat, they are noways agreeable to the eye: and as for their breadth, the largeſt are allowed five or ſix feet, and the ſmalleſt commonly four.

BORDENTON, an exceeding pleaſant and healthy village, ſituated, about thirty miles above Philadelphia, on the eaſtern bank of the Delaware, in the ſtate of New Jerſey and county of Burlington. The town ſtands on a bank of about ſeventy feet perpendicular height, between the mouths of two creeks which empty into the Delaware, juſt where the river forms an angle of near ninety degrees. It contains about one hundred houſes, two places of worſhip, viz. a Baptiſt and Quaker meeting houſe, alſo an academy, where both the languages, and arts, and ſciences are taught, now in a pretty flouriſhing condition. This inſtitution was founded in the year 1778, by its preſent principal the reverend Burgiſs Alliſon, A. M.

BORDUNI, or BORDONE, (Paris), an excellent Italian painter, was born at Venice about the year 1512; and, being of a noble family, had a polite education. He was the diſciple of Titian; but has been admired more for the delicacy of his pencil than for the truth of his outlines.

BORDURE, in heraldry. See there, n° 10.

BORE, among engineers, denotes the diameter of the barrel, of a gun or cannon, or rather its whole cavity.

BOREAS, a Greek name, now in common uſe for the north wind. Pezron obſerves, that anciently Boreas ſignified the *north-eaſt wind* blowing at the time of the ſummer ſolſtice. The Greeks erected an altar to Boreas. He is repreſented on the temple at Athens with his robe before his mouth, as if he felt the cold of the climate over which he preſides, agreeably to the deſcription of Ovid, who calls him *gelidus tyrannus*, "the ſhivering tyrant," Met. vi. ver. 711. But he is uſually deſcribed by the Roman poets as violent and impetuous; ibid. ver. 686—ver. 707. In painting, he is generally repreſented like an old man with a horrible look, hair and beard covered with ſnow or hoar froſt, with the feet and tail of a dragon. M. Spierlingius has a treatiſe in praiſe of Boreas, wherein he ſhows the honours paid to him by antiquity.

BOREL (Peter), a learned phyſician, was the ſon of James Borel who publiſhed ſeveral poems, and was born at Caſtres in 1620. He applied himſelf to the ſtudy of phyſic, of which he was created doctor, and practiſed with great ſucceſs in the city of Caſtres. Towards the end of the year 1653, he went to Paris, and was ſoon after made phyſician in ordinary to the king. In 1674, he was received into the academy of ſciences, and diſtinguiſhed himſelf by writing a great number of works. The moſt eſteemed are, 1. *Hiſtoriarum & obſervationum medico-phyſicarum*. 2. *Bibliotheca chymica, duodecimo*. 3. *De vero teleſcopii inventore, cum brevi omnium conſpicillorum hiſtoria*. He died in 1678.

BORELLI (John Alphonſo), a famous philoſopher and mathematician born at Naples the 28th of January 1608. He was profeſſor of philoſophy and mathematics in ſome of the moſt celebrated univerſities of Italy, particularly at Florence and Piſa, where he became highly in favour with the princes of the houſe of Medicis; but having been engaged in the revolt of Meſſina, he was obliged to retire to Rome, where he ſpent the remainder of his life under the protection of Chriſtina queen of Sweden, who honoured him with her friendſhip, and by her liberality towards him ſoftened the rigour of his hard fortune. He continued two years in the convent of the regular clergy of St Pantaleon, called the *pious ſchools*, where he inſtructed the youth in mathematical ſtudies. He died there of a pleuriſy, the 31ſt of December 1679, in the 72d year of his age. He wrote, in Latin, 1. Euclid reſtored. 2. The theory of the influence of the planets in medicine, deduced from phyſical cauſes. 3. Of percuſſive force. 4. Of natural motions depending upon gravity. 5. An hiſtorical and meteorological account of the burning of mount Ætna, in the year 1669. 6. Of the motion of animals; and ſeveral other works, ſome of which are in Italian.

BORGIA (Cæſar,), natural ſon of Pope Alexander VI. was a brave general, but a moſt abandoned villain. See (*Hiſtory of*) ITALY.—It is incredible what numbers he cauſed to be taken off by poiſon, or by the ſword; and it is notorious that ſwarms of aſſaſſins were conſtantly kept in pay by him at Rome, for the ſake of removing all who were either obnoxious or inconvenient to him. He experienced various turns of fortune; and was ſometimes very proſperous, ſometimes the reverſe. He very narrowly eſcaped dying by poiſon in 1503; for having concerted with the pope a deſign of poiſoning nine newly created cardinals at once, for the ſake of poſſeſſing their effects, the poiſoned wine, deſtined for the purpoſe, was by miſtake brought to and drank by themſelves. The pope died of it; but Cæſar, by the vigour of his youth, and the force of antidotes, after many ſtruggles, recovered. He only recovered to outlive his fortune and grandeur, to ſee himſelf depreſſed, and his enemies exalted; for he was ſoon after diveſted of all his acquiſitions, and ſent a priſoner to Spain, in order to free Italy from an incendiary, and the Italian princes from thoſe dangers which the turbulent and reſtleſs ſpirit of Cæſar made them fear, even though he was unarmed. He eſcaped from thence; and got ſafe to Navarre, to king John his brother-in-law, who was then at war with his ſubjects. Cæſar, ſerved as a volunteer in that war, and was killed in 1507.

BORGO, an ancient town of Sweden, ſeated on the gulf of Finland, in the provine of Nyland. E. Long. 26. 25. N. Lat. 60. 34.

Borgo de St Sepulchro, a town of Tuſcany in Italy, ſituated in E. Long. 13. 0. N. Lat. 43. 30.

Borgo de val de Faro, a town of Italy, in the duchy of Parma, in E. Long. 10. 36. N. Lat. 44. 35.

Borgo-Forte, a town of the Mantuan in Italy, ſituated at the confluence of the rivers Po and Menzo. E. Long. 11. 0. N. Lat. 44. 50.

Borgo San Domino, a town of Italy, in the duchy of Parma, with a biſhop's ſee. E. Long. 10. 31. N Lat. 41. 53.

BORGOGNONE, a celebrated painter, whoſe true name was *Giacomo Corteſi*; but he is commonly called *Borgognone*, from the country where he was born, about the year 1605. He was much admired and highly applauded for his admirable guſto and grand manner of painting battles. He had for ſeveral years been converſant in military affairs, was an officer of conſiderable rank in the army, made the camp his ſchool, and formed all his ideas from what he had ſeen performed in the field. His ſtyle is roughly noble, full of fire and ſpirit, and there are a few prints etched by his own hand. Towards the cloſe of his life he retired to the Jeſuits convent in Rome, where he ſaid to have taken ſanctuary to rid his hands of an ill bargain he had got of a wife; but happily ſurviving her he lived in great eſteem and honour till after the year 1675.

BORIA, a ſmall town of Spain, in the kingdom of Arragon. W. Long. 2. 2. N. Lat. 41. 50.

BORING, in a general ſenſe, the art of perforating, or making a hole through any ſolid body.

Boring of Water-pipes. The method of boring water-pipes is as follows. The poles of alder, which is a very uſeful wood in making pumps, water-pipes, &c. being laid on horſes or traſſels of a foot in height, to reſt the augre upon while they are boring, they ſet up a lath to turn the leaſt end of the poles, to fit them to the cavities of the great end of the others. They turn the ſmall ends of the poles about five or ſix inches in length, to the ſize they intend to bore the bigger ends about the ſame depth, viz. five or ſix inches. This is deſigned to make a joint to ſhut each pair of poles together, the concave part being the female part, and the other the male of the joint. In turning the male part, they turn a channel in it, or a ſmall groove at a certain diſtance from the end; and in the female part they bore a ſmall hole to fit over this channel. This being done, they bore the poles through; and to prevent them from boring out at the ſide, they ſtick great nails at each end to be a guide in boring. It is uſual, however, to bore them at both ends, ſo that if a pole be crooked one way, they can bore it through and not ſpoil it.

Boring, in farriery, a cruel and abſurd method of treating a wrenched ſhoulder. See Farriery, § xxiii. 7.

Boring, in mineralogy, a method of piercing the earth with ſcooping irons, which being drawn back at proper times, bring up with them ſamples of the different ſtrata through which they have paſſed; by the examination of which the ſkilful mineralogiſt will be able to gueſs whereabouts a vein of ore may lie, or whether it will be worth while to open a mine there or no.

BORIQUEN, one of the Caribbee iſlands in North America, near that of Porto Rico. The Engliſh formerly had a ſettlement there, but were driven away by the Spaniards. It is at preſent without inhabitant, though agreeable and fertile; the air being wholeſome, and the water good. There are a great number of land-crabs, whence ſome have called it *Crab-iſland.* W. Long. 64. 35. N. Lat. 18. 0.

BORISTHENES, (anc. geog.), the largeſt river of Sarmatia Europea, thus deſcribed by Mela, who copies *verbatim* from Herodotus: "It runs through a cognominal people, is the moſt pleaſant of all the rivers of Scythia, and calmer than all of them in its courſe, and very agreeable to drink; it feeds very rich paſtures, and produces large fiſh of the beſt flavour, and without bones: it comes a great way, riſing from ſprings unknown; its courſe is a diſtance of 40 days, and ſo far it is navigable." It is now called the *Dnieper* or *Nieper*.

BORKELO, a ſtrong town in the United Provinces, in the county of Zutphen, ſeated on the river Borkel, in E. Long. 6. 30. N. Lat. 52. 15.

BORLASE (Dr Edmund), an eminent phyſician and Engliſh writer in the 17th century, was the ſon of Sir John Borlaſe, maſter of the ordnance, and one of the Lord Juſtices of Ireland in 1643. He ſtudied in Dublin college, and afterwards at the univerſity of Leyden, at which laſt place he took the degree of doctor of phyſic. He afterwards practiſed phyſic with great ſucceſs in the city of Cheſter, and was incorporated doctor of the faculty in the univerſity of Oxford. Among the books which he wrote and publiſhed are the following. 1. Latham Spaw in Lancaſhire, with ſome remarkable caſes and cures performed by it. 2. The reduction of Ireland to the crown of England. 3. The hiſtory of the Iriſh rebellion. 4. Brief reflections on the earl of Caſtlehaven's memoirs, &c. He died after the year 1682.

Borlase (William), a very ingenious and learned writer, was of an ancient family in Cornwall, and born at Pendeen, in the pariſh of St Juſt. Feb. 2. 1695-6. He was put early to ſchool at Penzance, and in 1709 removed to Plymouth. March 1712-13, he was entered of Exeter college, Oxford; and, June 1719, took a maſter of arts degree. In 1720, he was ordained a prieſt, and, in 1722, inſtituted to the rectory of Ludgvan in Cornwall. In 1732, the lord chancellor King preſented him to the vicarage of St Juſt, his native pariſh; and this, with the rectory aforeſaid, were all the preferments he ever had. In the pariſh of Ludgvan were rich copper works, which abound with mineral and metallic foſſils; and theſe, being a man of an active and inquiſitive turn, he collected from time to time, and thence was led to ſtudy at large the natural hiſtory of his native county. He was ſtruck at the ſame time with the numerous monuments of remote antiquity that are to be met with in Cornwall; and enlarging therefore his plan, he determined to gain as accurate an acquaintance as poſſible with the Druid learning, and with the religion and cuſtoms of the ancient Britons, before their converſion to Chriſtianity. In 1750 he was admitted a fellow of the Royal Society; and in 1753, publiſhed in folio at Oxford his "Antiquities of Cornwall;" a ſecond edition of which was publiſhed, in the ſame form at London, 1769, with this title, "Antiquities, hiſtorical and monumental, of the county of Cornwall; conſiſting of ſeveral eſſays of the ancient inhabitants, Druid ſuperſtition, cuſtoms and remains of the moſt remote antiquity in Britain, and the Britiſh iſles, exemplified and proved by monuments now extant in Cornwall and the Scilly iſlands; with a vocabulary of the Cornu-Britiſh language. Reviſed, with ſeveral additions, by the author: to which is added a map of Cornwall, and two new plates." His next publication was, "Obſervations on the ancient and preſent ſtate of the iſlands of Scilly, and their importance to the trade of Great Britain; Oxf. 1756," 4to. This was the extenſion of a paper which had been read before the Royal Society in 1753. In 1758 came out his "Natural hiſtory of Cornwall; Oxf." fol. After theſe publications, he ſent a variety of foſſils and remains of antiquity which he had deſcribed in his works, to be repoſited in the Aſhmolean muſeum: for which, and other benefactions of the ſame kind, he received the thanks of the univerſity, in a letter from the vice-chancellor, Nov. 18. 1758; and, March 1766, the degree of doctor of laws. He died in 1772, aged 77 years, leaving two ſons out of ſix, whom he had by a lady he married in 1724. Beſides his literary connections with many ingenious and learned men, he had a particular correſpondence with Mr Pope; and there is ſtill exiſting a large collection of letters written by that poet to Dr Borlaſe. He furniſhed Pope with many of the materials which formed his grotto at Twickenham, conſiſting of various foſſils; and there may at preſent be ſeen Dr Borlaſe's name in capitals, compoſed of chryſtals, in the grotto. On which occaſion Pope ſays to Borlaſe in a letter, "I am much obliged to you for your valuable collection of Corniſh diamonds: I have placed them, where they may beſt repreſent yourſelf, *in a ſhade, but ſhining*;" alluding to the obſcurity of the doctor's ſituation, and the brilliancy of his talents. Beſides the above works, he ſent many curious papers to the Philoſophical Tranſactions, and had in contemplation ſeveral other works.

BORMIO, a county depending on the republic of the Griſons in Switzerland. It is bounded on the ſouth by the eſtate of Venice, on the eaſt by the territory of the houſe of Auſtria, and on the ſouth and weſt by Caddea. It is 15 miles over both ways; and is divided into five communities, viz. the town of Bormio, the valley of Forbia, the Interior Valley, the Lower Valley, and the Valley of Luvino. Bormio is the only town in this diſtrict; and has a governor called a *podeſta*, ſent by the Griſons to preſide in civil and criminal affairs. It is ſeated at the confluence of the rivers Addo and Iſalacua, in E. Long. 10. 10. N. Lat. 46. 45.

BORNE, a market town of Lincolnſhire in England. W. Long. 0. 20. N. Lat. 52. 40.

BORNEO, an iſland of Aſia, in the Eaſt Indies, and one of the three great Sunda iſlands. It is thought to be the largeſt iſland in the world, next to New Holland; being 1500 miles in circumference. It is ſeated under the equator, that line cutting it almoſt through the middle. It is almoſt of a circular figure; abounds with gold; and the fineſt diamonds in the Indies are found in its rivers, being probably waſhed down from the hills by torrents. Here are alſo mines of iron and tin, and loadſtones. Birds neſts† are to be had in this iſland, which are eatable, and reckoned a great delicacy. The beaſts are, oxen, buffaloes, deer, goats, elephants, tigers, and monkeys. This iſland has fine rivers, eſpecially towards the weſt and ſouth. In their monſoon from April to September, the wind is weſterly, and they have continual heavy rains, attended with violent ſtorms of thunder and lightning. The rainy ſeaſon continues for eight months of the year, and as during that time all the flat country near the coaſt is overflowed, the air is rendered very unhealthful, and the inhabitants are forced to build their houſes on floats, which they make faſt to trees. The houſes have but one floor, with partitions made with cane; and the roofs are covered with palmetto leaves, the leaves of which reach within four or five feet of the bottom. The weſt and north-eaſt ſides of the iſland are almoſt deſart, and the eaſt is but little known. The inland parts are very mountainous; and the ſouth-eaſt, for many leagues together, is a ſtinking moraſs, which being overflowed in the wet ſeaſon, is very unhealthy.

†See *Birds-neſt.*

The Portugueſe, who firſt diſcovered Borneo, had arrived in the Indies above 30 years before they knew any thing of it more than the name, and its ſituation, by reaſon of their frequently paſſing by its coaſt. At laſt one captain Edward Corril had ordered to examine it more narrowly; and being once acquainted with the worth of the country, they made frequent voyages thither. They found the coaſts inhabited by Malayan Moors, who had certainly eſtabliſhed themſelves there by conqueſt; but the original inhabitants ſtill remain in the mountains, and are ſtyled *Beajus*, which in the Malayan language ſignifies a *wild man*. The moſt authentic account of theſe people is the following, which was extracted from the papers of father Antonio Ventimiglia, an Italian miſſionary. He was ſent to Borneo from Macao, on board a Portugueſe ſhip, converted great numbers to Chriſtianity, and died on the iſland about the year 1691. The Beajus have no kings, but many little chiefs. Some are ſubject to the Mooriſh kings, and pay them tribute; but ſuch as live far up the country, are altogether independent, and live according to their own cuſtoms. They are generally very ſuperſtitious, and much addicted to augury. They do not adore idols; but their ſacrifices of ſweet wood and perfumes are offered to one God, who, they believe, rewards the juſt in heaven, and puniſhes the wicked in hell. They marry but one wife; and look upon any breach of conjugal faith, either in man or woman, as a capital offence. The Beajus are naturally honeſt and induſtrious, and have a brotherly affection for one another. They have a notion of property, which yet does not render them covetous. They ſow and cultivate their lands; but in the time of harveſt each reaps as much as will ſerve his family, and the reſt belongs to the tribe in common; by which means they prevent neceſſity or diſputes. With the Moors on the coaſts the Portugueſe for ſome time carried on a conſiderable trade, and at their requeſt ſettled a factory there; which, however, was afterwards ſurpriſed and plundered by the Moors, who put moſt of the people to the ſword. The moſt conſiderable river in Borneo is called *Banjar*, at the mouth of which the Engliſh Eaſt India company have a factory.

BORNHOLM, an iſland in the Baltic ſea, to the ſouth-eaſt of of the province of Schonen in Sweden. It is twenty-one miles in length, and above thirteen in breadth. It has three conſiderable towns, Rattum, Sandwick, and Nexia; with a great number of villages; and is fertile and populous. It was conquered by the Swedes in 1658; but the inhabitants, under the conduct of Jens Roefods, voluntarily ſurrendered it to the king of Denmark, on account of the bad uſage they received from the former. In 1678, a body of 5000 Swediſh troops, in their paſſage from Pomerenia to Sweden, being ſhipwrecked on this iſland, ſuch of them as remained were made priſoners of war. The inhabitants defend the iſland by their own militia, without any expence to the crown. The commandant or governor reſides at Rattun. E. Lon. 14. 56. N. Lat. 55. 15.

BORNOU, a kingdom or province of Zaara in Africa, extending from 12 to 22 degrees of eaſt longitude

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gitude, and from 17 to 21 degrees of north latitude. The northern part is poor, and like the reſt of the provinces of Zara: but all the reſt is well watered by ſprings and rivers that tumble down with a dreadful noiſe from the mountains; rendering the country prolific in corn, graſs, and fruits, and giving it a pleaſing aſpect. The eaſtern and weſtern frontiers are divided into mountains and valleys, the latter being all covered with flocks of cattle, fields of rice and millet, and many of the mountains with wood, fruit-trees, and cotton. On the north-weſt ſtands the mountain of Tarton, having plenty of good iron mines; and on the ſouth flows the river Niger, which, it is ſaid, after running a great many leagues under a long chain of mountains, rears up its head again, and mingles its ſtream with the waters of the lake Bornou in its courſe, from whence it waſhes the walls of the capital of this kingdom. The compilers of the Univerſal Hiſtory, however, are of opinion, that in theſe mountains the river Niger hath its ſource, becauſe no river hath been traced to the eaſtward, except the Nile, which runs in a different courſe from ſouth to north, and the White river, on the weſtern frontiers of Abyſſinia, which is a branch of the Nile. The eaſtern and weſtern parts of Bornou are inhabited by a people of a roving diſpoſition, who live in tents, and have their women, children, and every thing elſe, in common; the word *property*, or any idea equivalent to it, being utterly unknown among them. They have neither religion, laws, government, nor any degree of ſubordination; and hence they have been ſuppoſed by Cluverius to be the lineal deſcendants of the ancient Garamantes, and this to have been the reſidence of that people. In theſe parts, the natives are almoſt to a man ſhepherds and huſbandmen. In ſummer they go naked, except a ſhort apron before; but in winter they are warmly clothed with the ſofteſt ſheep ſkins, of which they alſo form their bed-clothes; and indeed this is ſcarce a ſufficient defence againſt the inclemency of the weather at certain ſeaſons of the year, when a cold piercing wind blows from the northern mountains that chills the blood in proportion as the pores of the body have have opened by the ſcorching heats of ſummer. Baudrand and Daper affirm, that the natives are ſcarce ſuperior in their underſtanding to brutes; not even having any names whereby to diſtinguiſh each other, except what they take from ſome perſonal defect or ſingularity; ſuch as lean, fat, ſquinting, hump-backed, &c. In the towns, however, it is acknowledged that they are ſomething more civilized and polite, being many of them merchants; but of theſe towns, or indeed of the kingdom in general, very little is known.

BOROMÆUS. See Boromeus.

BORONDON, (St), an iſland in the Atlantic Ocean, mentioned by ſome writers, particularly Linſchotten, in their deſcription of the Canary iſlands, as ſomething ſupernatural. It is ſaid to be about 100 leagues diſtant from Ferro, probably weſt, though no writer has pretended to lay down its exact ſituation. Here it is affirmed ſeveral ſhips have touched by accident, and all agree in their relations of the ſtate of the inhabitants and iſland. They affirm, that it is perpetually clothed with a great variety of wood, chiefly fruit trees: that the valleys are in a perpetual ſtate of verdure; and continually decked with flowers, graſs, and plants, the ſpontaneous productions of the earth; or with corn and pulſe, cultivated with great care by the inhabitants: that the ſoil is ſo prolific as to raiſe large quantities of corn for exportation; and that the ſhips that call here never fail of meeting with refreſhments of every kind. It is ſaid to be peopled by Chriſtians, who have a language of their own, apparently combined of a variety of modern languages; for, ſay they, whoever underſtands the European tongues may make ſhift to hold converſation with this people. It is remarkable, that no ſhips, expreſsly ſent upon this diſcovery, were ever fortunate enough to fall in with the iſland of St Borondon, though the Spaniards have ſeveral times attempted it from the Canaries. Hence it has been called the *marvellous iſland*; and hence indeed we may conclude, either that it exiſts wholly in imagination, or at leaſt that it is ſurrounded with ſuch currents as inſenſibly carry ſhips out of their courſe, and prevent their meeting with it. Some writers affirm that it actually diſappears upon certain occaſions, and ſhifts its poſition: while others, with more appearance of truth, allege, that it is frequently overcaſt with thick and impenetrable clouds, which occaſion the diſappointment of all the adventurers who have gone in ſearch of it.

BOROUGH, Burrough, *Borow*, or *Burgh*, is frequently uſed for a town or corporation which is not a city.

Borough, in its original Saxon *borge*, or *borgh*, is by ſome ſuppoſed to have been primarily meant of a tithing or company conſiſting of ten families, who were bound and combined together as each others pledge. Afterwards, as Verſtegan informs us, borough came to ſignify a town that had ſomething of a wall or incloſure about it: ſo that all places which among our anceſtors had the denomination borough, were one way or other fenced or fortified. But, in later times, the ſame appellation was alſo beſtowed on ſeveral of the *villæ inſigniores*, or country towns of more than ordinary note, though not walled.

The ancient Saxons, according to Spelman, gave the name burgh to thoſe called, in other countries, cities. But divers canons being made for removing the epiſcopal ſees from villages and ſmall towns to the chief cities, the name *city* became attributed to epiſcopal towns, and that of borough retained to all the reſt; though theſe too had the appearance of cities, as being governed by their mayors, and having laws of their own making, and ſending repreſentatives to parliament, and being fortified with a wall and caſtle, and the like.

Borough, or *burgh*, is now particularly appropriated to ſuch towns and villages as ſend burgeſſes or repreſentatives to parliament. Boroughs are equally ſuch, whether they be incorporate or not; there being great numbers of the Engliſh boroughs not incorporated; and, on the contrary, ſeveral corporations that are not boroughs; *e. gr.* Kingſton, Deal, Kendal, &c.

Boroughs, in Scotland. See Law, N° clviii. 11.

Royal Boroughs, in Scotland, are corporations made for the advantage of trade, by charters granted by ſeveral of their kings; having the privilege of ſending commiſſioners to repreſent them in parliament, beſides other peculiar privileges. The Royal Boroughs are not only ſo many diſtinct corporations, but do alſo conſtitute one entire body, governed by, and accountable to, one general court, anciently called *the court of* *four boroughs*, held yearly to treat and determine concerning matters relating to the common advantage of all boroughs. The four boroughs which compoſed this court were, Edinburgh, Stirling, Roxburgh, and Berwick; which two laſt falling into the hands of the Engliſh, Linlithgow and Lanerk were put in their places; with a ſaving to the former, whenever they ſhould return to their allegiance. But this court not being ſufficient to anſwer the neceſſities of the royal boroughs, they were all empowered, under James III. in 1487, to ſend commiſſioners to a yearly convention of their own, which was then appointed to be held at Inverkeithing, but is now held at Edinburgh, under the denomination of the *convention of boroughs*, veſted with great power, and having for their object the benefit of trade, and the general intereſt of the boroughs.

Borough-Courts, are certain courts held in boroughs, by preſcription, charter, or act of parliament: ſuch are the ſheriff's court, and court of huſtings, in London.

Borough-Engliſh, a cuſtomary deſcent of lands or tenements, in ſome ancient boroughs and copy-hold manors, by which the youngeſt ſon, and not the eldeſt, ſucceeds to the burgage tenement on the death of his father. For which Littleton gives this reaſon; becauſe the younger ſon, by reaſon of his tender age, is not ſo capable as the reſt of his brethren to help himſelf. Other authors have indeed given a much ſtranger reaſon for this cuſtom; as if the lord of the fee had anciently a right to break the ſeventh commandment with his tenant's wife on her wedding night; and that therefore the tenement deſcended, not to the eldeſt, but to the youngeſt ſon, who was more certainly the offspring of the tenant. But it cannot be proved that this cuſtom ever prevailed in England, though it certainly did in Scotland, (under the name of *mercheta*, or *marcheta*), till aboliſhed by Malcolm III. But perhaps a more rational account than either may be brought from the practice of the Tartars; among whom, according to Father Duhalde, this cuſtom of deſcent to the youngeſt ſon alſo prevails. That nation is compoſed totally of ſhepherds and herdſmen; and the elder ſons, as ſoon as they are capable of leading a paſtoral life, migrate from their father with a certain allotment of cattle, and go to ſeek a new habitation. The youngeſt ſon, therefore, who continues lateſt with his father, is naturally the heir of his houſe, the reſt being already provided for. And thus we find, that among many other northern nations it was the cuſtom for all the ſons but one to migrate from the father, which one became his heir. So that poſſibly this cuſtom, wherever it prevails, may be the remnant of that paſtoral ſtate of the ancient Britons and Germans which Cæſar and Tacitus deſcribe.

Borough-head, or *Head-borough*, called alſo *borough holder*, or *borſholder*, the chief man of the decenna, or hundred, choſen to ſpeak and act in behalf of the reſt.

Head-borough alſo ſignifies a kind of head conſtable, where there are ſeveral choſen as his aſſiſtants, to ſerve warrants, &c. See Constable.

BOROUGHBRIDGE, a town in the north riding of Yorkſhire in England, ſeated on the river Your, over which there is a handſome ſtone bridge. The town is not large, but commodious, and ſends two members to parliament. W. Long. 1. 15. N. Lat. 54. 10.

BOROZAIL, or the zeal of the Ethiopeans, a diſeaſe epidemic in the countries about the river Senega. It principally affects the pudenda, but is different from the lues venerea. It owes its riſe to exceſſive venery; in the men this diſtemper is called *aſab*, and in women *aſſabatus*.

BORRACHIO. See Caouchouk.

BORRAGE. See Anchusa.

BORRELLISTS, in church-hiſtory, a Chriſtian ſect in Holland; ſo denominated from their founder Borrel, a perſon of great learning in the Hebrew, Greek, and Latin tongues. They reject the uſe of the ſacraments, public prayer, and all other external acts of worſhip. They aſſert, that all the Chriſtian churches of the world have degenerated from the pure apoſtolical doctrines, becauſe they have ſuffered the word of God, which is infallible, to be expounded, or rather corrupted, by doctors who are not infallible. They lead a very auſtere life, and employ a great part of their goods in alms.

BORRICHIUS, one of the moſt learned men of his age, the ſon of a Lutheran miniſter in Denmark, was born in 1626. He applied himſelf to phyſic in the univerſity of Copenhagen, and began to practiſe during a moſt terrible plague that made great havoc in that city. He travelled: but before his departure, in 1660, he was appointed profeſſor in poetry, botany, and chemiſtry; and at his return diſcharged his duties with great aſſiduity, of which the works he publiſhed afford full proof. He was raiſed to the office of counſellor in the ſupreme council of juſtice, in 1686; to that of counſellor of the Royal Chancery, in 1689; and died of the operation for the ſtone, in 1690. He publiſhed, 1. *Lingua pharmacopæorum*. 2. *Diſſertationes de poeticis Græcis et Latinis*. 3. *De ortu et progreſſu chemiæ*; and ſeveral other works.

BORROMEUS (St Charles), cardinal, and archbiſhop of Milan; a perſonage of great note in the Romiſh kalendar, and whoſe ſincere piety, ſimplicity of manners, and zeal for reformation, render him indeed a character equally intereſting and inſtructive to the members of any church. He was the ſon of Gilbert Borromeus Count of Arona and of Mary of Medicis, and was born at the caſtle of Arona upon Lake Major in the Milaneſe in October 1538. When he was about 12 years old, Julius Cæſar Borromeus reſigned an abbacy to him of a conſiderable revenue, which was conſidered as an hereditary inheritance of the family; which Charles accepted, but applied the revenue wholly in charity to the poor. Having acquired a ſufficient knowledge of the languages at Milan, he ſtudied the civil and canon law at Pavia, where he lived like another Lot in Sodom, preſerving his innocence among a thouſand ſnares by which it was engendered. He received great advantage from the company and converſation of Francis Alciat, one of the moſt learned men of the age, for whom he afterwards procured the purple. He would accept no new benefice, but upon condition that he ſhould be at liberty to apply the revenue to public uſes. In the year 1554, Charles being then 16 years old, his father died, an event which brought him back to the caſtle of Arona; where, though he had an elder brother, Count Frederick, he was requeſted by the family to take upon him the management of the domeſtic affairs, to which at length he conſented.

BRITISH MUSEUM

After ſome time he returned again to his ſtudies, which, in the year 1559, being then juſt 21, he finiſhed by a ſolemn act, and took his doctor's degree. The promotion of his uncle to the pontificate, by the name of *Pius IV.* which happened the year following, ſeemed to have very little effect upon him; but he was very ſoon made protonotary, and intruſted both with the public and privy ſeal of the eccleſiaſtical ſtate: he was alſo, at the ſame time, created cardinal deacon, and ſoon after archbiſhop of Milan. In obedience to the will of his uncle the pope, he lived in great ſplendor, having a brilliant retinue and a great number of domeſtics; yet his own temperance and humility were never brought into queſtion. In order to render even his amuſements uſeful, he eſtabliſhed an academy of ſelect and learned perſons, as well eccleſiaſtics as laics, from among his houſehold and dependants, who were employed in ſome exerciſe which tended to inſpire a love of virtue, and to form a juſt taſte. Each of them was to write upon ſome choſen ſubject, either in verſe or in proſe, and to communicate to each other in frequent conferences the fruits of their ſtudies. The works produced by this ſociety have been publiſhed in many volumes, under the title of *Noctes Vaticanæ*, becauſe theſe uſeful aſſemblies were held at the Vatican, and at night, after the buſineſs of the day was over. About this time Charles alſo formed a deſign of founding a college at Pavia, which ſhould at the ſame time be a ſchool of ſcience and an aſylum from the vices and vanities of the world. In proſecution of this deſign, he raiſed a large edifice upon the foundations of ſeveral houſes which belonged to the family of Borromeus in that city; he obtained from the pope ſeveral benefices, which he attached to his building; he provided it with all things neceſſary for the young ſcholars out of his revenue; and he dedicated his college to St Juſtina virgin and martyr.

Upon the death of his only brother Frederick, his relations, his friends, and even the pope himſelf, adviſed him to change his ſtate, to quit the church, and marry, that his family might not become extinct. Charles, however, contrary to this advice and the expectations of the world, received the prieſthood, and addreſſed the pope in theſe terms, "Do not complain of me, Holy Father, for I have taken a ſpouſe whom I love and on whom my wiſhes have been long fixed." From this this time he became more fervent in exerciſes of piety and eccleſiaſtical knowledge: He perceived that ſome literati who had departed from the faith had alſo corrupted the writings of ſome holy doctors of the church, and he thought he ſhould render religion good ſervice if he could reſtore the genuine reading: He therefore employed Achilles Statius, a Portugueſe of great learning, in this work, whom for that purpoſe he retained at Rome. To his zeal and attention alſo is owing the congregation of eight cardinals, ſtill ſubſiſting, to reſolve doubts and obviate difficulties which ſhould ariſe in explanations of the council of Trent.

There was a very intimate friendſhip between Borromeus and Don Barthelemy des Martyrs archbiſhop of Prague, and author of a work intitled *Stimulus Paſtorum*. This work falling into Borromeus's hands gave him an earneſt deſire to become a preacher, as he was now convinced that preaching was one of the principal duties of a prelate. An almoſt inconceivable multiplicity of buſineſs, ill health, a feeble voice, and a difficult pronunciation, were no inconſiderable obſtacles to his deſign, yet he ſurmounted them all; and though his beginnings were weak, yet perſeverance crowned them with ſucceſs.

Having obtained permiſſion to viſit his church, which the pope had hitherto refuſed as he found his preſence neceſſary at Rome, he prepared to ſet out for Milan. He had before ſent thither his grand vicar Ormanetus, whoſe labours at firſt had not been unſucceſsful, but who ſoon found oppoſitions ſo pertinacious and obſtinate as put an end to his hopes: Borromeus therefore ſaw the neceſſity of going in perſon, and he was received with the moſt diſtinguiſhed honours. He was, however, ſoon recalled to Rome, where many things made his preſence neceſſary: the pope was gradually dying; and Charles arrived juſt time enough to adminiſter to him the laſt ſacraments.

Pius IV. died on the 7th of January, 1566, and 28 days afterwards Cardinal Alexandrine mounted the papal chair, and aſſumed the name of *Pius V.* the ſkill and diligence of Borromeus having contributed not a little to prevent the cabals in the conclave.

As ſoon as this event had taken place, and all was quiet at Rome, Borromeus gave himſelf, wholly up to the reformation of his dioceſe, where the moſt flagitious irregularities were openly practiſed, having firſt made another reform in his own family. He began by making paſtoral viſits in his metropolis, where the canons were not diſtinguiſhed for the purity of their manners. He ſoon reſtored proper decency and dignity to divine ſervice, by a variety of wiſe and neceſſary regulations: In conformity to the decrees of the council of Trent, he cleared the cathedral of many pompous tombs, rich ornaments, banners, arms, and in general of all the trophies with which the vanity of man had diſfigured the houſe of God; and in order to give a ſanction to his zeal by his example, he ſpared not the monuments of his neareſt relations. Nor did his zeal ſtop here: he divided the nave of the church through its whole length into two parts, by ſtrong thick planks, that the two ſexes, being ſeparated, might perform their devotions without any attention to each other, and with a modeſty and recollection more ſuitable to the place.

This paſtoral care extended from the cathedral to the collegiate churches, and even to the fraternities or ſocieties of penitents, particularly that of St John the Baptiſt. The duty of this ſociety was to attend criminals to the place of puniſhment, to aſſiſt, comfort, and prepare them for death; but the ſpirit of the inſtitution was now forgotten, and the wretches who were condemned to death were commonly dragged to execution like beaſts, without any ſpiritual aſſiſtance or conſolation. But the archbiſhop revived the original fervor of this order, in the exerciſe of their peculiar duty, and perſuaded many of the nobility and principal perſons of the city to become members of a ſociety appropriated to ſo eminent a branch of Chriſtian charity. The reformation of the monaſteries followed that of the churches, and the vigilance of the paſtor ſoon extended itſelf from the city to the country round it, which abounded with irregularities that required his correction. The great abuſes and irregularities which had over-run the church at this time alone prin-

Borromeus.

cipally from the groſs ignorance of the clergy; in order therefore to attack thoſe evils at their root, Charles eſtabliſhed ſeminaries, colleges, and communities, for the education of young perſons intended for holy orders. He met with many difficulties, and much oppoſition in his endeavours to bring about a reformation of manners; but he prevailed againſt every obſtacle by an inflexible conſtancy, tempered with great ſweetneſs of manners.

The governor of the province, and many of the ſenators, were apprehenſive that the cardinal's ordinances and proceedings would encroach upon the civil juriſdiction, and become inconſiſtent with the rights of his catholic majeſty, to whom the duchy of Milan was then in ſubjection. And this was a fruitful ſource of remonſtrances, repreſentations, and complaints, which long troubled the courts of Rome and Madrid, and which the king of Spain, Philip II. referred entirely to the deciſion of the pope. But Borromeus had a more formidable oppoſition to ſtruggle with, that of ſeveral religious orders, particularly the Brothers of Humility. Three provoſts of this ſociety entered into a conſpiracy to cut him off; and one of their confederates, called *Jerom Donat*, whoſe ſurname was *Farina*, took upon him to carry the deſign into execution. For this purpoſe he mixed with the crowd that went into the archiepiſcopal chapel, where the cardinal ſpent an hour every evening in prayer with his domeſtics and other pious perſons; and having watched his opportunity, he fired an harquebuſs at him, which was loaded with a ball ſuited to the bore of the piece, and with a conſiderable charge of leaden ſhot. It is ſaid that the ball ſtruck him on the ſpinal bone, but fell down at his feet without doing any other damage than ſoiling his rochet, and that one of the ſhot penetrated his clothes to the ſkin, and there ſtopped, without imprinting any wound, which was conſidered as a miracle, eſpecially as the other ſhot tore away part of a wall, and went quite through a table.

In the year 1576, the city and dioceſe of Milan were viſited by the plague, which ſwept away incredible numbers; and the behaviour of Borromeus, on this occaſion, was truly chriſtian and heroic: He not only continued upon the ſpot, but he went about giving directions for accommodating the ſick, and burying the dead, with a zeal and attention that were at once ardent and deliberate, minute and comprehenſive; and his example ſtimulated others to join in the good work. He avoided no danger, and he ſpared no expence; nor did he content himſelf with eſtabliſhing proper regulations in the city, but went out into all the neighbouring pariſhes where the contagion raged, diſtributing money to the poor, ordering proper accommodations for the ſick, and puniſhing thoſe, eſpecially the clergy, who were remiſs in the duties of their calling. Charles, notwithſtanding the fatigue and perplexity which he ſuffered by thus executing his paſtoral charge, abated nothing of the uſual auſterity of his life, nor omitted any of his ſtated devotions; for, whatever approached to luxury or magnificence, he conſidered as incompatible with the propriety of his character. It happened, that being once on a viſit to the archbiſhop of Sienna at his palace, a very ſumptuous entertainment was provided for him. Borromeus, though he had been uſed himſelf to be content with bread and water, yet ſat down at the table, where however he eat but little, and gave ſufficient intimation that he was much diſpleaſed with ſuch oſtentatious prodigality; but what was his ſurpriſe when he ſaw the table again covered with a deſert, conſiſting of whatever was moſt rare, exquiſite, and coſtly? He immediately roſe haſtily from his ſeat, as if he had ſuddenly recollected ſome preſſing buſineſs, and gave orders for his departure, notwithſtanding the rain, and the moſt earneſt entreaties of the archbiſhop. "My Lord," ſaid the cardinal, "if I ſhould tarry here to-night, you would give me another ſuch treat as that I have juſt ſeen, and the poor will then ſuffer another loſs, great numbers of whom might have been fed with the ſuperfluities that have been now ſet before us."

Borromeus.

The continual labours and auſterities of Borromeus naturally ſhortened his life; he went to Vercal to put an end, if poſſible, to the diviſions which threatened the moſt fatal conſequences; and when he was there, he received a meſſage from the Duke of Savoy, requeſting his preſence at Turin. From Turin he retired to a place called the *Sepulchre*, on the mountain Varais, where he was ſeized with an intermittent fever, which ſcarce permitted him to return alive to Milan, where he arrived on the 3d of November 1584, and died the next day. He was lamented by the city and the whole province with ſuch marks of ſincere ſorrow as are rarely ſeen; and he was immediately worſhipped as a ſaint, without waiting for the pope's approbation. The pope, however, when he was told of it by Cardinal Baronius, gave directions that the devotions of the people ſhould not be reſtrained, though Borromeus was not cannonized till the 1ſt of November 1610, in the pontificate of Leo XI. Since that time many churches and chapels have been erected in honour of this ſaint, and many religious ſocieties inſtituted and put under his protection.

The foregoing particulars are extracted from an account of the life of Borromeus, written ſome years ago by Father Anthony Touron. Upon a compariſon of this life with that written by Ribadeneira a Spaniſh Jeſuit above a century ago, it appears that the improvement of knowledge has made a very ſtriking difference in this kind of biography. Ribadeneira, who lived in the midſt of ignorance and ſuperſtition, did not ſuſpect that the time was at hand when the incredible and ridiculous fables he recites would not be believed: his life of this ſaint therefore abounds with particulars which Touron has juſtly omitted. We are told that a miraculous light was ſeen over the chamber of Borromeus's mother when ſhe was in labour: That Borromeus ſeeing two perſons carried violently down a rapid river on their horſes, and juſt ready to periſh, cauſed their horſes ſuddenly to leap with them out of the water, by giving them his benediction: That Octavian Vareſe, a gentleman of Milan, who was confined to his bed by ſickneſs, when Borromeus died became inſtantly well, by recommending himſelf to the Saint's interceſſion. That a daughter of Julius Bonacina was inſtantly cured of a diſorder in her eye, which had taken away the ſight of it, by performing an act of devotion in honour of this Saint: That a count of Ferrara was inſtantly ſeized with a violent diſeaſe upon ſpeaking irreverently of Borromeus's picture, but was cured upon confeſſing his fault. It would certainly be a work of infinite ſervice to the Romiſh church, to new-write the lives of her ſaints in ſuch a manner as can now be believed, ſince the lives already written might by that means be gradually ſuperceded, which are a better antidote againſt Popery than the arguments of the beſt reaſoner in the world.

BORROWING and Hiring, in law, are contracts by which a qualified property may be tranſferred to the hirer or borrower; in which there is only this difference, that hiring is always for a price or ſtipend, or additional recompence; borrowing is merely gratuitous. But the law in both caſes is the ſame. They are both contracts, whereby the poſſeſſion and tranſient property is tranſferred for a particular time or uſe, on condition and agreement to reſtore the goods ſo hired or borrowed, as ſoon as the time is expired, or the uſe performed together with the price or ſtipend (in caſe of hiring) either expreſsly agreed upon by the parties, or left to be implied by law, according to the value of the ſervice. By this mutual contract, the hirer or borrower gains a temporary property in the thing hired, accompanied with an implied condition to uſe it with moderation, and not to abuſe it; and the owner or lender retains a reverſionary intereſt in the ſame, and acquires a new property in the price or reward. Thus, if a man hires or borrows a horſe for a month, he has the poſſeſſion and a qualified property therein during that period; on the expiration of which his qualified property determines, and the owner becomes (in caſe of hiring) intitled alſo to the premium or price for which the horſe was hired.

There is one ſpecies of this price or reward the moſt uſual of any, but concerning which many good and learned men have in former times very much perplexed themſelves and other people, by raiſing doubts about its legality *in foro conſcientiæ*. That is, when money is lent on a contract to receive not only the principal ſum again, but alſo an increaſe by way of compenſation for the uſe, which is generally called *Intereſt* by thoſe who think it lawful, and *uſury* by thoſe who do not ſo. But as to this, ſee the article Interest.

BORROWSTOWNESS. See Burrowstowness.

BORSEHOLDER, among the Anglo-Saxons, one of the loweſt magiſtrates, whoſe authority extended only over one Freeburgh, tithing, or decennary, conſiſting of ten families. Every freeman who wiſhed to enjoy the protection of the laws, and not to be treated as a vagabond, was under the neceſſity of being admitted a member of the tithing where he and his family reſided; and in order to obtain this admiſſion, it was as neceſſary for him to maintain a good reputation; becauſe all the members of each tithing being mutual pledges and ſureties for each other, and the whole tithing ſureties to the king for the good behaviour of all its members, they were very cautious of admitting any into their ſociety who were of bad or doubtful characters. Each tithing formed a little ſtate or commonwealth within itſelf, and chooſe one of its moſt reſpectable members for its head, who was ſometimes called the *alderman* of ſuch a tithing or freeburgh, on account of his age and experience, but moſt commonly *borſholder*, from the Saxon words *borth*, "a ſurety," and *alder*, "a head or chief." This magiſtrate had authority to call together the members of his tithing, to preſide in their meetings, and to put their ſentences in execution. The members of each tithing, with their tithing-man or borſeholder at their head, conſtituted a court of juſtice, in which all the little controverſies ariſing within the tithing were determined. If any diſpute of great difficulty or importance happened, or if either of the parties was not willing to ſubmit to a ſentence given in the tithing-court, the cauſe was referred or appealed to the next ſuperior court, or court of the hundred.

BORSET, or Borsett, celebrated for its baths, a place about half a league from Aix-la-Chapelle in Germany. The abbey here is a very magnificent pile of building. It was formerly a monaſtery; but ſerves for a nunnery, whoſe abbeſs is a princeſs of the empire, and lady of Borſet. The waters are warm, and of the nature of thoſe of Aix-la-Chapelle; but they are only uſed as baths for the diſeaſes in which the waters laſt mentioned are recommended, and alſo in dropſical and œdematous caſes. The waters are diſtinguiſhed into the upper and lower ſprings. The former were found by Dr Simmons to raiſe the thermometer to 158°, the latter to only 127°. All the baths are ſupplied by the firſt. Dr Simmons obſerved that theſe waters were much leſs ſulphureous than thoſe of Aix-la-Chapelle, probably on account of their greater heat. He likewiſe found that they abounded much with ſelenites, which incruſt the pipe through which the water paſſes, and likewiſe the ſides of the bath.

BORYSTHENES. See Boristhenes.

BOS (John Baptiſt du), a celebrated author and member of the French academy, was born at Beauvais in 1670, and finiſhed his ſtudies at the Sorbonne. In 1695, he was made one of the committee for foreign affairs under Mr Torez; and was afterwards charged with ſome important tranſactions in England, Germany, Holland, and Italy. At his return to Paris, he was handſomely preferred, made an abbé, and choſen perpetual ſecretary of the French academy. He was the author of ſeveral excellent works; the principal of which are, 1. Critical reflections upon poetry and painting, 3 vols 12mo. 2. The hiſtory of the four Gordians, confirmed and illuſtrated by medals. 3. A critical hiſtory of the eſtabliſhment of the French monarchy among the Gauls, 2 vols 4to, 4 vols 12mo. He died at Paris on the 23d of March 1742.

Bos (Lewis Janſſen), an eſteemed painter, was born at Bois-le-Duc. Having been carefully inſtructed in the art of painting by the artiſts of his native city, he applied himſelf entirely to ſtudy after nature, and rendered himſelf very eminent for the truth of his colouring and the neatneſs of his handling. His favourite ſubjects were flowers, and curious plants, which he uſually repreſented as grouped, in glaſſes, or vaſes of cryſtal, half filled with water; and gave them ſo lovely a look of nature, that it ſeemed ſcarce poſſible to expreſs them with greater truth or delicacy. It was frequent with this maſter to repreſent the drops of dew on the leaves of his ſubjects, which he executed with an uncommon tranſparence; and embelliſhed his ſubjects with butterflies, bees, waſps, and other inſects, which, Sandrart ſays, were ſuperior to any thing of that kind performed by his cotemporary artiſts. He likewiſe painted portraits with very great ſucceſs: and ſhowed as much merit in that ſtyle as he did in his compoſitions of ſtill life. He died in 1507.

BOS, in zoology, a genus of quadrupeds belonging to the order of pecora. The characters of this genus are taken from the horns and teeth. The horns are hollow within; and turned forward, in the form of creſcents: There are eight fore-teeth in the under jaw, and none in the upper, their place being ſupplied by a hard membrane; and there are no dog-teeth in either jaw. Linnæus enumerates ſix ſpecies, viz.

I. The TAURUS, including the bull and cow, has cylindrical horns bent outwards, and looſe dewlaps. The bull, or male, is naturally a fierce and terrible animal. When the cows are in ſeaſon, he is perfectly ungovernable, and often altogether furious. When chaffed, he has an air of ſullen majeſty, and oft tears up the ground with his feet and horns. The principal uſe of the bull is to propagate the ſpecies; although he might be trained to labour, his obedience cannot be depended on. A bull, like a ſtallion, ſhould be the moſt handſome of his ſpecies. He ſhould be large, well-made, and in good heart; he ſhould have a black eye, a fierce aſpect, but an open front; a ſhort head; thick, ſhort, and blackiſh horns, and long ſhaggy ears; a ſhort and ſtraight noſe, large and full breaſt and ſhoulders, thick and fleſhy neck, firm reins, a ſtraight back, thick fleſhy legs, and a long tail well covered with hair. Caſtration remarkably ſoftens the nature of this animal; it deſtroys all his fire and impetuoſity, and renders him mild and tractable, without diminiſhing his ſtrength; on the contrary, after this operation, his weight is increaſed, and he becomes fitter for the purpoſes of plowing, &c.

The beſt time for caſtrating bulls is at the age of puberty, or when they are 18 months or two years old; when performed ſooner, they often die. However, it is not uncommon to caſtrate calves a few days after birth. But ſuch as ſurvive an operation ſo dangerous to their tender age, generally grow larger and fatter, and have more courage and activity than thoſe who are caſtrated at the age of puberty. When the operation is delayed till the age of ſix, ſeven, or eight years, they loſe but few of the qualities of bulls; are much more furious and untractable than other oxen; and when the cows are in ſeaſon, they go in queſt of them with their uſual ardour.

The females of all thoſe ſpecies of animals which we keep in flocks, and whoſe increaſe is the principal object, are much more uſeful than the males. The cow produces milk, butter, cheeſe, &c. which are principal articles in our food, and beſides anſwer many uſeful purpoſes in various arts. Cows are generally in ſeaſon, and receive the bull, from the beginning of May to the middle of July. Their time of geſtation is nine months, which naturally brings the veal or calves to our markets from the beginning of January to the end of April. However, luxury has fallen upon methods of interrupting this natural courſe, and veal may be had almoſt every month in the year. Cows, when improperly managed, are very ſubject to abortion. In the time of geſtation, therefore, they ought to be obſerved with more than ordinary care, leſt they ſhould leap ditches, &c. Neither ſhould they be ſuffered to draw in the plough or other carriage, which is a practice in ſome countries. They ſhould be put into the beſt paſture, and ſhould not be milked for ſix weeks or two months before they bring forth their young. The calf ſhould be allowed to ſuck and follow its mother during the firſt ſix or eight days. After this it begins to eat pretty well, and two or three ſucks in a day will be ſufficient. But if the object be to have it quickly fattened for the market, a few raw eggs every day, with boiled milk, and a little bread, will make it excellent veal in four or five weeks. This management of calves applies only to ſuch as are deſigned for the butcher. When they are intended to be nouriſhed and brought up, they ought to have at leaſt two months ſuck; becauſe the longer they ſuck, they grow the ſtronger and larger. Thoſe that are brought forth in April, May, or June, are the moſt proper for this purpoſe; when calved later in the ſeaſon, they do not acquire ſufficient ſtrength to ſupport them during the winter. The cow comes to the age of puberty in 18 months, but the bull requires two years: but although they are capable of propagating at theſe ages, it is better to reſtrain them till they be full three years. From three to nine years thoſe animals are in full vigour; but when older, they are fit for nothing but to be fed for the butcher. A milk-cow ought to be choſen young, fleſhy, and with a briſk eye.

The heavieſt and moſt bulky animals neither ſleep ſo profoundly, nor ſo long, as the ſmall ones. The ſleep of the ox is ſhort and ſlight; he wakes at the leaſt noiſe. He lies generally on the left ſide, and the kidney of that ſide is always larger than the other. There is great variety in the colour of oxen. A reddiſh or black colour is moſt eſteemed. The hair ſhould be gloſſy, thick, and ſoft; for when otherwiſe, the animal is either not in health, or has a weakly conſtitution. The beſt time for inuring them to labour is at the age of two and a half or three years. The ox eats very quick, and ſoon fills his firſt ſtomach; after which he lies down to ruminate or chew the cud. The firſt and ſecond ſtomachs are continuations of the ſame bag, and very capacious. After the graſs has been chewed over again, it is reduced to a kind of maſh, not unlike boiled ſpinage; and under this form it is ſent down to third ſtomach, where it remains and digeſts for ſome time; but the digeſtion is not fully completed till it comes to the fourth ſtomach, from which it is thrown down to the guts. The contents of the firſt and ſecond ſtomachs are a collection of graſs and other vegetables roughly macerated; a fermentation, however, ſoon commences, which makes the graſs ſwell. The communication between the ſecond and third ſtomach is by an opening much ſmaller than the gullet, and not ſufficient for the paſſage of the food in this ſtate. Whenever then the two firſt ſtomachs are diſtended with food, they begin to contract, or rather perform a kind of reaction. This reaction compreſſes the food, and makes it endeavour to get out: now the gullet being larger than the paſſage between the ſecond and third ſtomachs, the preſſure of the ſtomach neceſſarily forces it up the gullet. The action of ruminating, however, appears to be in a great meaſure voluntary; as animals of this kind have a power of increaſing the reaction of their ſtomachs. After the food undergoes a ſecond maſtication, it is then reduced into a thin pulp, which eaſily paſſes from the ſecond to the third ſtomach, where it is ſtill further macerated; from thence it paſſes to the fourth, where it is reduced to a perfect mucilage, every way prepared for being taken up by the lacteals, and converted into nouriſhment. What confirms this account of chewing the cud is, that as long as theſe animals ſuck or feed upon liquid aliment, they never ruminate; and in the winter, when they are obliged to feed upon hay and other dry victuals, they ruminate more than when they feed upon freſh graſs.

Bulls, cows, and oxen, are fond of licking themſelves, eſpecially when laying at reſt. But this practice ſhould be prevented as much as poſſible; for as the hair is an undigeſtible ſubſtance, it lies in the ſtomach or guts, and is gradually coated by a glutinous ſubſtance, which in time hardens into round ſtones of a conſiderable bulk, which ſometimes kills them, but always prevents their fattening, as the ſtomach is rendered incapable of digeſting the food ſo well as it ought.

Buffon Hiſt. Naturelle.

The age of theſe animals may be diſtinguiſhed by the teeth and horns. The firſt fore-teeth fall out at the age of ſix months, and are ſucceeded by others of a darker colour, and broader. At the end of ſixteen months, the next milk-teeth likewiſe fall out; and at the beginning of the fourth year all the fore-teeth are renewed, and then they are long, pretty white, and equal: However, as the animal advances in years, they become unequal and blackiſh. The horns of oxen four years of age are ſmall pointed, neat, and ſmooth, but thickeſt near the head: This thick part next ſeaſon is puſhed further from the head by a horny cylinder, which is alſo terminated by another ſwelling part, and ſo on (for as long as the ox lives, the horns continue to grow); and theſe ſwellings become ſo many annular knots by which the age may eaſily be reckoned: But from the point to the firſt knot muſt be counted three years, and every ſucceeding knot only one year. The bull, cow, and ox, generally live about fourteen or fifteen years.

Ox-beef is very nouriſhing, and yields a ſtrong aliment; the fleſh of a cow, when well fatted and young is not much inferior. Bull-beef is hard, tough, and dry; for which reaſon it is not much uſed for food. Veal is well taſted, eaſy of digeſtion, and rather keeps the body open than otherwiſe.

The northern countries of Europe produce the beſt cattle of this kind. In general, they bear cold better than heat; for this reaſon they are not ſo plenty in the ſouthern countries. There are but few in Aſia to the ſouth of Armenia, or in Africa beyond Egypt and Barbary. America produced none till they were brought here by Europeans. But the largeſt are to be met with in Denmark, Podolia, the Ukrain, and among the Calmuck Tartars; likewiſe thoſe of Ireland, England, Holland, and Hungary, are much larger than thoſe of Perſia, Turkey, Greece, Italy, and Spain; but thoſe of Barbary are leaſt of all. In all mountainous countries, as Wales, the Highlands of Scotland, &c. the black cattle are ſmall; but hardy, and when fattened make excellent beef. In Lapland, they are moſtly white, and many of them want horns.

Synopſis of Quadrupeds.

The Britiſh breed of cattle, Mr Pennant obſerves, has in general been ſo much improved by foreign mixture, that it is difficult to point out the original kind of theſe iſlands. Thoſe which may be ſuppoſed to have been originally Britiſh are far inferior in ſize to thoſe on the northern part of the European continent: the cattle of the Highlands of Scotland are exceedingly ſmall; and many of them, males as well as females, are hornleſs: the Welch runts are much larger: the black cattle of Cornwall are of the ſame ſize with the laſt. The large ſpecies that is now cultivated through moſt parts of Great-Britain, are either entirely of foreign extraction, or their own improved by a croſs with the foreign kind. The Lincolnſhire kind derive their ſize from the Holſtein breed; and the large hornleſs cattle that are bred in ſome parts of England, come originally from Poland.

About 250 years ago, there was found in Scotland a wild race of cattle, which were of a pure white colour, and had, if we may believe Boethius, manes like lions, Mr Pennant ſays, he cannot but give credit to the relation; having ſeen in the woods of Drumlanrig in North-Britain, and in the park belonging to Chillingham caſtle in Northumberland, herds of cattle probably derived from the ſavage breed. They had loſt their manes, but retained their colour and fierceneſs; they were of a middle ſize, long-legged, and had black muzzels and ears; their horns fine, and with a bold and elegant bend.—The keeper of thoſe at Chillingham ſaid, that the weight of the ox was 38 ſtones; of the cow, 28: that their hides were more eſteemed by the tanners than thoſe of the tame; and they would give ſixpence per ſtone more for them. Theſe cattle were wild as any deer; on being approached, they would inſtantly take to flight, and gallop away at full ſpeed; never mix with the tame ſpecies; nor come near the houſe, unleſs conſtrained to it by hunger in very ſevere weather. When it is neceſſary to kill any, they are always ſhot: if the keeper only wounds the beaſt, he muſt take care to keep behind ſome tree, or his life would be in danger from the furious attacks of the animal, which will never deſiſt till a period is put to its life.

Frequent mention is made of theſe ſavage cattle by hiſtorians. One relates, that Robert Bruce was (in chaſing theſe animals) preſerved from the rage of a wild bull by the intrepidity of one of his courtiers, from which he and his lineage acquired the name of *Turn-bull*. Fitz Stephen* names theſe animals (*uri ſylveſtres*) among thoſe that harboured in the great foreſt that in his time lay adjacent to London. Another enumerates, among the proviſions at the great feaſt of Nevil archbiſhop of York, ſix wild bulls; and Sibbald aſſures us, that in his days a wild and white ſpecies was found in the mountains of Scotland, but agreeing in form with the common ſort. Theſe were probably the ſame with the *biſontes jubati* of Pliny found then in Germany, and might have been common to the continent and Britain; the loſs of their ſavage vigour by confinement might occaſion ſome change in the external appearance, as is frequent with wild animals deprived of liberty; and to that we may aſcribe their loſs of mane. The urus of the Hercynian foreſt deſcribed by Cæſar (lib. vi.) was of this kind; the ſame which is called by the modern Germans, *aurochs*, i. e. *bos ſylveſtris*.

The ox is the only horned animal that will apply his ſtrength to the ſervice of mankind. It is now generally allowed, that, in the draught, oxen are in many caſes more profitable than horſes; their food, harneſs, and ſhoes, being cheaper; and ſhould they be lamed or grow old, an old working beaſt will be as good meat, and fatten as well as a young one.

There is ſcarce any part of this animal without its uſe.

* Hiſtory of London preſerved in Leland's Itin. VIII.

uſe. The blood, fat, marrow, hide, hair, horns, hoofs, milk, cream, butter, cheeſe, whey, urine, liver, gall, ſpleen, bones, and dung, have each their particular uſe in manufactures, commerce, and medicine.

The ſkin has been of great uſe in all ages. The ancient Britons, before they knew a better method, built their boats with oſiers, and covered them with the hides of bulls, which ſerved them for ſhort coaſting voyages.

> *Primum cana ſalix madefacto vimine parvam*
> *Texitur in puppim, cæſoque induta juvenco,*
> *Vectoris patiens, tumidum ſuper emicat amnem:*
> *Sic Venetus ſtagnante Pado, fuſoque Britannus*
> *Navigat oceano.* LUCAN. lib. iv. 131.

> The bending willow into barks they twine;
> Then line the work with ſpoils of ſlaughter'd kine.
> Such are the floats Venetian fiſhers know,
> When in dull marſhes ſtands the ſettling Po;
> On ſuch to neighb'ring Gaul, allur'd by gain,
> The bolder Britons croſs the ſwelling main.
> ROWE.

Veſſels of this kind are ſtill in uſe on the Iriſh lakes; and on the Dee and Severn: In Ireland they are called *curach*; in Engliſh *coracles*; from the Britiſh *cwrwgl*, a word ſignifying a boat of that ſtructure. At preſent the hide, when tanned and curried, ſerves for boots, ſhoes, and numberleſs other conveniences of life.—Vellum is made of the thinneſt calve-ſkins, and the ſkins of abortions. Of the horns are made combs, boxes, handles for knives, and drinking veſſels; and when ſoftened by water, obeying the manufacturer's hands, they form pellucid laminæ for the ſides of lanthorns. Theſe laſt conveniences were invented by the great king Alfred, who firſt uſed them to preſerve his candle time meaſurers from the wind; or (as other writers will have it) the tapers that were ſet up before the reliques in the miſerable tattered churches of that time. The very ſmalleſt fragments, and even the duſt and filings of horn, are found very ſerviceable in manuring cold lands. The matter lying within, on which the horn is formed, is called the *ſlough*; and, when dry, is uſed in making walls or fences, in which, covered from wet, it will laſt a long time. It is alſo moſt admirable in mending roads, where the ſoil is ſoft and ſpewy; for, diſſolving, it becomes a glutinous ſubſtance, that binds amazingly with gravel. As a manure, they allow between two and three quarter-ſacks to an acre. Horn ſaw-duſt with mould is an excellent compoſt for flowers. It is alſo of uſe in hardening, and giving what is called a proper temper, to metals. In medicine, horns were employed as alexipharmics or antidotes againſt poiſon, the plague, or the ſmall-pox; they who have been dignified with the title of *Engliſh bezoar*, and are ſaid to have been found to anſwer the end of the oriental kind.

Campbell's Political Survey.

The teguments, cartilages, and griſtles for the indifferent,—and, for the finer, all the cuttings, parings, and ſcrapes of hides,—are boiled in water, till the gelatinous parts of them are thoroughly diſſolved; and the maſs properly dried, becomes glue. See GLUE.

The bones are uſed by mechanics where ivory is too expenſive; by which the common people are ſerved with many neat conveniences at an eaſy rate. From the tibia and carpus bones is procured an oil much uſed by coach-makers and others in dreſſing and cleaning harneſs, and all trappings belonging to a coach; and the bones calcined afford a fit matter for teſts for the uſe of the refiner in the ſmelting trade. The blood is uſed as an excellent manure for fruit-trees, and is the baſis of that fine colour the Pruſſian blue. The ſinews are prepared ſo as to become a kind of thread or ſmall cord, uſed in ſewing ſaddles, in making racquets, and other things of a like nature. The hair hath alſo its value, and is employed in many different ways. The long hair of the tail is frequently mixed with horſe-hair ſpun into ropes, and ſometimes wove. The ſhort hair ſerves to ſtuff ſaddles, ſeats of ſeveral kinds, mattreſſes, and chairs. The refuſe is a good manure, and operates more ſpeedily than the horns. The fat, tallow, and ſuet, furniſh us with light; and are alſo uſed to precipitate the ſalt that is drawn from briny ſprings. The gall, liver, ſpleen, and urine, had alſo their place in the materia medica, though they have now reſigned to more efficacious and agreeable medicines. The uſes of butter, cheeſe, cream, and milk, in domeſtic œconomy, and the excellence of the latter in furniſhing a palatable nutriment for moſt people whoſe organs of digeſtion are weakened, are too obvious to be inſiſted on.

II. The **BONASUS** has a long mane: its horns are bent round towards the cheek, and are not above a ſpan long. It is about the ſize of a large bull, and is a native of Africa and Aſia. When enraged, he throws out his dung upon dogs or other animals that annoy him; the dung has a kind of cauſtic quality, which burns the hair of any animal it falls upon.

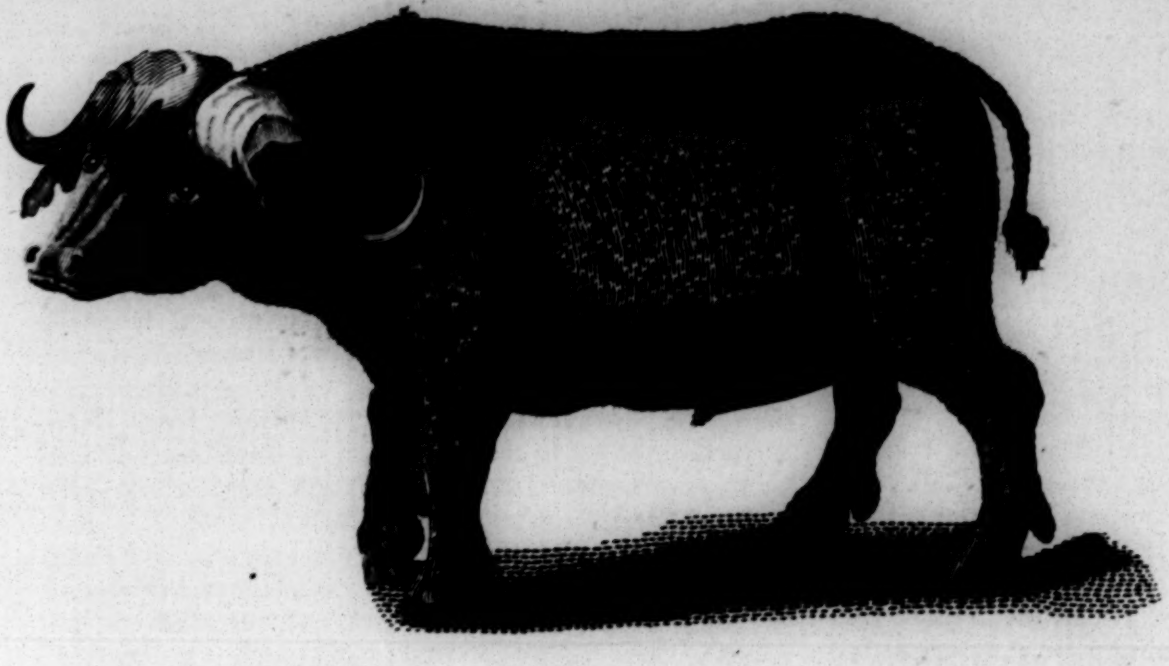
III. The **BISON** has ſhort black, rounded horns with a great interval between their baſes. On the ſhoulders is a vaſt hunch, conſiſting of a fleſhy ſubſtance, much elevated. The fore-parts of the body are thick and ſtrong; the hind parts ſlender and weak. The hunch and head are covered with a very long undulated fleece, divided into locks, of a dull ruſt-colour; this is at times ſo long, as to make the fore-part of the animal of a ſhapeleſs appearance, and to obſcure its ſenſe of ſeeing. During winter, the whole body is cloathed in the ſame manner. In ſummer the hind part of the body is naked, wrinkled, and duſky. The tail is about a foot long; at the end is a tuft of black hairs, the reſt naked. It inhabits Mexico and the interior part of North-America. It is found in great herds in the Savannas; and is fond of marſhy places, where it lodges amidſt the high reeds. In Louiſiana they are ſeen feeding in herds innumerable, promiſcuouſly with multitudes of ſtags and deer, during morning and evening; retiring in the ſultry heats into the ſhade of tall reeds, which border the rivers of America. They are exceedingly ſhy; and very fearful of man, unleſs they are wounded, when they purſue their enemy, and become very dangerous.

The chaſe of theſe animals is a favourite diverſion of the Indians; and is effected in two ways. Firſt, by ſhooting: when the markſman muſt take great care to go againſt the wind; for their ſmell is ſo exquiſite, that the moment they get ſcent of him they inſtantly retire with the utmoſt precipitation. He aims at their ſhoulders, that they may drop at once, and not be irritated by an ineffectual wound. Provided the wind does not favour the beaſts, they may be approached very near, being blinded by the hair which

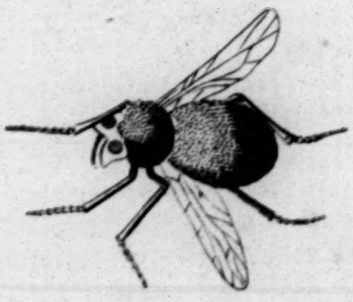
Plate CI

Fig 1 **Bos** 3 *b*

The Cape Ox



Bombylius



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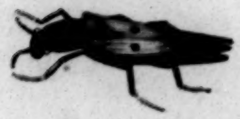
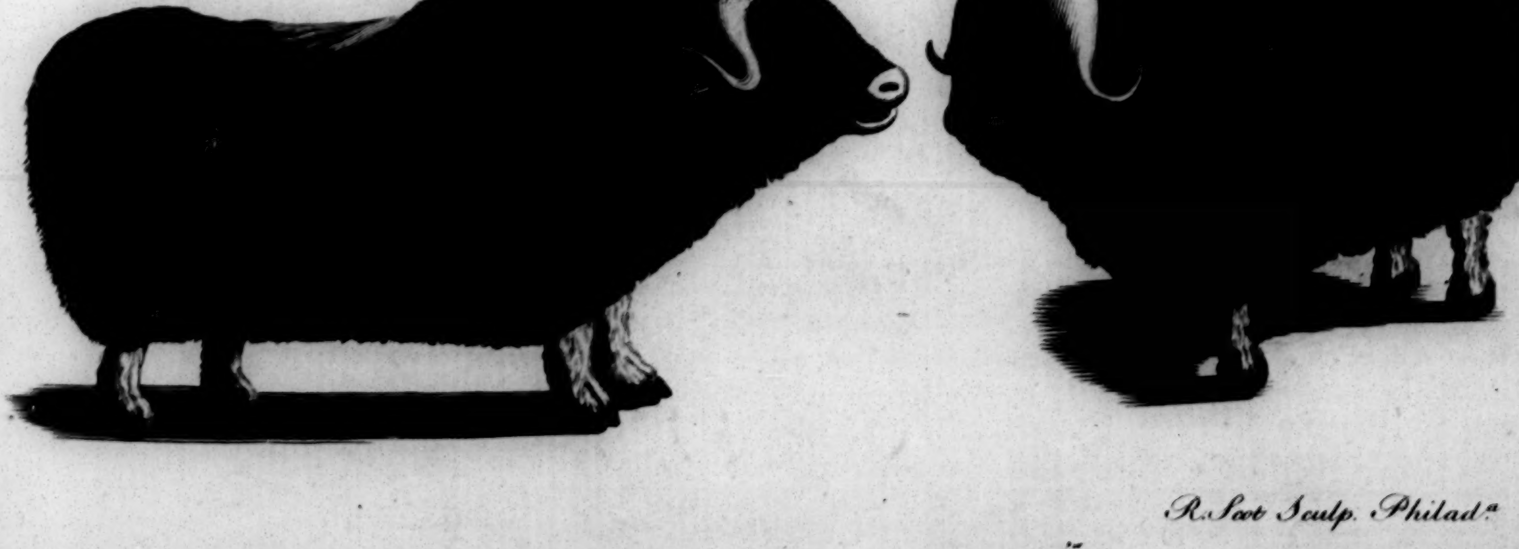


Fig 2 **Bos** 3 *a*

Musk Bull & Cow



R. Scot Sculp. Philad^{a}

BRITISH MUSEUM

which covers their eyes.—The other method is performed by a great number of men, who divide and form a vaſt ſquare: each band ſets fire to the dry graſs of the ſavannah where the herds are feeding: theſe animals having a great dread of fire which they ſee approach on all ſides, they retire from it to the centre of the ſquare; when the bands cloſe and kill them (preſſed together in heaps) without the leaſt hazard. It is pretended, that on every expedition of this nature they kill 1500 or 2000 beeves. The hunting-grounds are preſcribed with great form, leſt the different bands ſhould meet and interfere in the diverſion. Penalties are enacted on ſuch who infringe the regulations, as well as on thoſe who quit their poſts and ſuffer the beaſts to eſcape from the hollow ſquares; the puniſhments are, the ſtripping the delinquents, the taking away their arms (which is the greateſt diſgrace a ſavage can undergo), or laſtly the demolition of their cabins.

The uſes of theſe animals are various. Powder-flaſks are made of their horns. The ſkins are very valuable; in old times the Indians made of them the beſts targets. When dreſſed, they form an excellent buff; the Indians dreſs them with the hair on, and clothe themſelves with them; the Europeans of Louſiana uſe them for blankets, and find them light, warm, and ſoft. The fleſh is a conſiderable article of food, and the bunch on the back is eſteemed a very great delicacy. The bulls become exceſſively fat, and yield great quantities of tallow, 150 pounds weight having been got from a ſingle beaſt, which forms a conſiderable matter of commerce. Theſe over-fed animals uſually become the prey of wolves; for, by reaſon of their great unwieldineſs, they cannot keep up with the herd. The Indians, by a very bad policy, prefer the fleſh of the cows; which in time will deſtroy the ſpecies: they complain of the rankneſs of that of the bulls; but Du Pratz thinks the laſt much more tender, and that the rankneſs might be prevented by cutting off the teſticles as ſoon as the beaſt is killed. The hair or wool is ſpun into cloth, gloves, ſtockings, and garters, which are very ſtrong, and look as well as thoſe made of the beſt ſheeps wool; Governor Pownall aſſures us, that the moſt luxurious fabric might be made of it. The fleece of one of theſe animals has been found to weigh eight pounds.

Their ſagacity in defending themſelves againſt the attacks of wolves is admirable. When they ſcent the approach of a drove of thoſe ravenous creatures, the herd flings itſelf into the form of a circle: the weakeſt keep in the middle; the ſtrongeſt are ranged on the outſide, preſenting to the enemy an impenetrable front of horns: ſhould they be taken by ſurpriſe, and have recourſe to flight, numbers of the fatteſt or the weakeſt are ſure to periſh. Attempts have been made to tame and domeſticate the wild, by catching the calves and bringing them up with the common kind, in hopes of improving the breed; but it has not yet been found to anſwer: notwithſtanding they had the appearance for a time of having loſt their ſavage nature, yet they always grew impatient of reſtraint, and by reaſon of their great ſtrength would break down the ſtrongeſt incloſure, and entice the tame cattle into the corn-fields. They have been known to engender together, and to breed.

a, The *muſk-ox* of Hudſon's bay, a variety of this ſpecies, wants the hump between the ſhoulders. It is about the ſize of a Scotch bullock; has a thick body, and ſhort legs. The horns are large and very remarkable: they are united at their origin in the ſkull; but immediately after they fall down on each ſide of the crown of the head, then taper away ſmall, the points turning up. The hair is black, and grows to a great length; underneath which is a fine wool ſuperior to Vigonia wool. The male only has the curious ſcalp; the female is covered with hair. Theſe animals frequent the country about 100 miles inwards to the north-weſt of Churchill river in Hudſon's bay, where they are very numerous. They live in herds of 30, 50, and upwards to the number of 80 or 100. The bulls are very few in proportion to the cows: for, according to Mr Graham's information, it is rare to ſee more than two or three full grown bulls with the largeſt herd; and from the number of males which at times are found dead, the Indians are of opinion that they kill each other in contending for the females at the rutting ſeaſon. They are then ſo jealous of their miſtreſſes, that they run at either man or beaſt who offers to approach them, and have been ſeen to run and bellow even at ravens and other large birds which chanced to fly or light near them. They go to rut in Auguſt. The females bring forth their young about the latter end of May, or beginning of June, and are never known to have more than one at a time. They delight moſt in the ſtonnieſt and mountainous parts of the barren grounds, and are ſeldom found at any great diſtance through the woods. Though a beaſt of conſiderable magnitude and apparently unwieldy form, yet it climbs the rocks with great eaſe and agility; and is nearly as ſure-footed as a goat, and like that animal will feed on any thing: for though they ſeem fondeſt of graſs, yet in winter they eat moſs and any other herbage they can find; alſo the tops of the willows and the bruſh of the pine-tree. The fleſh of this animal no ways reſembles that of the weſtern buffalo; but it is more like that of the mooſe or elk, the fat being of a clear white ſlightly tinged with a light azure. The calves and young heifers are exceeding good eating; but the fleſh of the bulls both ſmell and taſte ſo ſtrong of muſk, as to render it very diſagreeable. It ſeems to have been from want of better information, that Mr Drage aſſerts the heart to be the moſt impregnated: had he ſaid the kidneys, he would have been much nearer the truth. The urine muſt contain this ſcent in a very great degree: for the penis is always lubricated with a brown gummy ſubſtance, ſo highly ſcented with muſk, that after having been kept for ſeveral years it does not ſeem to have loſt any of its quality. The dung of this animal (though ſo large) is all in little round knobs; and ſo exactly like that of the varying hare both in ſize and colour, that it would be very eaſy to miſtake the one for the other, were it not for the quantity. The Indians kill great numbers of them. From 2000 to 4000 weight of the fleſh frozen is brought to prince of Wales's fort annually, and is ſerved out as proviſions to the Europeans. See the figures, Plate CI.

b, The *Cape Buffalo*, or Bos Caffer of Sparrman, another variety, inhabits the interior parts of Africa north of the Cape of Good Hope, but does not extend to the north of the Tropic. They are ſaid to be greatly ſuperior in ſize to the largeſt Engliſh ox: hang their heads down, and have a moſt ferocious and malevolent appearance. They are in fact exceſſively fierce and dangerous to travellers; will lie quietly in wait in the woods, and ruſh ſuddenly on paſſengers, and trample them, their horſes, and oxen of draught, under their feet: ſo that they are to be ſhunned as the moſt cruel beaſts of this country. They will even return to the attack, and delight to lick the ſlaughtered bodies. They are prodigiouſly ſwift, and ſo ſtrong, that a young one of three years of age, being placed with ſix tame oxen in a waggon, could not by their united force be moved from the ſpot. They are alſo found in the interior parts of Guinea; but are ſo fierce and dangerous, that the negroes who are in chaſe of other animals are fearful of ſhooting at them. The lion, which can break the back of the ſtrongeſt domeſtic oxen at one blow, cannot kill this ſpecies, except by leaping on its back, and ſuffocating it by fixing its talons about his noſe and mouth. The lion often periſhes in the attempt; but leaves the marks of its fury about the mouth and noſe of the beaſt. They live in great herds, eſpecially in Krake-Kamma, and other deſarts of the Cape; and retire during the day into the thick foreſts. They are reckoned good meat by the Dutch of the Cape. They are called *Aurochs*, but differ totally from the European. The warmth of the climate has prevented the vaſt length and abundance of hair which diſtinguiſhes the former, and the luxuriance of herbage in this country has given it the vaſt ſuperiority of ſize.

Of this animal we have the following account by Dr Sparrman, who was the firſt who gave a diſtinct delineation and deſcription of it. Deſcribing the death of one that was ſhot, he informs us, that "immediately after the report of the gun, the buffalo fell upon its knees: that he afterwards, however, raiſed himſelf up, and run ſeven or eight hundred paces into a thicket; and directly upon this, with a moſt dreadful bellowing, gave us to underſtand that it was all over with him. All this together formed a ſpectacle, which moſt ſportſmen would have been highly delighted to have been preſent at. This creature, as well as moſt of the larger kind of game, was ſhot by a Hottentot. Even ſome of the beſt huntſmen among the farmers are obliged, for the moſt part, to make uſe of Hottentots by way of buſh-hunters; as in their ſkin cloaks they do not excite the attention of the wild beaſts ſo much as the Europeans do in their dreſs. They are likewiſe ready at any time when there is occaſion for it, to go barefoot, and crawl ſoftly upon their bellies, till they come within a proper diſtance of the animal. Moreover, when the buffalo at length is irritated, the Hottentots can much eaſier eſcape from the danger which threatens them than a Chriſtian. I myſelf, on another occaſion, ſaw two Hottentots run with amazing ſwiftneſs when a buffalo was in purſuit of them. It was not without the greateſt diſcontent on the part of my Hottentots that I made a draught and took the dimenſions of this buffalo; thus preventing them, in the mean while, from falling aboard of the fleſh. Neither did they afterwards delay one moment to cut a few ſlices off and broil them. They likewiſe laid two bones on the fire to broil, for the ſake of the marrow. After this they began to take out the entrails, which, according to the teſtimony of my Hottentots, perfectly reſembled thoſe of an ox: the buffalo's, however, are much larger, and take up more room, and indeed gave us no little trouble in clearing them away; for the diameter of this creature's body was full three feet.

"Upon the whole, the ſize of the buffalo was as follows: the length eight feet, the height five and a half, and the fore legs two feet and a half long; the larger hoofs were five inches over; from the tip of the muzzle to the horns was twenty-two inches. This animal in ſhape, as may be ſeen in the plate, very much reſembled the common ox; but the buffalo has much ſtouter limbs, in proportion to its heighth and length. Their fetlocks hang likewiſe nearer to the ground. The horns are ſingular, both in their form and poſition: the baſes of them are thirteen inches broad, and are only an inch diſtant from each other; by which means, there is formed between them a narrow channel or furrow, in a great meaſure bare of hair. Meaſuring them from this furrow, the horns riſe up in a ſpherical form, with an elevation of three inches at moſt. In this way they extend over a great part of the head, viz. from the nape of the neck to the diſtance of three and a half inches from the eyes; ſo that the part from which they grow out, does not occupy a ſpace of leſs than 18 or 20 inches in circumference. From hence bending down on each ſide of the neck, and becoming more cylindrical by degrees, they each of them form a curve, the convex part of which is turned towards the ground, and the point up in the air; which, however, at the ſame time is generally inclined backwards. The diſtance between the points of the horns is frequently above five feet; the colour of them is black; and the ſurface, to within about a third part of them, meaſured from the baſe, is very rough and craggy, with cavities ſometimes an inch deep. Neither theſe cavities, nor the elevations which are formed between them, appear to be at all accidental, as there is a tolerable ſimilarity between theſe exreſcences, though they are very different in different buffaloes. The ears are a foot in length, ſomewhat pendant, and in a great meaſure covered and defended by the lower edges of the horns. The edges of the ears are notched and ſhrivelled up in divers ways, which probably proceeds from the wounds theſe creatures frequently receive in their battles with each other, and from the rents they get in the briars and almoſt impenetrable thickets through which they paſs, together with other caſualties of that nature: Though ſeveral Hottentots have been induced from thence to imagine, that the buffaloes belonged to certain ſupernatural beings, who marked theſe animals in this manner for their own cattle. By way of naming theſe beings to me, they made uſe of the word *duyvel*, which means devil.

Plate CI.

"The hairs of the buffalo are of a dark brown colour, about an inch long; harſh; and on ſuch males as are advanced in years, very thin, eſpecially on the middle of the ſides of the belly: hence they appear at ſome diſtance as if they were girt with a belt; and what contributes not a little to this appearance is, that the buffaloes in general are very fond of rolling in the mire. The hairs on the knees are in moſt buffaloes ſomewhat longer than thoſe on the reſt of the body, and lie as it were in whirls. The eyes are ſomewhat ſunk within their prominent orbits. This, together with the near ſituation of them to the baſes of the horns, which hang ſomewhat over its pendant dangling ears, and its uſual method of holding its head inclined to one ſide, gives the buffalo a fierce and treacherous aſpect. The diſpoſition likewiſe of the animal ſeems to correſpond with its countenance. He may in ſome ſort be called treacherous, as he is wont to hide himſelf among the trees, and ſtand there ſkulking till ſomebody happens to come very near him, when he ruſhes out at once into the road, and attacks them. This animal likewiſe deſerves the appellation of fierce and cruel; as it has been remarked, that, not content with throwing down and killing the perſon whom he attacks, he ſtands over him afterwards, in order to trample upon him with his hoofs and heels, at the ſame time cruſhing him with his knees, and with his horns and teeth tearing to pieces and mangling the whole body, and ſtripping off the ſkin by licking it with his tongue. This, however, he does not do all at once, but at intervals, going away between whiles to ſome diſtance off. Notwithſtanding all this, the buffalo will bear to be hunted; though ſometimes he will turn and hunt his purſuer, whoſe only dependence in that caſe is upon the ſwiftneſs of his ſteed. The ſureſt way to eſcape from him is to ride up ſome hill, as the great bulk of the buffalo's body, like that of the elephant, is a weight ſufficient to prevent him from being able to vie with the ſlender and fine limbed horſe in ſwiftneſs; though, on the other hand, the buffalo, in going down hill, gets on much faſter than the horſe; a fact to which I have more than once been an eye-witneſs.

"The fleſh of the buffalo is coarſe and not very fat, but full of juice, and of a high and not diſagreeable flavour. The hide is thick and tough, and is in great requeſt with the farmers for thongs and harneſſes. Of it we made the only halters that can be depended upon for ſecuring our horſes and oxen; ſo that theſe beaſts cannot get looſe by ſnapping them aſunder, which they are otherwiſe apt to do when the lions and wolves make their appearance in the neighbourhood. Every ſuch halter ſhould be a finger and an half in breadth and about three yards long, and are ſold a good way up in the country for a quarter of a rix-dollar a-piece.

"The hide of the buffalo we had now ſhot, after it had been dreſſed in ſome ſort by my Hottentots, by being ſtretched out and ſalted a little, and afterwards half dried, ſerved to make a pair of new four-plaited traces for my waggon. We obſerved, that the ball had hit the lower part of the neck, and entered the lungs: where though it did not ſeem to have ſtruck againſt any bone, and though it was alloyed with the uſual quantity of tin, it was yet found to be pretty much flattened. In other buffaloes that we ſhot ſince, I have ſometimes found the balls, though alloyed with tin, ſhivered into ſeveral pieces againſt the bones in the internal parts, or at leaſt very much flattened. It is not, therefore, worth while to ſet about ſhooting the buffalo with balls made of lead only, for they will ſeldom be able to penetrate into thoſe parts where they are likely to prove mortal. Beſides being poſſeſſed of the degree of hardneſs requiſite, a ball ſhould be of a tolerable ſize, in order to kill ſo large an animal as the buffalo. The leaſt that ought to be uſed for this purpoſe ſhould weigh two ounces and a quarter.

"My Hottentots ſhowed ſo much diligence and zeal both in cutting up and eating this beaſt, that the encouragement and ſtimulation which is otherwiſe frequently neceſſary to ſet their ſluggiſh and heavy ſouls in motion, would on this occaſion have been quite ſuperfluous. They drove the waggon then up to the place where the beaſt lay, and loaded it with the beſt and fatteſt part of the fleſh. The raw hide, which was of conſiderable weight and extent, was tied under the waggon till it ſhould be wanted, and the two remaining legs or marrow-bones were faſtened to each ſide of the body of the waggon. Notwithſtanding this, our Boſhies-men had each of them loaded themſelves with a quantity of ſlips of fleſh made up into bundles. Thus covered up to the eyes and ears in meat, we made a ſingular appearance, which might have given any traveller who had happened to paſs that way the idea of a walking fleſh market. As we proceeded on our journey, a ſwarm of other carnivorous animals in a conſiderable number, *viz.* eagles, falcons, and common hawks, were ſeen ſoon afterwards to occupy our places about the buffalo's remains; though we ſaw none of them either in the trees or flying about in the air till we had got to the diſtance of a few gun-ſhots from the ſpot."

Another hunt of this formidable animal he afterwards deſcribes as follows: "There was now again a great ſcarcity of meat in the waggon; for which reaſon my Hottentots began to grumble, and reminded me that we ought not to waſte ſo much of our time in looking after inſects and plants, but give a better look out after the game. At the ſame time they pointed to a neighbouring dale over-run with wood, at the upper edge of which, at the diſtance of a mile and a quarter from the ſpot where we then were, they had ſeen ſeveral buffaloes. Accordingly we went thither; but though our fatigue was leſſened by our Hottentots carrying our guns for us up a hill, yet we were quite out of breath and overcome by the heat of the ſun before we got up to it. Yet, what even now appears to me a matter of wonder is, that as ſoon as we had got a glimpſe of the game, all this languor left us in an inſtant. In fact, we each of us ſtrove to fire before the other, ſo that we ſeemed entirely to have loſt ſight of all prudence and caution. When we advanced to within twenty or thirty paces of the beaſt, and conſequently were perhaps likewiſe in ſome degree actuated by our fears, we diſcharged our pieces pretty nearly at the ſame time; while the buffalo, who was upon rather lower ground than we were, behind a thin ſcambling buſh, ſeemed to turn his head round in order to make towards us. In the mean while, however, the moment we had diſcharged our guns, we had the pleaſure to ſee him fall, and directly afterwards run down into the thickeſt part of the wood. This induced us to hope, that our ſhot had proved mortal; for which reaſon, we had the imprudence to follow him down into the cloſe thickets, where luckily for us we could get no farther. We had, however, as we found afterwards, only hit the hindmoſt part of the chine, where the balls, which lay at the diſtance of three inches from each other, had been ſhivered to pieces againſt the bones. In the mean while our temerity, which chiefly proceeded from hurry and ignorance, was conſidered by the Hottentots as a proof of ſpirit and intrepidity hardly to be equalled; on which account, from that inſtant they ever after appeared to entertain an infinitely higher opinion of our courage than they had ever done before. Several of our Hottentots now came to us, and threw ſtones down into the dale, though without ſucceſs, in order to find out by the bellowings of the beaſt whither he had retired: afterwards, however, he ſeemed to have plucked up his courage; for he came up at laſt out of the dale of his own accord to the ſkirts of the wood, and placed himſelf ſo as to have a full view of us on the ſpot where we were reſting ourſelves, ſomewhat higher up: his intention was, in all probability, and in the opinion of our old ſportſmen, to revenge himſelf on us, if we had not happened to ſee him in time, and fired at him directly. What, perhaps, in ſome meaſure put a ſtop to his boldneſs was, that we ſtood on higher ground than he did: for ſeveral veteran ſportſmen have aſſured me of it as a fact, that they know from experience, that the buffaloes do not willingly venture to aſcend any hill or eminence in order to attack any one. The third ſhot, which afterwards was obſerved to have entered at the belly, was fatal. This occaſioned the buffaloe to take himſelf down again into the vale, dyeing the ground and buſhes all the way he went with his blood. Though ſtill hot upon the chaſe, yet we advanced with the greateſt caution, accompanied by two of our Hottentots, thro' the thin and more pervious part of the wood, where the buffalo had taken refuge. He was advancing again in order to attack ſome of us, when Mr Immelman, from the place where he was poſted, ſhot him in the lungs. Notwithſtanding this, he had ſtill ſtrength enough left to make a circuit of a hundred and fifty paces, before we heard him fall: during his fall, and before he died, he bellowed in a moſt ſtupendous manner; and this death-ſong of his inſpired every one of us with joy, on account of the victory we had gained: and ſo thoroughly ſteeled is frequently the human heart againſt the ſufferings of the brute creation, that we haſtened forwards, in order to enjoy the pleaſure of ſeeing the buffalo ſtruggle with the pangs of death. I happened to be the foremoſt amongſt them; but think it impoſſible for anguiſh, accompanied by a ſavage fierceneſs, to be painted in ſtronger colours than they were in the countenance of this buffalo. I was within ten ſteps of him when he perceived me, and bellowing raiſed himſelf again ſuddenly on his legs. I had reaſon to believe ſince, that I was at the time very much frightened; for before I could well take my aim, I fired off my gun, and the ſhot miſſed the whole of his huge body, and only hit him in the hind legs, as we afterwards diſcovered by the ſize of the ball. Immediately on this I flew away like lightning, in order to look out for ſome tree to climb up into. Notwithſtanding the tedious prolixity it might occaſion me to be guilty of, I thought the beſt and readieſt method of giving my reader an idea of the nature of this animal, and of the method of hunting it, as well as of other contingent circumſtances, would be to adduce an inſtance or two of what occurred during the chace. My Hottentots cut up the buffalo with their uſual alacrity and ardour; but as they had a great way to carry the fleſh to the waggon, they took it thither in a rather unuſual way. This was as follows: they cut out large ſlip of fleſh, whole and entire, with holes in the middle, wide enough for them to put their heads and arms through, and loaded themſelves with it in this manner before, behind, and on every ſide of them; the meat all the while dangling about their bodies in a manner ludicrous enough, though not much adapted to create an appetite in the ſpectator. In this way, their hands being entirely diſengaged, excepting that each man carried a ſtick, they clambered up the brow of the hill that overhung the vale, and thus walked on towards the waggon, whither one might trace them all the way by the blood."

IV. The GRUNNIENS, or hog-cow, has cylindrical horns bent backwards. The body is ſo hairy, that the hair hangs down upon its knees like a goat. The colour of the body is black, but the front is white. It has briſtles on its back, tail, and hind legs, and it grunts like an hog. It is an inhabitant of the north of Aſia.

a, A variety of this ſpecies is the *Indian ox*, with a vaſt hump on the ſhoulders. They differ much in ſize and in the form of their horns. Some are very large, and of a reddiſh colour; with horns ſhort, and bending cloſe to the neck; others very ſmall, with horns almoſt upright, bending a little forward. In Surat is a minute kind not bigger than a great dog, which have a very fierce look, and are uſed to draw children in ſmall carts. In Celebes is a ſmall ſpecies not bigger than a middle-ſized ſheep, called *Anoa*, very fierce and wild, of a dark aſh-colour, inhabiting the rocks. Mr Loten, when in India, put ſome of them into a paddock, and in one night's time they killed 14 or 15 of his deer, by ripping up their bellies.

V. The BUBALUS, or common buffalo, has large black horns bent backward and inwards, and plain before. The hair on the back is very hard, but thinly ſcattered over the body. It is a native of Aſia; but they are tamed in Italy, and uſed for the ſame pupoſes as black cattle in other countries. They draw carriages, and are guided by a rope tied to a ſtring thruſt through their noſes. This buffalo is larger than an ox, has a thicker body, and a very hard hide. His pace is ſlow; but he will carry a great burden. They feed in herds like cows; and yield plenty of milk, of which very good butter and cheeſe is made. Their fleſh is pretty good, but not to be compared to beef. The wild buffalo is a very fierce and dangerous animal; he often attacks travellers, and tears them in pieces. However, they are not ſo much to be feared in woods as in the plains, becauſe their horns which are ſometimes ten feet long, are apt to be entangled in the branches of trees, which gives thoſe who are ſurpriſed by them time to eſcape. They are excellent ſwimmers, and will croſs the largeſt rivers without any difficulty. They run wild in great troops on the coaſt of Malabar; for which reaſon ſtrangers are allowed to hunt and kill them at pleaſure.

VI. The INDICUS, or little Indian buffalo, has horns ſhorter than its ears, a bunch on its back, and no mane. It is about the ſize of a calf ſix months old, and uſed in the Eaſt-Indies for drawing coaches.

BOS, in antiquity, was peculiarly uſed for an ancient Greek ſilver coin, which was *didrachmus*, or equivalent to two drachms. It was ſo called as having on it the impreſſion of an ox, and chiefly obtained among the Athenians and Delians; being ſometimes alſo ſtruck of gold. From this aroſe the phraſe *Bos in lingua*, applied to thoſe who had taken bribes to hold their tongue.

BOSA, a maritime town in the weſtern part of the iſland of Sardinia, with a caſtle, a good port, and a biſhop's ſee. It is ſeated on the river Boſa, to the north-eaſt of an iſland of the ſame name; and has good ſalt-pits. E. Long. 8. 30. N. Lat. 40. 19.

BOSCAGE, the ſame with a grove or thicket.

BOSCAGE, in a law ſenſe, is that food which trees yield to cattle; as maſt, &c. But Manwood ſays, to be quit of boſcage is to be diſcharged of paying any duty for windfall wood in the foreſt.

BOSCAGE, among painters, denotes a landſcape repreſenting much wood and trees.

BOSCAN (John), a Spaniſh poet of the 16th century, born at Barcelona. He was the friend of Garcilaſſo de Viga, another Spaniſh poet. Theſe two were the firſt who made any great improvement in the poetry of their nation, and their pieces were printed together. Boſcan, who died about the year 1542, principally ſucceeded in ſonnets.

BOSCAWEN (Edward), a brave Britiſh admiral, was the ſecond ſon of Hugh late lord viſcount Falmouth. Having early entered into the navy, he was, in 1740, captain of the Shoreham; and behaved with great intrepidity as a volunteer under admiral Vernon, at the taking of Porto Bello. At the ſiege of Carthagena, in March 1740-1, he had the command of a party of ſeamen who reſolutely attacked and took a battery of 15 twenty-four pounders, though expoſed to the fire of another fort of five guns. Lord Aubrey Beauclerk being killed at the attack of Boca-Chica, captain Boſcawen ſucceeded him in the command of the prince Frederic of 70 guns. In May 1742, he returned to England, and married Frances daughter of William Glanville, Eſq; and the ſame year was elected repreſentative for Truro in Cornwall. In 1744, he was made captain of the Dreadnought of 60 guns; and ſoon after he took the Media, a French man of war commanded by M. Hoquart, the firſt king's ſhip taken in that war. May 3. 1747, he ſignalized himſelf under the admirals Anſon and Warren, in an engagement with the French fleet off Cape Finiſterre, and was wounded in the ſhoulder with a muſket ball. Here M. Hoquart, who then commanded the Diamond of 56 guns, again became his priſoner; and all the French ſhips of war, which were ten in number, were taken. On the 15th of July, he was made rear-admiral of the blue, and commander in chief of the land and ſea forces employed on an expedition to the Eaſt Indies; and, on the 4th of November, ſailed from St Helen's, with ſix ſhips of the line, five frigates, and 2000 ſoldiers. On the 29th of July 1748, he arrived at St David's, and ſoon after laid ſiege to Pondicherry; but the men growing ſickly, and the monſoons being expected, the ſiege was raiſed, and Mr Boſcawen ſhowed himſelf as much the general as the admiral in his retreat. Soon after he had news of the peace, and Madraſs was delivered up to him by the French. In April 1750, he arrived at St Helen's in the Exeter, and found that in his abſence he had been appointed rear-admiral of the white. He was the next year made one of the lords commiſſioners of the admiralty, and choſen an elder brother of the Trinity-houſe. In February 1755, he was appointed vice-admiral of the blue. On the 19th of April, ſailing in order to intercept a French ſquadron bound to North America, he fell in with the Alcide and Leys of 64 guns each, which were both taken; on this occaſion M. Hoquart became his priſoner a third time, and he returned to Spithead with his prizes and 1500 priſoners. In 1756, he was appointed vice-admiral of the white; and in 1758, admiral of the blue, and commander in chief of the expedition to Cape Breton; when, in conjunction with general Amherſt, and a body of troops from New England, the important fortreſs of Louiſbourg and the whole iſland of Cape Breton was taken, for which he afterwards received the thanks of the Houſe of Commons. In 1759, being appointed to command in the Mediterranean, he arrived at Gibraltar, where hearing that the Toulon fleet, under M. de la Clue, had paſſed the Straits, in order to join that at Breſt, he got under ſail, and on the 18th of Auguſt ſaw, purſued, and engaged the enemy. His ſhip, the Namur of 90 guns, loſing her main-maſt, he ſhifted his flag to the Newark; and, after a ſharp engagement, took three large ſhips, and burnt two in Lagos-bay, and the ſame year arrived at Spithead with his prizes and 2000 priſoners. On December 8. 1760, he was appointed general of the marines with a ſalary of L. 3000 *per annum*, and was alſo ſworn one of the privy-council. He died in 1761.

BOSCH (Jacob Vanden), a painter of ſtill life, was born at Amſterdam in 1636, and painted ſummer fruits of various kinds, peaches, pears, apples, plums, nectarines, and cherries, with extraordinary neatneſs of pencil. He painted all his objects after nature, and imitated every ſort of fruit, with ſo great truth and delicacy, with ſuch natural and tranſparent colour, that they appeared delicious, and almoſt real. He died in 1676.

BOSCHAERTS (Thomas Willeborts), a celebrated painter, was born at Bergen-op-zoom; and, like the great painters who flouriſhed at that time, began to draw, when very young, in the books that were intended for other ſtudies. Preferring his pencil to every thing elſe, he drew his own picture, by his reſemblance in a looking-glaſs, ſo like, that thoſe who ſaw it were aſtoniſhed. This he did before he had the leaſt inſtruction from any one, and when he was only 12 years of age. Upon this his parents ſent him to a maſter, that he might follow the bent of his genius; but his firſt maſter being only an indifferent painter, and incapable of ſatisfying his earneſt deſire of learning, he left him, and engaged himſelf with Gerard Segers; under whom, after four years practice, he proved a moſt accompliſhed artiſt. Antwerp being at that time the ſeat of arts, where there was a conflux of the moſt eminent painters, he thought it the fitteſt place for his improvement; and there executed ſuch a number of noble pieces as added greatly to the ſplendor of that wealthy city. In 1642, Henry Frederick prince of Orange, and his ſon prince William, employed him in their ſervice; in which he continued ſeveral years, and made thoſe excellent pieces that are to be ſeen in that prince's palace at the Hague and other parts of

Holland, and painted portraits for moſt of the perſons of quality that were then living. He died in the flower of his age, in 1670.

BOSCO, or Boschi, a town of Italy, in the Milaneſe, ſeated on the river Orbe. E. Long. 9. 44. N. Lat. 44. 53.

BOSCOI or Bosci, in eccleſiaſtical hiſtory, denotes a ſpecies or tribe of monks in Paleſtine, who fed on graſs like the beaſts of the field. The word is Greek, *βοσκοι*, q. d. "grazers;" formed from *βοσκω*, *paſco*, "I feed." The Boſcoi are ranked among the number of Adamites, not ſo much on account of their habit, as food. They took no care about proviſion; but when eating-time came, or any of them was hungry, went into the fields, with each his knife in his hand, and gathered and eat what he could find.

BOSEA, golden-rod tree: A genus of the digynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 53d order, *Scabridæ*. The calyx is pentaphyllous; there is no corolla; and the berry is monoſpermous. Of this genus there is but one ſpecies, viz. the yervamora. This is a native of the Canary iſlands, and alſo of ſome of the Caribbees. It hath been long an inhabitant of the Britiſh botanic gardens, but hath never been obſerved to flower in that country. It is a pretty ſtrong woody ſhrub, growing with a ſtem as large as a middling perſon's leg; the branches come out very irregular, and make conſiderable ſhoots every ſummer, which ſhould be ſhortened in the ſpring. Theſe branches retain their leaves till towards the ſpring, when they fall away, and new leaves are produced in their place. It may be propagated by cuttings planted in the ſpring; and the plants muſt be houſed in winter, for they are too tender to bear the open air at that ſeaſon of the year.

BOSHIES-MEN, a ſpecies of Hottentots, ſo called, according to Dr Sparrman, from their dwelling in woody or mountainous places. They are ſworn enemies to a paſtoral life. Some of their maxims are to live on hunting and plunder, and never to keep any animal alive for the ſpace of one night. By this means they render themſelves odious to the reſt of the inhabitants of the Cape; and are purſued and exterminated like the wild beaſts, whoſe manners they have aſſumed. Others of them again are kept alive, and made ſlaves of. Their weapons are poiſoned arrows, which ſhot out of a ſmall bow will fly to the diſtance of 200 paces, and will hit a mark with a tolerable degree of certainty at the diſtance of 50 or even 100 paces. From this diſtance they can by ſtealth, as it were, convey death to the game they hunt for food, as well as to their foes, and even to ſo large and tremendous a beaſt as the lion; this noble animal thus falling by a weapon which perhaps it deſpiſed, or even did not take notice of. The Hottentot, in the mean time, concealed and ſafe in his ambuſh, is abſolutely certain of the operation of his poiſon, which he always culls of the moſt virulent kind; and it is ſaid he has only to wait a few minutes in order to ſee the wild beaſt languiſh and die. The dwellings of theſe foes to a paſtoral life are generally not more agreeable than their maxims and manners. Like the wild beaſts, buſhes and clifts in rocks by turns ſerve them inſtead of houſes; and ſome of them are ſaid to be ſo far worſe than beaſts, that their ſoil has been found cloſe by their habitations. A great many of them are entirely naked; but ſuch as have been able to procure the ſkin of any ſort of animal, great or ſmall, cover their bodies with it from the ſhoulders downwards as far as it will reach, wearing it till it falls off their backs in rags. As ignorant of agriculture as apes and monkies, like them they are obliged to wander about over hills and dales after certain wild roots, berries, and plants (which they eat raw), in order to ſuſtain a life that this miſerable food would ſoon extinguiſh and deſtroy were they uſed to better fare. Their table, however, is ſometimes compoſed of ſeveral other diſhes, among which may be reckoned the larvæ of inſects, or that kind of caterpillars from which butterflies are generated; and in like manner a ſort of white ants (the *termes*), graſshoppers, ſnakes, and ſome ſorts of ſpiders. With all theſe changes of diet, the Boſhies-man is nevertheleſs frequently in want, and famiſhed to ſuch a degree as to waſte almoſt to a ſhadow. "It was with no ſmall aſtoniſhment (ſays Dr Sparrman), that I for the firſt time ſaw in Lange Kloof a lad belonging to this race of men with his face, arms, legs, and body, ſo monſtrouſly ſmall and withered, that I could not have been induced to ſuppoſe but that he had been brought to that ſtate by the fever that was epidemic in thoſe parts, had I not ſeen him at the ſame time run like a lapwing. It required but a few weeks to bring one of theſe ſtarvelings to a thriving ſtate, and even to make him fat; their ſtomachs being ſtrong enough to digeſt the great quantity of food with which they are crammed, as they may rather be ſaid to bolt than eat. It ſometimes happens indeed that they cannot long retain what they have taken in; but this circumſtance, it is ſaid, does not hinder them from beginning again upon a new ſcore."

The capture of ſlaves from among this race of men is by no means difficult; and is effected (Dr Sparrman informs us) in the following manner. "Several farmers that are in want of ſervants join together and take a journey to that part of the country where the Boſhies-men live. They themſelves, as well as their Lego-Hottentots, or elſe ſuch Boſhies-men as have been caught ſome time before, and have been trained up to fidelity in their ſervice, endeavour to ſpy out where the wild Boſhies-men have their haunts. This is beſt diſcovered by the ſmoke of their fires. They are found in ſocieties from 10 to 50 and 100, reckoning great and ſmall together. Notwithſtanding this, the farmers will venture in a dark night to ſet upon them with ſix or eight people, which they contrive to do by previouſly ſtationing themſelves at ſome diſtance round about the craal. They then give the alarm by firing a gun or two. By this means there is ſuch a conſternation ſpread over the whole body of theſe ſavages, that it is only the moſt bold and intelligent among them that have the courage to break through the circle and ſteal off. Theſe the captors are glad enough to get rid of at ſo eaſy a rate; being better pleaſed with thoſe that are ſtupid, timorous, and ſtruck with amazement, and who conſequently allow themſelves to be taken and carried into bondage. They are, however, at firſt treated by gentle methods; that is, the victors intermix the faireſt promiſes with their threats, and endeavour, if poſſible, to ſhoot ſome of the larger kinds of game for their priſoners, ſuch as buffaloes, ſea-cows, and the like. Such agreeable baits, together with a little tobacco, ſoon induce them, continually cockered and feaſted as they are, to go with a tolerable degree of cheerfulneſs to the coloniſt's place of abode. There this luxurious junketting upon meat and fat is exchanged for more moderate portions, conſiſting for the moſt part of butter milk, frumenty, and haſty-pudding. This diet, nevertheleſs, makes the Boſhies-man fat in a few weeks. However, he ſoon finds his good living embittered by the maundering and grumbling of his maſter and miſtreſs. The words *t'guzeri* and *t'gunatſi*, which perhaps are beſt tranſlated by thoſe of "young ſorcerer" and "imp," are expreſſions which he muſt frequently put up with, and ſometimes a few curſes and blows into the bargain; and this for neglect, remiſſneſs, or idleneſs; which laſt failure, if it cannot be ſaid to be born with him, is however in a manner naturaliſed in him. So that, both by nature and cuſtom deteſting all manner of labour, and now from his greater corpulency becoming ſtill more ſlothful, and having beſides been uſed to a wandering life ſubject to no controul, he moſt ſenſibly feels the want of his liberty. No wonder, then, that he generally endeavours to regain it by making his eſcape: but what is really a ſubject for wonder is, that when one of theſe poor devils runs away from his ſervice, or more properly bondage, he never takes with him any thing that does not belong to him. This is an inſtance of moderation in the ſavages towards their tyrants which is univerſally atteſted, and at the ſame time praiſed and admired by the coloniſts themſelves; which, however, I cannot eaſily reconcile with what I have learned of the human heart. It is in conſequence of their fearing to meet with harder uſage in caſe they ſhould be retaken? Thus far, however, is certain, that none of this ſpecies of Hottentots are much given to violence or revenge. Free from many wants and deſires that torment the reſt of mankind, they are little, if at all, addicted to thieving, if we except brandy, victuals, and tobacco. It is not improbable, likewiſe, that the advantages accruing from a theft may be overlooked by them, when their thoughts are taken up with regaining their liberty, the greateſt of all treaſures. It is neceſſary to obſerve here, that ſome of the Hottentots or Boſhies-men, who are thus forced into the ſervice of the coloniſts, live in ſmall ſocieties peaceably and quietly in deſert tracts, where the coloniſts cannot eaſily come at them, and are ſometimes in the poſſeſſion of a few cows. Theſe people probably originate from Boſhies-men who have run away from the coloniſts ſervice.

"I muſt confeſs (continues our author), that the Boſhies-men in ſome huſbandmens ſervice are treated in the gentleſt manner, and perhaps even without ever having a harſh word given them; live very well with regard to proviſions; are well clad, relatively to their condition in life; and are very comfortably lodged, in compariſon of what others are, in their own ſtraw cottages. The chief of their buſineſs perhaps conſiſts in tending a herd of cattle or flock of ſheep during the heat of the day, when they have an opportunity of getting into a gentle ſtate of intoxication by ſmoking tobacco; a ſtate which excites in them ſenſations of as agreeable a nature as the frenzy produced by ſpirituous liquors and opium ſeems to afford to many others, who are never at eaſe but when they can procure to themſelves this delicious pleaſure. And yet, though they may thus agreeably paſs away the otherwiſe tedious hours of their lives in ſmoking and ſleep, they nevertheleſs generally run away. The coloniſts wonder at this, as a procedure entirely devoid of reaſon; without perceiving that in ſo doing they ſuppoſe the Hottentots not endued with a deſire, which has its immediate foundation in nature, and which is common to the human race, and even to moſt brute animals, viz. an earneſt longing after their birth-place and families, and eſpecially after their liberty.

"The ſlave buſineſs, that violent outrage to the natural rights of mankind, always in itſelf a crime, and which leads to all manner of miſdemeanors and wickedneſs, is exerciſed by the coloniſts in general with a cruelty towards the nation of Boſhies-men which merits the abhorrence of every one; though I have been told that they pique themſelves upon it: and not only is the capture of thoſe Hottentots conſidered by them merely as a party of pleaſure, but in cold blood they deſtroy the bands which nature has knit between huſbands and their wives and children. Not content, for inſtance, with having torn an unhappy woman from the embraces of her huſband, her only protection and comfort, they endeavour all they can, and that chiefly at night, to deprive her likewiſe of her infants; for it has been obſerved, that the mothers can ſeldom perſuade themſelves to flee from their tender offſpring. The amiable tenderneſs of the mother, which perhaps glows with a more lively flame in the breaſt of this poor heathen than in thoſe of her Chriſtian tyrants, is the very circumſtance laid hold on by their perſecutors in order to rivet the chains of this wretched female ſo much the faſter. There are ſome mothers, however, that ſet themſelves free, when they have loſt all hopes of ſaving their children. After having made their eſcape, they ſometimes keep ſecretly about the neighbourhood, in hopes of finding ſome opportunity of recovering their infants again."

BOSNA SERAGO, a large and ſtrong town of Turkey in Europe, and capital of the province of Boſnia. E. Long. 18. 57. N. Lat. 44. 40.

BOSNIA, a province of Turkey in Europe, ſeated between Sclavonia and Dalmatia. It belongs entirely to the Turks; but they were on the point of being expelled from it by the Chriſtians, when the Spaniards invaded Sicily, and obliged the emperor to conclude the peace of Paſſarowitz in 1718, by which he gave up Boſnia to the Turks. It is 200 miles in length, and 75 in breadth. It is a barren country, and but little cultivated; the principal revenue ariſing chiefly from the ſilver mines. Among the game there are falcons, which are held in great eſteem.

BOSPHORUS, or BOSPORUS, in geography, a long and narrow ſea, which it is ſuppoſed a bullock may ſwim over. In a more general ſenſe, it is a long narrow ſea running in between two lands, or ſeparating two continents, and by which two ſeas, or a gulph and a ſea, are made to communicate with each other: In which ſenſe, boſphorus amounts to the ſame with what we otherwiſe call an arm of the ſea, channel, or ſtrait;

the Italians, *faro*; the Latins, *fretum*; and the French, *pas*, *manche*. The word is Greek, βοσπορος, formed from βους "bullock," and πορος "paſſage."

The name *boſphorus*, is chiefly confined to two ſtraits in the Mediterranean ſea, viz. the *boſphorus of Thrace*, commonly called the *ſtraits of Conſtantinople*, or *channel of the Black Sea*; and the *Cimmerian* or *Scythian boſphorus*, ſo called, it ſeems, from its reſemblance to the Thracian; now more commonly the *ſtraits of Kapha*, or *Kiderleri*, from two cities ſtanding on it.

The origin of the name is better agreed on than the reaſon why it was firſt given to the Thracian boſphorus. Nymphius tells us, on the authority of Accarion, that the Phrygians, deſiring to paſs the Thracian ſtrait, built a veſſel, on whoſe prow was the figure of a bullock; and which was hence culled βους, "bullock;" and ſerved them for a ferry-boat. Dionyſius, Valerius Flaccus, Callimachus, Apollodorus, Marcellinus, &c. ſay, that Iö, being transferred into a cow by Juno, paſſed this ſtrait ſwimming, which hence was called *boſphorus*. Arrian tells us, that the Phrygians were enjoined by the oracle, to follow the rout which a bullock ſhould mark out to them; and that, upon ſtirring one up, it jumped into the ſea to avoid their purſuit, and ſwam over this ſtrait. Others ſay, that an ox, tormented by a gad-fly, threw itſelf in, and ſwam over: and others, that anciently the inhabitants of theſe coaſts, when they would paſs over, joined little boats together, and had them drawn over by bullocks, &c.

BOSQUETS, in gardening, groves ſo called from *boſchetto*, an Italian word which ſignifies a *little wood*. They are compartments in gardens formed by branches of trees diſpoſed either regularly in rows, or wildly and irregularly, according to the fancy of the owner. A boſquet is either a plot of ground incloſed with paliſadoes of horn beam, the middle of it being filled with tall trees, as elm or the like, the tops of which make a tuft or plume; or it conſiſts only of high trees, as horſe-cheſnut, elm, &c. The ground ſhould be kept very ſmooth and rolled, or elſe covered with graſs, after the manner of green plots. In planting boſquets, care ſhould be taken to mix the trees which produce their leaves of different ſhapes, and various ſhades of green, and hoary or meally leaves, ſo as to afford an agreeable proſpect. Boſquets are only proper for ſpacious gardens, and require a great expence to keep them up.

BOSSAGE, in architecture, a term uſed for any ſtone that has a projecture, and is laid rough in a building, to be afterwards carved into mouldings, capitals, coats of arms, &c. Boſſage is alſo that which is otherwiſe called *ruſtic work*; and conſiſts of ſtones which advance beyond the naked, or level of the building, by reaſon of indentures or channels left in the joinings. Theſe are chiefly uſed in the corners of edifices, and thence called *ruſtic quoins*. The cavities or indentures are ſometimes round, ſometimes chain-framed, or bevelled, ſometimes in a diamond form, ſometimes incloſed with a cavetto, and ſometimes with a liſtel.

BOSSE (Abraham), an able engraver, born at Tours, was well ſkilled in perſpective and architecture. He wrote two treatiſes, which are eſteemed; the one on the manner of deſigning, and the other upon engraving.

BOSSINEY, or BOSS-CASTLE, a town of Cornwall, in England, which ſends two members to parliament. W. Long. 5. 0. N. Lat. 50. 40.

BOSSU (Rene le), born at Paris in 1631, was admitted a canon regular in the abbey of St Genevieve, in 1649; and after a year's probation, took the habit. He taught polite literature with great ſucceſs in ſeveral religious houſes for 12 years, when he gave up the taſk for retirement. He then publiſhed a parallel betwixt the principles of Ariſtotle's natural philoſophy and thoſe of Des Cartes, with a view to reconcile them; which was but indifferently received. His next treatiſe was on epic poetry; which Boileau declared one of the beſt compoſitions on that ſubject in the French language, and which produced a great friendſhip between them. He died in 1680, and left a great number of MSS. which are kept in the abbey of St John de Chartres.

BOSSUET (James Benigne), biſhop of Meux, was born at Dijon, on the 27th of September, 1627. He diſtinguiſhed himſelf by his preaching, and the zeal he diſcovered in his endeavours to bring over the Proteſtants of France to the Romiſh church; by his oppoſition to Quietiſm; and by his numerous writings both in French and Latin, which have been collected together, and printed at Paris in 17 vols 4to. This famous divine died at Paris, in 1704, aged 77.

BOSSUPT, a town of the Auſtrian Netherlands, in the province of Brabant. E. Long. 4. 30. N. Lat. 50. 52.

BOSSUS (Matthew), diſtinguiſhed by his virtue and his learning, was born in 1427. He devoted himſelf to the eccleſiaſtical ſtate in 1451, in the congregation of regular canons of Lateran, and afterwards taught divinity at Padua. His orations, his ſermons, and his letters, have been often printed. He alſo wrote a ſort of an apology for Phalaris, and other works. He died at Padua in 1502, aged 75.

BOST, a very ſtrong town of Perſia, and capital of the province of Zebleſtan. E. Long. 64. 15. N. Lat. 31. 50.

BOSTANGIS, in the Turkiſh affairs, perſons employed in the garden of the ſeraglio, out of whoſe number are collected thoſe that are to row in the Grand Signior's brigantines, when he has a mind to divert himſelf with fiſhing, or to take the air upon the canal. They who row on the left hand are only capable of mean employments in the gardens: but they who row on the right hand may be promoted to the charge of boſtangi-bachi, who has the general intendency of all the Grand Signior's gardens, and commands above 10,000 boſtangis.

BOSTON, a corporation-town of Lincolnſhire in England, which ſends two members to parliament. It is commodiouſly ſeated on both ſides the river Witham, over which it has a handſome, high, wooden bridge; and, being near the ſea, enjoys a good trade. It has a ſpacious market-place, and the largeſt pariſh church without croſs iſles in Europe, the ſteeple of which ſerves for a land-mark to ſailors. Boſton is a barony in the Irby family. E. Long. 0. 15. N. Lat. 53. 3.

BOSTON*, the capital of Maſſachuſetts, and of all New-England. It is built on a peninſula of an irregular form, at the bottom of Maſſachuſetts-Bay. The neck or iſthmus which joins the peninſula to the continent,

* *Morſe's Geography*, p. 177.

Boſton.

continent, is at the ſouth end of the town, and leads to Roxbury. The length of the town, including the neck, is about three miles; the town itſelf is not quite two miles. Its breadth is various. At the entrance from Roxbury, it is narrow. The greateſt breadth is one mile and 139 yards. The buildings in the town cover about 1000 acres. It contains near 1800 dwelling houſes.

By a late computation, the number of inhabitants was found to be 14,640, of theſe 6,570 were males, and 8,070 females. This number is excluſive of ſtrangers and tranſient perſons, who make nearly one third of the whole number of ſouls in Boſton. The rateable polls, at the time of the cenſus, were about 2,620. In this town there are ſeventy-nine ſtreets, thirty-eight lanes, and twenty-one alleys, excluſive of ſquares and courts; and about eighty wharves and quays, very convenient for veſſels. The principal wharf extends 600 yards into the ſea, and is covered on the north-ſide with large and convenient ſtores. It far exceeds any other wharf in the United States.

In Boſton are ſixteen houſes for public worſhip; of which nine are for congregationaliſts, three for epiſcopalians, two for baptiſts, one for the friends, and one for univerſaliſts, or independents. There is one old meeting houſe deſolate and in ruins, in ſchool-ſtreet.

The other public buildings are the ſtate houſe, faneuil hall, an alms houſe, a workhouſe, and a bridewell. That building which was formerly the governor's houſe, is now occupied in its ſeveral apartments, by the council, the treaſurer, and the ſecretary; the two latter hold their offices in it. The public granary is converted into a ſtore, and the linen manufactory houſe, is now occupied by the bank. Moſt of the public buildings are handſome, and ſome of them are elegant. The town is irregularly built, but as it lies in a circular form around the harbour, it exhibits a very handſome view as you approach it from the ſea. On the weſt ſide of the town is the mall, a very beautiful public walk, adorned with rows of trees, and in view of the common, which is always open to refreſhing breezes. Beacon hill, which overlooks the town from the weſt, affords a fine variegated proſpect.

The harbour of Boſton is ſafe, and large enough to contain 500 ſhips at anchor, in a good depth of water; while the entrance is ſo narrow as ſcarcely to admit two ſhips abreaſt. It is diverſified with many iſlands, which afford rich paſturing, hay, and grain. About three miles from the town is the Caſtle, which commands the entrance of the harbour. Here are mounted about forty pieces of heavy artillery, beſides a large number of a ſmaller ſize. The fort is garriſoned by a company of about 50 ſoldiers, who alſo guard the convicts that are ſentenced, and ſent here to labour. Theſe are all employed in the nail manufactory.

BOSWORTH, a town of Leiceſterſhire in England, ſituated in W. Long. 1. 24. N. Lat. 52. 45. It has a lofty ſituation on a hill, and the country about it is fertile in corn and graſs. It is memorable for the deciſive battle fought near it between Richard III. and the earl of Richmond, afterwards Henry VII. wherein the former loſt his crown and life.

BOTALLUS (Leonard), phyſician to the duke of Alençon, and to Henry III. was born at Aſti in Piedmont. He introduced at Paris the practice of frequent letting of blood; which was condemned by the faculty; but ſoon after his death it came into practice with all the phyſicians.

BOTANY,

In the utmoſt extent of the word, ſignifies a knowledge of plants, and of the uſes to which they may be applied, either in medicine, in chemiſtry, or in the different arts. But, as the medical virtues of plants fall properly under the province of the phyſician, their chemical properties belong to the chemiſt, &c.; hence the ſcience of botany is commonly reſtricted to a bare knowledge of the different plants themſelves, and of the diſtinguiſhing marks whereby each individual ſpecies may be known from every other. This knowledge is indiſpenſably neceſſary for thoſe who propoſe to apply plants to any uſeful purpoſe: for example, though we ſhould ſuppoſe a phyſician ever ſo well acquainted with the virtues of opium, and a chemiſt ever ſo well acquainted with the method of preparing it, yet if both of them were entirely ignorant of botany, ſo as to be unable to diſtinguiſh the particular ſpecies of poppy which produces opium from others of the ſame genus, it is evident, their medicinal and chemical ſkill could be of no uſe.

The utility of botanical claſſifications may be further illuſtrated from the following conſiderations.

1. With regard to *Food*. Many animals are endowed with an inſtinctive faculty of diſtinguiſhing with certainty whether the food preſented to them be ſalutary, or noxious. Mankind have no ſuch inſtinct. They muſt have recourſe to experience, and to obſervation. But theſe are not ſufficient to guide us in every caſe. The traveller is often allured by the agreeableneſs of ſmell and taſte to eat poiſonous fruits. Neither will a general caution, not to eat any thing but what we know from experience to be ſalutary, anſwer in every emergency. A ſhip's company, in want of proviſions, may be thrown upon an uninhabited coaſt or a deſert iſland. Totally ignorant of the nature of the plants they meet with, diſeaſes, or ſcarcity of animals, may make it abſolutely neceſſary to uſe vegetable food. The conſequence is dreadful: they muſt firſt eat before any certain concluſion can be formed. This is not the deſcription of danger ariſing from an imaginary ſituation. Before the vegetables that grow in America, the Eaſt and Weſt-Indies, &c. became familiar to ſailors many lives were loſt by trials of this kind: neither has all the information received from experience been ſufficient to prevent individuals from ſtill falling a prey to ignorance, or raſhneſs.—If the whole ſcience of botany were as complete as ſome of its branches, very little ſkill in it would be ſufficient to guard us infallibly from committing ſuch fatal miſtakes. There are certain orders and claſſes which are called *natural*, becauſe every genus and ſpecies comprehended under them are not only diſtinguiſhed by the ſame characteriſtic marks, but likewiſe poſſeſs the ſame qualities, though not in an equal degree. For example: Show a botaniſt the flower of a plant whoſe calyx is a double-valved glume, with three ſtamina, two piſtils, and one naked ſeed; he can

pronounce with abſolute certainty, that the plant from which the flower was taken, bears ſeeds of a farinaceous quality, and that they may be ſafely uſed as food. In like manner, ſhow him a flower with 12 or more ſtamina all inſerted into the internal ſide of the calyx, though it belonged to a plant growing in Japan, he can pronounce without heſitation, that the fruit of it may be eat with ſafety. On the other hand ſhew him a plant whoſe flower has five ſtamina, one piſtil, one petal, or flower-leaf, and whoſe fruit is of the berry kind, he will tell you to abſtain from it, becauſe it is poiſonous. Facts of this kind render botany not only a reſpectable, but a moſt intereſting ſcience.

2. With reſpect to *Medicine*, the ſame thing holds good. It is found by experience, that plants which are diſtinguiſhed by the ſame characters in the flower and fruit have the ſame qualities, though not always in an equal degree as to ſtrength or weakneſs; ſo that, upon inſpection of the flower and fruit, a botaniſt can determine *à priori* the effects that will reſult when taken in the ſtomach. In order, therefore, to determine the medical virtues of all the plants belonging to a natural claſs, the phyſician has nothing to do but to aſcertain, by a ſet of clear and unqueſtionable experiments, the virtues of any one of them. This greatly ſhortens the labour of inveſtigation. Suppoſing the number of known ſpecies to be 20,000; by aſcertaining the virtues of one genus, at a medium, you determine the virtues of 12 ſpecies. But by aſcertaining the virtues of one genus belonging to a natural order, the virtues of perhaps 300 or 400 ſpecies are aſcertained.

Sect. I. *Hiſtory of Botany.*

THE origin of this ſcience, like that of moſt others, cannot be found out from the moſt ancient hiſtories; but it is very probable, that ſome degree of botanical knowledge has exiſted in every age of the world. The firſt botanical writings of which we have any account are thoſe of Solomon, who we are informed by ſcripture wrote a treatiſe upon this ſubject; which, however, is abſolutely loſt, not being quoted by any ancient author, nor the leaſt fragment of it remaining. Among the Greeks, Anaxagoras, Pythagoras, and other ancient philoſophers, wrote treatiſes on plants: but their works are alſo loſt; and from the quotations that yet remain in the works of Theophraſtus, Dioſcorides, and Pliny, we learn that thoſe firſt botanical writings could convey but very little knowledge.

The hiſtorical æra of botany, therefore, commences with Theophraſtus, the diſciple of Ariſtotle. He was born at Ereſium, in the iſland of Leſbos; and flouriſhed in the third century before the Chriſtian æra, being about 100 years poſterior to Hippocrates. His work is intitled *The Hiſtory of Plants*, and treats of their origin, propagation, anatomy, and conſtruction; of vegetable life, and of vegetation. It conſiſted originally of ten books; but of theſe only nine are now extant. In theſe, vegetables are diſtributed into ſeven claſſes, or primary diviſions: which have for their object, the generation of plants; their place of growth; their ſize, as trees and ſhrubs; their uſe, as pot-herbs and eſculent grains; and their lacteſcence, or the liquor, of whatever colour, that flows from plants when cut. In his work, about 500 different plants are deſcribed.

The next botaniſt of any note was Dioſcorides, a Grecian by birth, but under the Roman empire, being near 400 years poſterior to Theophraſtus. He deſcribes about 600 plants; and theſe he has arranged, from their uſes in medicine and domeſtic œconomy, into four claſſes, which are thus deſigned: aromatics; alimentary vegetables, or ſuch as ſerve for food; medicinal, and vinous plants.

Almoſt cotemporary with Dioſcorides, flouriſhed Antonius Muſa, Cato, Varro, Virgil, and Columella; the firſt, author of a treatiſe ſtill extant on the plant *betony*; the four others celebrated for their uſeful tracts on agriculture, and rural œconomy.

Pliny the Elder, in his voluminous work, intitled *The Hiſtory of the World*, has a botanical part which is contained in 15 books. In theſe, beſides the plants of Theophraſtus and Dioſcorides, he has given deſcriptions of ſeveral new ſpecies, extracted, probably, from works which would otherwiſe have been totally loſt. Pliny uſes ſcarce any mode of arrangement, except the ancient, but very incorrect diſtinction, into trees, ſhrubs, and herbs. His plan, however, extends not only to botanical diſtinctions, but to gardening, agriculture, and whatever is connected, either more nearly or remotely, with the ſcience of plants. He gives deſcriptions of above 1000 different ſpecies; but from the want of a proper ſyſtematic arrangement, it is often difficult, and perhaps, impoſſible, to determine what plants he or other ancient botaniſts do really deſcribe.

This want of preciſion in properly arranging their plants was the reaſon why the botany of the ancients was always very limited, and after the time of Pliny declined ſo rapidly. On the deſtruction of the weſtern empire by the Goths, and other barbarous nations, it is not to be thought that botany could ſurvive any more than the other ſciences. It was not till near the cloſe of the eighth century, that the ancient botany began again to appear in Arabia. Serapion, well known in medicine, ſtands firſt in the Arabian catalogue of botaniſts; to him ſucceeded Razis, Avicenna, Averrhoes, Actuarius, &c. An author known by the name of *Plato Apuleius*, or *Apolienſis*, of whoſe *Herbarium* very old manuſcript copies are preſerved in ſome curious libraries, is ſuppoſed to have lived near this period. The works of moſt of theſe botaniſts, however, were only tranſlations and compilations from the Greek writers; ſo that, for want of a proper ſyſtematic arrangement, the ſcience ſunk, a ſecond time, into total oblivion. For near 400 years after Abenguefit, an Arabian phyſician who flouriſhed in the end of the 12th century, ſcarce any attempts were made in the botanical way. Some obſcure writers indeed appeared in ſeveral parts of Europe; as Arnoldus de Villa Nova; Platearius; Mattheus Sylvaticus; and Bartholomew Glanvil, commonly called *Bartholomeus Anglus*, a Franciſcan monk, deſcended of the family of the Earls of Suffolk, who lived in the reign of King Edward III. and wrote a book of natural hiſtory, intitled *De proprietatibus rerum*, which was tranſlated into Engliſh by John de Treviſa in 1398: but though all theſe wrote of plants, they were ſo totally deſtitute of method, that their works remain one great chaos, from whence it is impoſſible to extract any thing intelligible.

On the revival of letters in the beginning of the 16th century, the botany of the ancients was reſtored a ſecond time. The Greek writings were tranſlated into

Latin, the common language of Europe. Gaza, a Greek refugee at Rome, made elegant tranſlations of Ariſtotle, and Theophraſtus, who afterwards were commented upon by Scaliger, and Stapel. Dioſcorides was alſo tranſlated, and commented on. His beſt commentators are Hermolaus Barbarus, Fuchſcius, Ruellus Cordus, Geſner, and Matthiolus. The moſt diſtinguiſhed commentators of Pliny are Dalechamp in 1604, Salmaſius in 1689, Harduin, and Guilandinus. Meurſius and Urſinus have written commentaries upon Cato; Campegius and Monardes upon Meſue the Arabian, and Lonicer upon Avicenna. This laſt hath been tranſlated by ſeveral writers, particularly Alpagus, Coſtæus, and Plempius, into Latin; and by one writer, Amalthæus, into Hebrew.

Hieronymus Bock, or Bouc, a German, generally known by the name of *Tragus*, is the firſt modern who has given a methodical diſtribution of vegetables. In 1532, he publiſhed a Hiſtory of Plants, in which he deſcribes 800 ſpecies; and theſe he divides into three claſſes, founded on the qualities of vegetables, their figure, habit, and ſize. The ſame method of arrangement was followed by Lonicer, Dodonæus, L'Obel, Cluſius, Brunsfelſius, Monordes, Cordus, and ſome other botaniſts of this period. How far ſuch a method was deficient, ſhall be conſidered in the following ſection; however, it was not till 1560 that Conrad Geſner firſt propoſed to the world an arrangement of vegetables from the parts of the flower and fruit. He did not eſtabliſh any plan founded upon this principle; but, having ſuggeſted the idea, left the application to be made by others: and in 1582, Dr Andrew Cæſalpinus, phyſician at Piſa, and afterwards profeſſor of botany at Padua, firſt availing himſelf of the ingenuity of his predeceſſor, propoſed a method of arrangement which has the fruit for its baſis; and, thus, gave origin to ſyſtematic botany, the ſecond grand æra in the hiſtory of that ſcience.

Even this improved method of Cæſalpinus was not without very great inconveniences, which ſhall be taken notice of hereafter. As it was, however, ſo greatly ſuperior to every thing that had appeared before, it might have been expected that the learned would have immediately adopted it, and that all the former equivocal and inſufficient characters would have been rejected. But the fact was otherwiſe. Cæſalpinus's method of arrangement died with him; and it was not till near a century after, that Dr Robert Moriſon, of Aberdeen, attaching himſelf to the principles of Geſner and Cæſalpinus, re-eſtabliſhed ſcientific arrangement upon a ſolid foundation: ſo that, from being only the reſtorer of ſyſtem, he has been generally celebrated as its founder. In the long interval between Cæſalpinus and Moriſon, flouriſhed ſome eminent botaniſts. The moſt noted are, Dalechamp, author of A general Hiſtory of plants: Theodore, ſurnamed *Tabernæmontanus*, and Thalius, two German writers; Porta, an Italian, famous for an arrangement of plants from their relations to the ſtars, to men, and to other animals; Proſper Alpinus, author of a Catalogue of the plants of Egypt; Fabius Columna, inventor of many of the botanical terms now uſed; the two Bauhins; Gerard, and Parkinſon; Zaluzianſki, a Pole, author of an arrangement from the qualities and habit of plants; Marcgrave and Piſo, celebrated for their natural Hiſtory of Brazil; Hernandez, equally celebrated for his Hiſtory of Mexico; Paſſæus, or Du Pas, author of an arrangement of plants from the time of flowering, of all characters the moſt uncertain and inſufficient; Johnſton; Bontius, a Dutchman, author of a Natural Hiſtory of the Eaſt Indies; Aldrovandus, the celebrated naturaliſt; and Rheede, governor of Malabar, and author of the well-known *Hortus Malabaricus*.

The method propoſed by Moriſon has the fruit for its baſis, as well as that of Cæſalpinus; to which, however, it is greatly inferior both in the plan and execution. It is, indeed, of all others the moſt difficult in practice; and was therefore not adopted by any ſucceeding writer, except Bobart, who in 1699 completed Moriſon's Univerſal Hiſtory of Plants, and an anonymous author, whoſe work appeared in 1720. Imperfect, however, as his method is, it furniſhed many uſeful hints, which ſucceeding botaniſts have not failed to improve. Ray and Tournefort have owed him much, and are not aſhamed to own the obligation. The ſame has been done even by Linnæus; who hath eſtabliſhed the ſcience of botany on a moſt ſolid foundation, by introducing the method of arrangement, if not abſolutely perfect, at leaſt as nearly approaching to perfection as can be expected: and, therefore, hath been deſervedly followed, in preference to every other, by all botaniſts, ſince its firſt publication. But to give a particular account of all the different botanical ſyſtems, with the particular advantages and diſadvantages attending each, ſhall be the buſineſs of the ſubſequent ſections.

Sect. II. *Of the ancient Method of arranging Vegetables.*

In giving an account of the works of Theophraſtus and Dioſcorides, we have already taken notice that the former choſe ſeven diſtinguiſhing characters, *viz.* the generation of plants; their place of growth; their ſize, as trees and ſhrubs: their uſe, as pot-herbs and eſculent grains; and their lacteſcence, or liquor that flows from them when cut. Dioſcorides divided them into aromatics, alimentary, medicinal and vinous plants. The good properties of this method are, that the botaniſt, as it were, comes to the point at once; and when he knows the plant, knows alſo its virtues and uſes, or at leaſt part of them: but this convenience is greatly overbalanced by innumerable diſadvantages; for the qualities and virtues of plants are neither fixed and invariable, nor are they impreſſed in legible characters on the plants themſelves. The different parts of a plant often poſſeſs different and even oppoſite virtues; ſo that ſuppoſing the virtues to be known, and applied to the purpoſe of vegetable arrangement, the root muſt frequently fall under one diviſion, the leaves under a ſecond, and the flower and fruit under a third. Beſides, if we reflect that the ſole end of ſuch arrangment is to facilitate the knowledge of plants to others, the inſufficiency and even abſurdity of methods founded upon their virtues will immediately appear. A ſtalk of vervain, for inſtance, is preſented to me, which I am to inveſtigate from a preſuppoſed knowledge of the virtues of plants. Before I can ſettle the claſs to which it belongs, I muſt diſcover whether or not it has the virtues belonging to any of the plants I know; and this diſcovery being the reſult of the repeated experiments on various parts of the human body, may require many years for its accompliſhment.

The ſame cauſes which render methods founded on the virtues of plants unfavourable for the purpoſe of inveſtigation, muſt evidently diſqualify all their other variable quantities and accidents from having a place in a genuine ſyſtematic arrangement. The *natale ſolum* of plants, which is one of Theophraſtus's diviſions, affords no better diſtinctive characters than their powers and virtues. Many countries, as well as many ſoils, produce the ſame individual plants. The ſame ſpecies which crown the mountains, frequently cover the fens; and plants which have long been reckoned the peculiar inhabitants of ſome parts of Aſia and America, are now found to grow naturally in equal perfection in the very different climates of Lapland and Siberia. The ſize of plants, which ſuggeſted the ancient diviſion into trees and ſhrubs, is no leſs an equivocal mark of diſtinction than the circumſtances already mentioned. The vine, which modern botaniſts denominate a ſhrub, was ranged by Theophraſtus in his third claſs containing trees. In fact, every thing reſpecting ſize is ſo much affected by differences of ſoil, climate, and culture, that the ſame plant, in different circumſtances, ſhall differ exceedingly in height; and in a method founded upon the ſize, would ſometimes be ranged as a tree, and ſometimes as a ſhrub, or even an under-ſhrub, according as it happens to exceed, equal, or fall ſhort of, a given ſtandard. No leſs inſufficient are characteriſtical marks drawn from the colour, taſte, and ſmell of plants. Of all the attributes of vegetable nature, colour is, perhaps, the moſt inconſtant. Heat, climate, culture, ſoil, &c. contribute to the production of endleſs diverſities of colour, and render the tranſition from one to another natural and eaſy. Red and blue paſs eaſily into white, white into purple, yellow into white, red into blue, blue into yellow, &c. In the ſame leaf or flower, different colours are frequently obſerved. Variations, too, in point of colour are frequently obſerved to take place not only in different individuals of the ſame ſpecies, but even in ſimilar parts of the ſame plant. Marvel of Peru and Sweet William produce flowers of different colour upon the ſame ſtalk. Objections equally valid lie againſt characteriſtical marks drawn from the taſte and ſmell. The former varies in different individuals from differences of age, and even in the ſame individual at different times, according to the morbid or ſound ſtate of the organ. The latter is different in different ſubjects, and varies in each; nor are the effluvia ſent forth from the ſame body always of equal intenſity. In plants, taſte is ſubject to continual variations from differences of climate, ſoil, and culture. Garlic in ſome climates, particularly in Greece, is ſaid to loſe its rankneſs; apples and pears that grow naturally in the woods, are intolerably acid; celery and lettuce, which culture renders ſweet and palatable, are in their wild uncultivated ſtate bitter, diſagreeable, and in ſome caſes noxious.

Theſe conſiderations are abundantly ſufficient to ſhow the imperfection of the ancient ſyſtem of botany; and, indeed, conſidering the vague and uncertain marks by which the ancients diſtinguiſhed one plant from another, we may rather wonder how ſuch a ſcience as botany came to have an exiſtence among them, than that they arrived at no greater perfection in it, or ſuffered it ſo ſoon to fall into oblivion.

SECT. III. *Of the different Botanical Syſtems from the time of Geſner to that of Linnæus.*

THE inſufficiency of the ancient botanical ſyſtem being ſo fully ſhown in the laſt ſection, we think it needleſs to take much notice of the methods uſed by Tragus and his cotemporaries and followers. The virtues of plants being found an inſufficient characteriſtic, ſucceeding botaniſts had taken in the root, ſtem, and leaves; but theſe being found alſo inſufficient and variable, Geſner turned his eye to the flower and fruit, as being the moſt permanent and unchangeable parts of the plant. In propoſing the parts of fructification, however, as the moſt proper for arranging plants, he communicated no hints reſpecting the choice of ſome of thoſe parts in preference to others. Each particular organ of the flower and fruit furniſhes ſufficient variety to ſerve as the foundation of a method; but all of them are not equally proper for this purpoſe. Cæſalpinus, the firſt follower of Geſner, made a miſtake in his choice, and took his diſtinguiſhing characteriſtics only from the fruit. The parts of the flower, therefore, being employed by the firſt ſyſtematic writers only as ſubaltern diſtinctions in finding out orders and genera, it is evident that the plant could not be fully inveſtigated for ſeveral months. Suppoſe a plant ripens its fruit in October, and does not produce flowers till the following May: the claſs, upon inſpection of the fruit in the month of October, is immediately aſcertained; but the plant ſtill remains unknown, and will continue ſo upwards of ſix months after, if the characters of the order and genus, have been made to depend on any part of the flower. Methods founded on the fruit have another inconvenience; plants conſtantly ripen their fruit in thoſe countries where they grow naturally, but not always in the countries to which they may be accidentally tranſported. So far from this, many plants that are natives of a warm climate neither ripen nor form fruit in a cold one. Few of the African, Aſiatic and Weſt-Indian plants produce fruit in Britain. A method, therefore, founded upon the fruit, could only facilitate the knowledge of ſuch plants to the inhabitants of thoſe countries where they grow: to the Engliſh botaniſt they could be of little or no ſervice. The ſame objection cannot reaſonably be urged againſt methods founded on the flower, ſince the influence of climates much colder then that of Britain has not been able to deſtroy the faculty of producing flowers in many, perhaps in moſt, of the plants juſt mentioned.

Cæſalpinus ſets out with an ancient diſtinction of vegetables, from their duration, into trees and herbs. With the former he combines ſhrubs; with the latter, under-ſhrubs; and diſtributes his plants into the 15 following claſſes. 1. Trees with the germ (radicle or principle of life in the ſeed) on the point of the ſeed. 2. Trees with the germ on the baſe of the ſeed. 3. Herbs having one ſeed only. 4. Herbs having two ſeeds. 5. Herbs having four ſeeds. 6. Herbs having many ſeeds. 7. Herbs having one grain or kernel. 8. Herbs having one capſule. 9. Herbs having two capſules. 10. Herbs having fibrous roots. 11. Herbs having bulbous roots. 12. Herbs having ſuccory or en-

endive-like flowers. 13. Herbs having common flowers. 14. Herbs having ſeveral follicles or ſeed-bags. 15. Herbs having neither flower nor ſeed.

The inconveniences of this method have been already pointed out pretty fully, and will evidently appear upon an attempt to refer any common plant to one of the 15 abovementioned claſſes. His ſections, orders, or ſecondary diviſions, are 47 in number, and depend upon a variety of parts and circumſtances. The principal of theſe are, the diſpoſition, ſituation, and figure, of the flowers; the nature of the ſeed-veſſel, or cover of the ſeeds; the ſituation of the radicle in the ſeed; the number of ſeed-lobes, or ſeminal leaves; the diſpoſition of the leaves, and colour of the flowers. The lacteſcence too, or milkineſs, which is obſerved in the compound flowers with flat florets, is made a characteriſtic diſtinction, and diſcriminates the firſt order of the 12th claſs. Thus, in the firſt ſyſtematic arrangements, the characters of the claſſes only were borrowed from the parts of fructification; while thoſe of the ſubaltern diviſions were very numerous, and reſpected every part of the plant; but that ſuch diviſions might be perfect, they ſhould be coſtituted, like the claſſes, from the modifications of a ſingle part of the fructification.

The great object had in view by Moriſon, who comes next in order to Cæſalpinus, was to inveſtigate the order of nature, not to fabricate an eaſy method of arranging plants. Hence his ſyſtem is devoid of uniformity, and is clogged with multiplicity of characters; his claſſes are frequently not ſufficiently diſtinguiſhed from one another, and the key of arrangement ſeems totally loſt. He ſets out with a diviſion of plants, from their conſiſtence, into ligneous or woody, and herbaceous. He founds his ſyſtem on the fruit, the corollæ or bloſſoms, and the habit of the plants. His claſſes are as follows: 1. Trees. 2. Shrubs. 3. Under-ſhrubs. 4. Herbs climbing. 5. Herbs leguminous or papilionaceous. 6. Herbs podded. 7. Herbs tricapſular or with three capſules. 8. Herbs with four or five capſules. 9. Herbs corymbiferous. 10. Herbs having a milky juice, or downy tops. 11. Herbs culmiferous, as graſſes. 12. Herbs umbelliferous. 13. Herbs having three kernels. 14. Herbs having helmet-ſhaped flowers. 15. Herbs having many capſules. 16. Herbs berry-bearing. 17. Herbs called *capillary plants*, as the fern kind. 18. Anomalous or irregular herbs.

Of theſe claſſes, the fourth and eight poſſeſs no genuine diſtinctive character; nor are the ninth and tenth claſſes ſufficiently diſtinguiſhed; the fifteenth claſs is not ſufficiently diſtinguiſhed from the eighth, nor the 16th from the fourth. His ſections or ſecondary diviſions, which are 108 in number, ariſe from the figure and ſubſtance of the fruit; the number of ſeeds, leaves, and petals; the figure of the root; the direction of the ſtem; the colour of the flowers; the place of growth; and, in one claſs, from the medicinal virtues of ſome of the plants that compoſe it.

In 1682, Ray propoſed his method to the world, two years after the publication of Moriſon's, which ſerved in ſome meaſure as its baſis. It conſiſted originally of the following 25 claſſes: 1. Trees. 2. Shrubs. 3. Herbs imperfect. 4. Herbs having no flower. 5. Capillary plants. 6. Staminous herbs having only the ſtamina. 7. Thoſe having one naked ſeed. 8. Umbelliferous herbs. 9. Verticillated, annular, or ring-ſhaped ones, 10. Rough-leafed plants. 11. Stellated or ſtar-ſhaped ones. 12. Apple-bearing herbs. 13. Berry-bearing herbs. 14. Herbs having many pods. 15. Monopetalous uniform, or regular herbs. 16. Monopetalous irregular, or having different forms. 17. Tetrapetalous, having large pods. 18. Tetrapetalous, having ſmall pods. 19. Papilionaceous. 20. Pentapetalous herbs. 21. Corns. 22. Graſſes. 23. Graſs-leafed plants. 24. Bulbous rooted plants. 25. Plants near akin to the bulbous.

This method Ray carefully corrected and amended at different times; ſo that the plan of arrangement which now bears the name of that author, and was firſt publiſhed in 1700, is entirely different from what had appeared in 1682. It now conſiſts of 33 claſſes. Their diſtinguiſhing marks are taken from the port, or habit, of the plants; their greater or leſs degree of perfection; their place of growth; the number of ſeed-lobes, or ſeminal leaves, petals, capſules, and ſeeds; the ſituation and diſpoſition of the flowers, flower-cup, and leaves; the abſence or preſence of the buds, flower-cup, and petals; the ſubſtance of the leaves and fruit; and the difficulty of claſſing certain plants. They are as follow. 1. Submarine, or ſea-plants. 2. Fungi. 3. Moſſes. 4. Capillary plants. 5. Thoſe without petals. 6. *Planipetalæ*, thoſe with compound flowers; ſemifloſculous, or half-florets. 7. Thoſe with compound flowers radiated. 8. Thoſe with compound flowers, floſculous, or with whole florets. 9. Plants with one ſeed. 10. Plants umbellated. 11. Thoſe ſtellated or ſtar-ſhaped. 12. Rough-leafed plants. 13. Plants verticillate or whorled. 14. Thoſe with many ſeeds. 15. Apple-bearing herbs. 16. Berry-bearing herbs. 17. Thoſe with many pods. 18. Monopetalous herbs. 19. Thoſe with two and three petals. 20. Thoſe with great and ſmall, or long and ſhort, pods. 21. Leguminous plants. 22. Pentapetalous ones. 23. Bulbs, and bulbous-like plants. 24. Stamineous ones, or thoſe having only the ſtamina. 25. Anomalous plants, or thoſe of an uncertain family. 26. The palms. 27. Trees without petals. 28. Trees with an umbilicated fruit. 29. Trees with fruit not umbilicated. 30. Trees with a dry fruit. 31. Trees with podded fruit. 32. Anomalous, or irregular trees.

The diſtinction into herbs and trees with which Ray's method ſets out, acknowledges a different, though not more certain, principle than that of Cæſalpinus and Moriſon. The former, in making this diſtinction, had an eye to the duration of the ſtem; the latter, to its conſiſtence. Ray called in the buds as an auxiliary; and denominates trees, "all ſuch plants as bear buds;" herbs, "ſuch as bear none." But againſt this auxiliary there lies an unanſwerable objection; namely, that though all herbaceous plants riſe without buds, all trees are not furniſhed with them: many of the largeſt trees in warm countries, and ſome ſhrubby plants in every country, being totally deſtitute of that ſcaly appearance which conſtitutes the eſſence of a bud. In other reſpects, it is evident that neither Mr Ray's plan nor execution is in any degree calculated to facilitate the knowledge of plants. In fact, it ſeems to have been Ray's great object, no leſs than Moriſon's, to collect as many natural claſſes as poſſible; and theſe being ſeparately inveſtigated, a multiplicity of characters and ſteps was neceſſarily required to connect them: and hence the intricacy complained of in both theſe methods, which muſt always take place where the claſſes give riſe to the connecting characters, and not the characters to the claſſes. The characters of the orders, or ſecondary diviſions, in Ray's method, are no leſs multifarious than thoſe of the claſſes. They reſpect the place of growth of plants; their qualities; the figure of the ſtem; the number, ſituation, ſubſtance, and diviſion, of the leaves: the ſituation and diſpoſition of the flowers and calyx; the number and regularity of the petals; with the number and figure of the fruit. In his improved method, Ray has adopted Tournefort's characters of the genera, wherever his plan would permit. His general Hiſtory of Plants contains 18,655 ſpecies and varieties. The third volume, which was not publiſhed till 1704, and was deſigned as a ſupplement to the two former, contains the plants diſcovered by Tournefort in the Levant, and by Camelli at Luzon, one of the Philippine iſlands. Ray's method was followed by Sir Hans Sloane, in his Natural Hiſtory of Jamaica; by Petiver, in his Britiſh Herbal; by Dillenius, in his Synopſis of Britiſh plants; and by Martyn, in his Catalogue of plants that grow in the neighbourhood of Cambridge.

To Ray's original method ſucceeded that of Chriſtopher Knaut, a German; which acknowledges the ſame principle, and is manifeſtly founded upon it. In his enumeration of the plants that grow round Hal in Saxony, publiſhed in 1687, he divides vegetables into 17 claſſes, which have for their baſis the ſize and duration of plants, the preſence or abſence of the petals, the diſpoſition of the flowers, the ſubſtance of the fruit, the number of capſules or ſeeds, the number and figure of the petals, and the preſence, abſence, or figure of the calyx. His claſſes are, 1. Herbs berry-bearing. 2. Monopetalous, or with one flower-leaf. 3. Tetrapetalous and regular, with four petals. 4. Tetrapetalous and irregular. 5. Pentapetalous, or with five petals. 6. Hexapetalous, or ſix petals. 7. Polypetalous, or many petals. 8. Multicapſular, or many capſules. 9. Naked ſeeds. 10. Solid, or not downy. 11. Downy ſeeds. 12. Without petals. 13. Stamineous, without petals or calyx. 14. Imperceptible. 15. Imperfect. 16. Trees, 17. Shrubs.

The ſections or ſubdiviſions of the claſſes in Knaut's method are 62 in number; and ariſe from the figure of the ſtem and petals, the number of capſules and cells, their figure, the number of ſeeds and leaves, and ſituation of the flowers.

In 1696, a new method, propoſed by Dr Herman, profeſſor of botany at Leyden, was publiſhed by Zumbac, who arranged according to it the plants contained in the public garden of Leyden. Rudbeckius the Younger, in a diſſertation publiſhed the ſame year, on the fundamental knowledge of plants, adopted Herman's method with a few inconſiderable variations. The claſſes of Dr Herman are 25 in number. They are founded on the ſize and duration of the plants; the preſence or abſence of the petals and calyx; the number of capſules, cells, and naked ſeeds; the ſubſtance of the leaves and fruit; the form and conſiſtence of the roots; the ſituation and diſpoſition of the flowers, leaves, and calyx; and figure of the fruit. 1. Herbs having one naked ſeed and a ſimple flower. 2. Having one naked ſeed and a compound flower. 3. With two naked ſeeds, and ſtellated or ſtar-ſhaped. 4. Two naked ſeeds, and umbelliferous. 5. Four naked ſeeds, and rough leaves, 6. Four naked ſeeds, and verticillated or whorl-ſhaped. 7. With many naked ſeeds. 8. Having ſeed-veſſels, bulbous and tricapſular. 9. Having one ſeed-veſſel. 10. With two ſeed-veſſels. 11. With three ſeed-veſſels. 12. With four ſeed-veſſels. 13. With five ſeed-veſſels. 14. Podded, which are always tetrapetalous. 15. Leguminous and papilionaceous. 16. With many capſules. 17. Having fleſhy fruit, berry-bearing. 18. With fleſhy fruit, apple-bearing. 19. Without petals, but having a calyx. 20. Without petals, chaffy or ſtamineous. 21. Without petals, calyx, chaff, or ſtamina, *i. e.* a naked anthera, as the moſſes. 22. Trees. Imperfect fructification, bearing catkins. 23. Trees with a fleſhy fruit umbilicated. 24. Trees with a fleſhy fruit not umbilicated. 25. Trees with a dry fruit.

The claſſes in Herman's method are ſubdivided into 82 ſections or orders; which have for their baſis the number of petals, ſeeds, capſules, and cells the figure of the ſeeds and petals, and diſpoſition of the flowers.

To the method of Dr Herman ſucceeded that of Dr Boerhaave, who ſucceeded to the botanical chair of Leyden in 1709. His method is that of Herman, blended with part of the ſyſtems of Tournefort and Ray; and contains the following claſſes. 1. Herbs ſubmarine, or ſea-plants. 2. Imperfect land-plants. 3. Capillary plants, or the fern kind. 4. Many naked ſeeds. 5. Four naked ſeeds, and verticillated. 6. Four naked ſeeds, and rough leaves. 7. Four naked ſeeds, and four petals. 8. Plants having one ſeed-veſſel. 9. Two ſeed-veſſels. 10. Three ſeed veſſels. 11. Four ſeed-veſſels. 12. Five ſeed-veſſels. 13. Many ſeed-veſſels. 14. Two naked ſeeds, and umbelliferous. 15. Two naked ſeeds, and ſtar-ſhaped. 16. One naked ſeed, and a ſimple flower. 17. One naked ſeed, and compound flowers ſemifloſculous. 18. One naked ſeed, and compound flowers radiated. 19. One naked ſeed, and compound flowers corymbiferous. 20. One naked ſeed, and compound flowers floſculous. 21. Berry-bearing herbs. 22. Apple-bearing herbs. 23. Without petals. 24. One cotyledon, and having petals. 25. One cotyledon, and without petals. 26. Trees having one cotyledon. 27. Many podded. 28. Podded. 29. Tetrapetalous and cruciform. 30. Leguminous. 31. Having no petals. 32. Bearing catkins. 33. Monopetalous flowers. 34. Roſaceous flowers.

Theſe 34 claſſes of Dr Boerhaave are ſubdivided into 104 ſections, which have for their characters, the figure of the leaves, ſtem, calyx, petals, and ſeeds; the number of petals, ſeeds, and capſules; the ſubſtance of the leaves; the ſituation of the flowers, and their difference in point of ſex. By this method, Dr Boerhaave arranged near 6000 plants, the produce of the botanical garden at Leyden, which he carefully ſuperintended for the ſpace of 20 years, and left to his ſucceſſor Dr Adrien Royen, in a much more flouriſhing ſtate than he himſelf had received it. His Index or Catalogue of the Leyden plants was publiſhed in octavo in 1710; and afterwards, with great additions, in quarto, in 1720. This laſt edition contains deſcriptions of 5650 plants; of which number upwards of two thirds had been introduced into the garden ſince the time of Herman, by his illuſtrious ſucceſſor. Boerhaave's characters are derived from the habit or general appearance of plants combined with all the parts of fructification;

ſo that, as Linnæus very properly obſerves, he was the firſt who employed the calyx, ſtamina, and ſtyle, in determing the genus. About 17 new genera were eſtabliſhed by this author, among others, the very ſplendid family of the protea and ſilver-tree, which although partly deſcribed by Moriſon, had remained generally unknown till this period. His method was adopted by one Emſting, a German, in a treatiſe intitled *The firſt Principles of Botany*, publiſhed, in octavo, at Wolfenbuttle, in 1748.

Hitherto all the botaniſts had been intent upon inveſtigating the order of nature, rather than facilitating the arrangement of vegetables: their methods, therefore, were very intricate and perplexed; and their writings, however entertaining to the learned, could afford but very little inſtruction to the young botaniſt. In 1690, however, Auguſtus Quirinus Rivinus, a German, profeſſor of Botany at Leipſic, relinquiſhing the purſuit of natural affinities, and convinced of the inſufficiency of characteriſtic marks drawn only from the fruit, attached himſelf to the flower, which, he was ſenſible, would furniſh characters no leſs numerous, permanent, and conſpicuous, than thoſe drawn from the fruit. The calyx, petals, ſtamina, and ſtyle or pointal, which conſtitute the flower, are ſufficiently diverſified in point of number, figure, proportion, and ſituation, to ſerve as the baſis of a mode of arrangement; yet all are not equally proper for this purpoſe. Rivinus made uſe of the petals as the largeſt and moſt beautiful part, and that from which the flower itſelf is commonly characterized. His method conſiſts of the following 18 claſſes, which have for their baſis, the perfection and diſpoſition of the flowers, and regularity and number of the petals. 1. Regular monopetalous, or having one petal. 2. Dipetalous. 3. Tripetalous. 4. Tetrapetalous. 5. Pentapetalous. 6. Hexapetalous. 7. Polypetalous, or having many petals. 8. Irregular monopetalous. 9. Irregular dipetalous. 10. Irregular tripetalous. 11. Irregular tetrapetalous. 12. Irregular pentapetalous. 13. Irregular hexapetalous. 14. Irregular polypetalous. 15. Compound flowers of regular florets. 16. Compound flowers of regular and irregular florets. 17. Compound flowers of irregular florets only. 18. Incomplete, or imperfect plants.

As Rivinus ſet out with the profeſſed deſign of imparting facility to botany, he judged very properly in diveſting his method of all extraneous matter, and rendering it as ſimple and uniform as the nature of the ſcience would admit. The diſtinction into herbs and trees had been adopted by every writer on plants ſince the time of Ariſtotle. Rendered in ſome meaſure ſacred by its antiquity, this diſtinction maintained a kind of importance to which it was by no means eſſentially intitled. Rivinus was the firſt who in this matter dared to think for himſelf. He was early ſenſible of the inconveniences to which thoſe had ſubmitted who employed it as a primary diviſion; and therefore reſolved at once to get rid of a diſtinction that is frequently uncertain, always deſtructive to uniformity, and in its nature repugnant to the genuine ſpirit of ſyſtem, becauſe totally unconnected with the parts of fructification. In the uniformity of its orders or ſecondary diviſions, which are 91 in number, and acknowledge the fruit for their principle, Rivinus's method equals, perhaps excels, all that went before or ſucceeded it. Only three claſſes of this method were publiſhed by Rivinus himſelf. Theſe are the 11th, 14th, and 15th, which were offered to the public at different times, illuſtrated with very ſplendid figures. The method was completed and publiſhed entire by Hencher, in a work intitled *Hortus Wittenbergenſis*, printed in 4to at Wittenberg, in 1711.

Several German authors have followed Rivinus's method, either wholly or in part, without offering any conſiderable amendment. The principal of theſe are, Koenig, in a work on vegetables, publiſhed at Baſil in 1696; Welſch, in his *Baſis Botanica*, printed at Leipſic in octavo, in 1697; Gemeinhart, in a catalogue of plants publiſhed in 1725; Kramer, in a work intitled *Tentamen Botanicum*, publiſhed at Dreſden in 1728, and afterwards reprinted with additions at Vienna in 1744; and Hecker, in a diſſertation on botany publiſhed at Hal in Saxony, in 1734. To theſe may be added Hebenſtreit, an ingenious botaniſt, who in a treatiſe on plants publiſhed at Leipſic in 1731, juſt before his famous African expedition, eſtabliſhed generical characters, which had hitherto been wanting in Rivinus's method.

The writers who have attempted to improve upon Rivinus's method are Bernard Ruppius, Chriſtopher Ludwig, and Chriſtian Knaut. Ruppius, in his *Flora Jenenſis*, publiſhed at Francfort in 1718, has arranged the 1200 plants there deſcribed by a method partly Rivinus's, and partly his own. It conſiſts of 17 claſſes, and ſets out with the ſame diviſions and ſubdiviſions as that of Rivinus; with this difference, however, that, whereas in Rivinus's method all perfect flowers are divided into ſimple and compound, in Ruppius the diviſion of regular and irregular flowers precedes that juſt mentioned, and ſimple and compound flowers are made ſubdiviſions of the regular flowers only.

Chriſtopher Ludwig's method, which was publiſhed in 1737, and conſiſts of 20 claſſes, differs but little from that of Rivinus. The author accompanied Hebenſtreit on his expedition into Africa, and ſeems to have made plants his favourite ſtudy. The improvement, however, which he has made on Rivinus's plan, conſiſts only in rendering it more univerſal, having enriched it with a multitude of genera collected from the works of Tournefort, Ray, Boerhaave, Dillenius, and other eminent botaniſts, whoſe generical characters he has likewiſe adopted. His plan of arrangement has been followed by two ſucceeding writers; M. Wedel, in a botanical eſſay publiſhed in 1747; and three years after by M. Boehmer, in his catalogue of the plants which grow in the garden of Leipſic.

The method of Chriſtian Knaut is much more properly his own, and departs in a much greater degree from that of Rivinus than either of the two former. The regularity and number of the petals furniſhed the claſſical diviſions in Rivinus's method: in that of Knaut, number takes place of regularity; ſo that it is very properly termed by Linnæus, "The ſyſtem of Rivinus inverted." This method was publiſhed in 1716; and ſets out with a diviſion into flowers which have one petal, and ſuch as have more than one. It conſiſts of the 17 following claſſes. 1. Monopetalous uniform or regular. 2. Monopetalous difform or irregular. 3. Monopetalous compound uniform or regular. 4. Monopetalous compound difform or irregular. 5. Monopetalous compound uniform and difform together. 6. Dipetalous

uniform or regular. 7. Dipetalous difform or irregular. 8. Tripetalous uniform or regular. 9. Tripetalous difform or irregular. 10. Tetrapetalous uniform or regular. 11. Tetrapetalous difform or irregular. 12. Pentapetalous uniform or regular. 13. Pentapetalous difform or irregular. 14. Hexapetalous uniform or regular. 15. Hexapetalous difform or irregular. 16. Polypetalous uniform or regular. 17. Polypetalous difform or irregular.

The ſections or ſecondary diviſions in Knaut's method are 121, and depend upon the internal diviſions of the fruit: and upon this his opinions are ſomewhat ſingular. Every kind of fruit, whether pulpy or membranaceous, is termed by our author a *capſule*. Neither is the term reſtricted to fruits properly ſo called: it is extended alſo to thoſe termed by botaniſts *naked ſeeds*, the exiſtence of which Knaut abſolutely denies. Agreeable to this opinion, capſules, he ſays, with reſpect to their conſiſtence or ſubſtance, are of two ſorts; pulpy, or membranaceous. The former correſpond to the fruits of the apple, berry, and cherry kind; the latter to the capſules properly ſo called, and naked ſeeds of other botaniſts. Again, with reſpect to their cells or internal diviſions, capſules are either ſimple or compound. Simple capſules have an undivided cavity or a ſingle cell; compound capſules are internally divided into two or more cells. With other botaniſts, the umbelliferous flowers bear two, the lip-flowers four, naked ſeeds; according to Knaut, the former produce two, the latter four, ſimple capſules. Ranunculus, adonis, anemony, herb-bennet, and ſome other plants, have their flowers ſucceeded by a number of naked ſeeds collected into an aggregate or head; each of theſe ſeeds paſſes with Knaut for a ſimple capſule; ſo that the whole is an aggregate of ſeveral capſules with an undivided cavity or ſingle cell. In numbering the cells or internal diviſions of the pulpy fruits, our author has adopted a very ſingular method. Some fruits of the apple kind incloſe a capſule that is divided into five membranaceous cells. It might then be very reaſonably expected to find ſuch fruits arranged with compound capſules of five cells; but, inſtead of this, the author whimſically enough combines in their arrangement the idea both of a ſimple and compound capſule. The pulpy part is undivided; in other words, it is a ſimple capſule furniſhed with one cell; the compound capſule incloſed contains five cells, which added to that of the pulp make the number ſix; and thus theſe kinds of fruits are arranged with thoſe having capſules of ſix cells. By the ſame kind of reaſoning, the fruit of the dogwood, which is of the cherry kind, and contains a ſtone with two cells or cavities is placed by Knaut among compound capſules with three cells; the pulp paſſing for one diviſion, and cavities of the ſtone or nut for the remaining two. This method of calculation is not the only ſingularity for which Knaut is remarkable. The eſſence of the flower is made by Ray, Tournefort, Rivinus, and moſt other botaniſts, to conſiſt in the ſtamina and ſtyle. This poſition Knaut abſolutely denies; and has eſtabliſhed for a principle, that the flower is eſſentially conſtituted by the petals only. With him, the flower-cup, ſtamina, and ſtyle, are of little ſignificance: their preſence does not conſtitute a flower, if the petals are wanting; neither is their abſence ſufficient to deſtroy its exiſtence, if the petals are preſent. From this it follows, 1. That there can be no flowers without petals; and, 2. That the regularity or irregularity of the flower can never depend on the ſtamina and ſtyle, which are only occaſionally preſent, and nowiſe eſſential to its exiſtence; both of which are evidently falſe to every botanical reader.

Since the time of Rivinus, no leading method in botany has appeared except that of Tournefort and Linnæus. Tournefort ſets out with reviving the diſtinction of plants into herbs and trees, which had been exploded by Rivinus. His ſyſtem is founded on the regularity and figure of the petals, together with the two-fold ſituation of the receptacle of the flowers; his orders, on the piſtillum or calyx. The claſſes are, 1. Herbs with ſimple flowers monopetalous, and bell-ſhaped. 2. Simple flowers monopetalous, tunnel and wheel-ſhaped. 3. Simple flowers monopetalous, labiated or lipped. 4. Simple flowers monopetalous, anomalous, or irregular. 5. Simple flowers polypetalous, cruciform or croſs-ſhaped. 6. Simple flowers polypetalous, and roſaceous or like a roſe. 7. Simple flowers polypetalous umbellated. 8. Simple flowers polypetalous, caryophyllaceous, clove form. 9. Simple flowers polypetalous, liliaceous or lily form. 10. Simple flowers polypetalous, papilionaceous, or butterfly form. 11. Simple flowers polypetalous, anomalous or irregular. 12. Compound flowers, floſculous, tubular or whole florets. 13. Compound flowers ſemifloſculous, flat or half florets. 14. Compound flowers radiated, like the ſpokes of a wheel. 15. Apetalous, having no petals. 16. No flower, but bearing ſeed. 17. No flower nor ſeed, in the vulgar eſtimation. 18. Trees with no petals, but bare ſtamina. 19. Trees with no petals bearing catkins. 20. Trees monopetalous. 21. Trees roſaceous. 22. Trees papilionaceous.

The ſecondary diviſions in Tournefort's method, which are 122 in number, have obtained the name of *ſections*. Their general diſtinctions are founded principally upon the fruit, as thoſe of the claſſes are upon the flower.

Tournefort hath been followed by a vaſt number of botanical writers, of whom the moſt conſiderable are, Dr William Sherard, an eminent botaniſt of the laſt and preſent centuries. In 1689, he publiſhed the firſt ſketch of Tournefort's method, under the title of *Schola Botanices*; or a catalogue of the plants demonſtrated by Dr Tournefort, in the royal garden at Paris. It was not till five years after, that the *Elementa Botanica*, a work which contains the rudiments and illuſtration of his method, was publiſhed by Tournefort himſelf.—Father Plumier, termed by way of eminence the *Tournefort of America*, publiſhed in 1703, at Paris, a deſcription of American plants, which he has arranged according to the ſyſtem of Tournefort. In this work he accurately characteriſed 96 new genera. Falugi, an Italian, has deſcribed, in pretty elegant Latin verſe, all the genera of Tournefort, in a work intitled *Proſopopœiæ Botanicæ*, publiſhed at Florence, 12mo, 1705. Several celebrated French academicians, particularly Marchant, Dodart, Niſſole, Juſſieu, and Vaillant, have alſo occaſionally paid their tribute of acknowledgement to this author, from the year 1700 to 1740. The other authors of note who have followed Tournefort's method, are, M. Petit, an ingenious French botaniſt; Johren, a German, author of a treatiſe publiſhed at

Colberg in 1710, intitled *Vade mecum Botanicum, ſeu Odegus Botanicus;* Feuille, in his deſcription of the plants of Chili and Peru, publiſhed at Paris, in quarto, 1714: Chriſtopher Valentin, a German, author of a book intitled *Tourneſortius Contractus*, publiſhed at Francfort, in folio, 1715; Ripa, an Italian, in a work intitled *Hiſtoriæ Univerſalis Plantarum Conſcribendi Propoſitum*, publiſhed in 4to, at Padua, in 1718; Michael Valentin, a German, in his *Viridarium Reformatum*, publiſhed, in folio, at Francfort, in 1719; the celebrated Dillenius, profeſſor of botany at Oxford, and author of ſeveral much eſteemed publications on botany, particularly the *Hortus Elthamenſis*, and Hiſtory of Moſſes, in his Flora Giſſenſis, printed at Francfort in 1719; Pontedera, an Italian, author of the delineation of a method which combines thoſe of Tournefort and Rivinus, publiſhed at Padua, in his botanical diſſertations, in 1720; Monti, an Italian, in a work publiſhed at Bologna in 1724, under the title of *Indices Plantarum Varii;* Lindem, a German, in his *Tourneſortius Alſaticus*, firſt publiſhed in 1728; Signior Micheli, author of ſeveral curious diſcoveries reſpecting moſſes, and muſhrooms, in his *Nova Genera Plantarum*, publiſhed, in folio, at Florence in 1729; Elvebemes, a Swede, in a work publiſhed, in the Swediſh language, at Upſal, in 1730; Fabricius, a German, author of a work intitled *Primitiæ Floræ Butiſbacenſis, ſeu ſex Decades Plantarum Rariorum*, publiſhed in 1743; Sabboti, an Italian, in his catalogue of the plants that grow in the neighbourhood of Rome, printed, at Rome, in 1745; and the ingenious Dr Charles Alſton, late profeſſor of botany at Edinburgh, in his *Tyrocinium Botanicum*, publiſhed at Edinburgh, in 1753.

Of all this numerous liſt of writers, Father Plumier and Pontedera alone have ventured to quit the tract pointed out by Tournefort. The former, in his arrangement of American plants, has relinquiſhed the diſtinction into herbs and trees; but the latter has attempted more conſiderable variations. His claſſes are, 1. Uncertain. 2. Having no flowers. 3. Without buds, imperfect plants. 4. Anomalous or irregular. 5. Labiated. 6. Bell-ſhaped. 7. Saucer-ſhaped. 8. Wheel-ſhaped. 9. Tunnel-ſhaped. 10. Floſculous. 11. Semifloſculous. 12. Radiated. 13. Irregular. 14. Papilionaceous. 15. Liliaceous. 16. Caryophillaceous. 17. Cruciform, or croſs-ſhaped. 18. Umbellated. 19. Staminous, or with naked ſtamina. 20. Bearing-buds, apetalous, or without petals. 21. Bearing buds irregular. 22. Bearing buds bell-ſhaped. 23. Bearing-buds wheel-ſhaped. 24. Bearing buds tunnel-ſhaped. 25. Bearing buds, papilionaceous. 26. Bearing buds, roſaceous.

Beſides all theſe methods, there have been invented two others, founded upon the calyx. The firſt of theſe was the invention of Peter Magnol, a celebrated profeſſor of botany at Montpelier, and publiſhed in 1720, five years after the author's death. The other was delineated by Linnæus, and publiſhed in his *Claſſes Plantarum*, in 1738, three years after the publication of the ſexual ſyſtem. Magnol diſtinguiſhes two kinds of calyx; one external, which invelopes and ſuſtains the flower, and is the flower-cup properly ſo called; the other internal, which is the ſeed veſſel, or fruit. According to this idea, all plants, whether herbaceous or woody, are furniſhed with either the external calyx only, or with both. His claſſes are, 1. Herbs with the calyx external, including a flower unknown. 2. Calyx external, including a flower ſtaminous. 3. Calyx external, including a flower monopetalous. 4. Calyx external, including a flower polypetalous. 5. Calyx external, including a flower compound. 6. Calyx external, ſupporting a flower monopetalous. 7. Calyx external, ſupporting a flower polypetalous. 8. Calyx internal only which is the corolla. 9. Calyx external and internal, flower monopetalous. 10. Calyx external and internal, flower with two and three petals. 11. Calyx external and internal, tetrapetalous. 12. Calyx external and internal, polypetalous. 13. Trees with the calyx external only. 14. Calyx internal only. 15. Calyx external and internal both.

The characters of the orders, or ſecondary diviſions, in Magnol's method, are derived chiefly from the figure of the calyx, petals, and ſeeds; from the diſpoſition of the flowers, from the number of petals, and from the ſubſtance of the fruit. Fifty-five ſections, or orders, ariſe from the combination of theſe characters with thoſe of the claſſes; and theſe are again ſubdivided into genera, which poſſeſs this ſingularity, that, in place of diſtinctive characters hitherto employed, they exhibit complete deſcriptions of all the parts of fructification of one or two ſpecies of each genus. From this improvement Linnæus manifeſtly borrowed the hint of his generical characters.

Sir John Hill, in his Vegetable Syſtem, endeavours to claſs plants according to their internal ſtructure*. "Perhaps (ſays he), upon the foundation of a true anatomy of plants a natural method may be eſtabliſhed: for it is certain, the forms of all the external parts of vegetables depend on the diſpoſition of the internal; and all their differences are founded there. On the different inner ſtructure of the vegetable body, under certain courſes of its veſſels, evidently depend the differences which characterize the ſeven firſt families, to the diſtinctions of which all claſſes are ſubordinate; and as theſe original diſtinctions are truly natural, we may here begin very ſafely.

"The ſeven families are theſe, 1. The muſhrooms. 2. The algæ, or foliaceous ſea and land plants. 3. The moſſes. 4. The ferns. 5. The graſſes. 6. The palms. 7. The common race of plants. Their diſtinctions one from another are theſe:

1. "The muſhrooms are fleſhy; and are deſtitute of leaves, and viſible flowers. 2. The algæ are merely foliaceous, the entire plant conſiſting of a leafy matter without other viſible parts. 3. The moſſes have proceſſes of the inner rind for leaves. 4. The ferns conſiſt of a ſingle leaf raiſed on a ſtalk; and bear their flowers upon its back. 5. The graſſes have jointed ſtalks, and undivided leaves, and huſks to hold the ſeeds. 6. The palms have a ſimple trunk, with leaves only on the top, and have the flowers and fruit in divided ears."

Laſtly, the ſeventh claſs, which he calls the *common race of plants*, are ſuch as have their roots, leaves, ſtalks, flowers, and fruits, diſtinct and obvious; and have not the characters of any of the other ſix families.

To this natural method his artificial one, conſiſting of 43 claſſes, and which takes up the whole of his voluminous work, is deſigned only as an index; but as this is univerſally allowed to be inferior to Linnæus's, though he pretends to improve that ſyſtem, we think it needleſs to take any further notice of it.

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* Vol. I. p. 130.

Beſides the ſexnal ſyſtem of Linnæus, which is now almoſt univerſally followed, he formed another, which, like that of Magnol, had the calyx for its baſis; but greatly ſuperior both in the idea and execution, being, indeed, ſingularly ſerviceable to the novice in botany, by familiarizing to him various appearances of an organ ſo important in its nature, and ſo diverſified in its form, as the calyx is. The claſſes are, 1. Spathaceous, like a ſheath, or hoſe. 2. Glumoſe, or chaffy. 3. Amentaceous, or catkins. 4. Umbellated. 5. Common calyx, or flower-cup. 6. Double calyx. 7. Flowering; the petals and ſtamina inſerted into the flower-cup. 8. Crowned, or crown-ſhaped, with a radius. 9. Irregular. 10. Difform, or different ſhapes. 11. Caducous, which fall off or ſhed their leaves. 12. Not caducous, uniform and monopetalous. 13. Not caducous, uniform and polypetalous. 14. Not caducous, difform, and monopetalous. 15. Not caducous, difform, and polypetalous. 16. Incomplete calyx. 17. Apetalous, or a bare calyx without petals. 18. Naked, or neither petals nor calyx.

Sect. IV. *Of the Method of reducing Plants to Claſſes, Orders, Genera, and Species, according to Linnæus's Sexual Syſtem.*

Before proceeding to explain the ſyſtem, it will be proper to make the reader acquainted with the principal outlines of a plant, as delineated by our author in his *Principia Botanica.*

A plant conſiſts of Root, Trunk, Leaves, Props, Fructification, and Infloreſcence; to which may be added the Habit.

I. The ROOT conſiſts of two parts, *viz.* the caudex and the radicula, diſtinguiſhed according to ſhape, direction, duration, &c.

1. Caudex, or *ſtump*, is the body or knob of the root from which the trunk and branches aſcend, and the fibrous roots deſcend; and in different plants is either ſolid, bulbous (placed under a bulb), or tuberous Solid, as in trees, ſhrubs, and many of the herbs. Bulbous will be explained under *Hybernacle.*—Tuberous knobs are alſo ſolid and hard, containing one or more embryos, or eyes. They are either only one knob, as turnip, carrot, &c. containing only one eye at the top; or conſiſt of many knobs connected together by ſlender fibres, as in potatoes, jeruſalem artichokes, &c. each containing many eyes diſperſed over the ſurface: and are either pitted, when the eyes lie inward, as in potatoes, &c. or tuberculated, containing the eyes outward, as in jeruſalem artichokes, &c. In tuberous knobs, the fibrous or ſtringy parts iſſue from every part of the ſurface; which is an eſſential difference from bulbous knobs, where they are confined to the caudex of the bulb only, and are the true and genuine roots of the bulb itſelf being only a large bud under ground. Thoſe tuberous knobs with only one eye, differ as to duration, but are in general biennial; thoſe with many eyes are perennial; both ſeem to be produced by the nutriment of the ſtem like buds, and not by the fibrous roots, for the ſtem is firſt formed and becomes ſtrong, and as it grows to maturity, the tuberous knobs increaſe.

2. Radicula, a *little root*, is the ſtringy or fibrous part of the root, deſcending from the caudex: it is really the principal and eſſential part of every root, and by which the nouriſhment is drawn from the earth for the ſupport of the plant.

II. The TRUNK, which includes the branches, is that part which riſes immediately from the caudex, and produces the leaves, flowers, and fruit. It is either herbaceous, ſhrubby, or arboreſcent; and is diſtinguiſhed according to its ſhape, ſubſtance, ſurface, &c. and admits of the following ſorts.

1. Caulis, a *ſtalk*, or *ſtem*, is the main or univerſal trunk which elevates the leaves, and fructification, and is applied to trees, ſhrubs, and herbs: It is denominated *ſimple* when it does not divide, and *compound* when it is divided into branches.

2. Culmus, a *ſtraw*, or *haulm*, is the proper trunk of graſſes; and alſo elevates both the leaves and fructification: It is ſometimes jointed, and ſometimes not; it is alſo ſometimes round, and ſometimes angular.

3. Scapus, a *ſtalk*, is an herbaceous trunk, which elevates the fructification, but not the leaves; that is, it is a ſtalk proceeding immediately from the root, and terminated by the flowers, as in narciſſus, hyacinth, &c.

4. Stipes, a *trunk*, uſed by Linnæus for the trunk of muſhrooms: as alſo for that ſlender thread or footſtalk which elevates the feathery or hairy down with which ſome ſeeds are furniſhed, and connects it with the ſeed.

III. The LEAVES are ſaid by Linnæus to be the muſcles, or organs of motion, of a plant; by others, the organs by which perſpiration and inſpiration are performed. They are defined as proceeding from the expanſion of the veſſels of the ſtalk, forming ſeveral ramifications like net-work, extended in length and breadth in a determinate manner, having the interſtices filled up with a tender pulpy ſubſtance; and the external covering is ſuppoſed to be a continuation of the ſcarf ſkin of the ſtalk.

Leaves are either ſimple or compound; and are diſtinguiſhed by their figure, ſituation, inſertion, number, diviſions, &c.

A *ſimple leaf*, is ſuch as either adheres to the branch, ſingly, or whoſe footſtalk is terminated by a ſingle ſimple expanſion, not parted to the middle rib; and is determined by its ſhape, ſurface, and diviſions.

A *compound leaf*, is ſuch whoſe footſtalk is furniſhed with ſeveral ſeparate ſimple expanſions; or, in other words, whoſe diviſions extend to the middle rib, now called a *common petiole*, or footſtalk, ſupporting ſeveral lobes, or little ſimple leaves, of which the compound leaf conſiſts: they are diſtinguiſhed by ſhape, &c. and the form by which they are attached to the common footſtalk, as palmated, winged, feathered, &c. Sometimes, leaves are twice or more compounded; which diviſions admit of many modifications, and give riſe to as great a variety of terms. It may ſometimes be difficult, at firſt ſight, to know a common footſtalk of a compound leaf from a branch: but it may be obſerved, that a common footſtalk, where it iſſues from the branch, is either flat or hollow on one ſide, and convex on the other; whereas branches are alike on both ſides, whether round, flat, or angular: again, buds are never found at the angles formed by the lobes of a compound leaf with the footſtalk, but at the angles formed by the footſtalk of the whole compound leaf and the ſtem: and it may always certainly be diſtinguiſhed by its falling off with the little leaves which it ſupports.

The manner or place in which leaves are attached to the plant, is called the *determination of leaves*; and is diſtinguiſhed by ſeveral terms, according to number, diſpoſition, inſertion, figure, &c.

IV. The PROPS, *fulcra*, a term uſed to expreſs thoſe external parts which ſtrengthen, ſupport, or defend, the plants in which they are found, or ſerve to facilitate ſome neceſſary ſecretion; and are as follow:

1. Petiolus, the footſtalk, or ſupport of a leaf.

2. Pedunculus, the footſtalk, or ſupport of a flower.

3. Stipula, *haulm* or *huſk*, a ſort of ſcale or ſmall leaf, ſtationed on moſt plants (when preſent) on each ſide the baſe of the footſtalk of leaves and flowers, at their firſt appearance, for the purpoſe of ſupport: They are placed either ſingle or double; and ſometimes on the inſide, as in the fig and mulberry; or on the outſide, as in the birch, lime, and papilionaceous flowers: They are alſo either ſitting, extended downwards, or ſheathing along the ſtem, as in the plane tree. As to duration, they ſometimes fall before the leaves, and ſometimes are equally perſiſtent: They often afford a good diſtinction for the ſpecies.

4. Cirrhus, a *curl*, meaning a claſper, or tendril, is the fine ſpiral ſtring, or fibre, by which plants faſten themſelves to ſome other body for ſupport: They are ſometimes placed oppoſite to the leaves: ſometimes at the ſide of the footſtalks of the leaves; ſometimes they iſſue from the leaves themſelves; and ſometimes they put out roots, as in ivy, &c.

5. Pubes, a term applied to the hair, down, wool, beard, briſtles, glands, and ſeveral other appearances on different parts of plants, ſerving the double purpoſe of defence and veſſels of ſecretion.

6. Arma, the defenſive weapon of plants; as thorns, prickles, &c.

7. Bracteæ, *thin plates of metal*, are the floral leaves; and mean not only thoſe leaves ſituated on the ſtalk neareſt to the lower parts of the flower, but thoſe which ſometimes terminate the flower ſtalk; being compoſed of large bracteæ, reſembling a buſh of hair, and are then called *bracteæ comoſæ*, as in crown-imperial, lavender, and ſome ſpecies of ſage.

V. The FRUCTIFICATION, or *mode of fruit-bearing*, conſiſting of the calyx, corolla, ſtamina, piſtillum, pericarpium, ſemina, and receptaculum; which will be afterwards explained.

VI. The INFLORESCENCE, or mode by which flowers are joined to their ſeveral peduncles, whether common or partial.

A *flower* in the Sexual botany has a very different ſignification from the ſame term of former writers; for, if the antheræ and ſtigma be preſent, though the calyx, corolla, filaments of the ſtamina, and ſtyle of the piſtillum be wanting, it is ſtill a flower; and if all the parts are preſent, it is a complete flower. The ſeed alſo conſtitutes the fruit, whether there be a pericarpium or not.

Complete flowers are either ſimple or aggregate; *ſimple*, when no part of the fructification is common to many flowers, or florets, but is confined to one only; *aggregate*, when the flower conſiſts of many florets, collected into a head by means of ſome parts of the fructification common to them all, as by a common receptacle, or common calyx; as in dipſacus, ſcabioſa, &c.

From the different ſtructure, diſpoſition, and other circumſtances of the receptacle or calyx, being the only common part to aggregate flowers, ariſe ſeven diviſions.

1. Aggregate, properly ſo called, conſiſting of ſuch flowers as are formed by the union of ſeveral leſſer flowers, or florets, placed on partial peduncles, on a common dilated receptacle, and within a common perianthium; and in thoſe flowers where each floret hath its proper calyx, that is alſo a perianthium. [A flower is ſaid to be *radiate*, when the florets in the radius or circumference differ from thoſe in the diſk; in which caſe they are generally larger, and are called *ſemi-florets*, from their difference in form, and in diſtinction, from thoſe of the diſk, which are called *proper florets*; and they alſo differ as to ſex, which gives riſe to ſeveral of the orders in the claſs ſyngeneſia, which contains the compound flowers.]

2. Compound aggregate, conſiſting alſo of ſeveral florets, placed ſitting (or without partial peduncles) on a common dilated receptacle, and within a common perianthium; and where each floret hath its proper calyx, it is alſo a perianthium. Compound flowers alſo admit of a further deſcription, viz. each floret conſiſts of a ſingle petal, with generally five diviſions, and having five ſtamina diſtinct at the baſe, but united at the top by the antheræ into a cylinder, through which paſſeth the ſtyle of the piſtillum, longer than the ſtamina, and crowned by a ſtigma with two diviſions that are rolled backwards, and having a ſingle ſeed placed upon the receptacle under each floret. This is the general character of a compound flower, to which there are a few exceptions, it alſo differs when the flower is radiate: but the eſſential character of a regular floret conſiſts in the antheræ being united ſo as to form a cylinder, and having a ſingle ſeed placed upon the receptacle under each floret.

3. Umbellate aggregate, when the flower conſiſts of many florets placed on faſtigiate peduncles proceeding from the ſame ſtem or receptacle; and which, though of different lengths, riſe to ſuch an height as to form a regular head or umbel, whether flat, convex, or concave; and both the common and partial calyx Linnæus calls an *involucrum*. It is called a *ſimple umbel*, when it hath no leſſer diviſions; a compound umbel, when each peduncle is ſubdivided at its extremity into many leſſer peduncles for ſupporting the flower, ſo as to form ſeveral little umbellas, uniting in one head; the whole together is called an *univerſal umbel*, and the little umbellas are called *partial umbels*. In ſome genera, that have radiated umbels, the florets of the center and thoſe of the circumference, differ both as to ſex and ſize; but in general each have five petals, five ſtamina, and two ſtyles, or one that is bifid, with a germen placed beneath and two naked ſeeds, which when ripe, ſeparate below, but remain connected at the top.

4. Cymous aggregate (from *cyma*, a ſprout) called by Linnæus a *receptacle*, is when ſeveral faſtigiate peduncles proceed from the ſame centre like the umbel, and riſe to nearly an even height; but unlike the umbel, the ſecondary or partial peduncles proceed without any regular order, as in ſambucus, viburnum, &c.

5. Amentaceous aggregate, a reſuch flowers as have a long common receptacle, along which are diſpoſed ſquamæ or ſcales, which form that ſort of calyx called an *amentum* or *catkin*, as in corylus, pinus, juglans, &c. Amentaceous flowers generally want the

petals, and all of them are of the claſſes monoecia and dioecia.

6. GLUMOSE AGGREGATE, are ſuch flowers as proceed from a common huſky calyx belonging to graſſes, called *gluma*; many of which are placed on a common receptacle called *rachis*, collecting the florets into the ſpike, as triticum, hordeum, ſecale, lolium, &c.

7. SPADICEOUS AGGREGATE, are alſo ſuch flowers as have a common receptacle, protruded from within a common calyx called *ſpatha*, along which are diſpoſed ſeveral florets. Such a receptacle is called a *ſpadix*: and is either branched as in phœnix; or ſimple, as in narciſſus, &c.: In this laſt caſe the florets may be diſpoſed, either all around it, as in calla, dracontium, pothos, &c.; on the lower ſide of it, as in arum, &c.; or in two ſides, as in zoſtera, &c. Theſe flowers have generally no partial calyx.

Theſe are the ſeveral diſtinctions of aggregate flowers (according to Linnæus); beſides which there are ſeveral other modes of flowering, properly ſo called, that come under the general term *Infloreſcence*, and often afford the beſt marks to diſcriminate the ſpecies. Theſe modes of flowering are chiefly expreſſed as follows:

1. VERTICILLUS, a *whorl*, when the flowers are placed in whorls at each joint, round the common ſtalk: they have very ſhort partial peduncles; are all of the labiated kind: and have either two or four ſtamina, and four naked ſeeds, as in ſalvia, marrubium, mentha, &c. A verticil hath ſeveral diſtinctions, as naked, bracted, &c.; and all thoſe genera with four ſtamina are of the claſs didynamia.

2. CAPITULUM, a *little head*, is when many flowers are connected into nearly a globular form or head, on the ſummit of the common ſtalk, ſometimes with and ſometimes without partial peduncles, as in gomphrena, &c. and is diſtinguiſhed by its ſhape and other circumſtances.—Under *capitulum* is now introduced the term *faſciculus* (a little bundle), which in former editions ſtood diſtinct. It means when the peduncles are erect, parallel, approaching each other, and raiſed to the ſame height as in ſweet William, where they generally proceed from different parts of the common ſtalk, oppoſite to each other.

SPICA, a *ſpike*, when the flowers have no partial peduncles, are arranged alternately around a common ſimple peduncle. It is called *ſpica ſecunda* (a ſingle-row'd ſpike), when the flowers are all turned one way, following each other; and *ſpica diſticha* (a double-row'd ſpike), when the flowers ſtand pointed two ways, as in lolium, &c.: And it is diſtinguiſhed by ſhape and other cirmumſtances.

4. CORYMBUS, (*a cluſter of ivy berries*), when the leſſer peduncles of the flowers proceed from different parts of the common peduncle or ſtalk; and though of unequal lengths, and ſometimes ſimple, and ſometimes branched, yet form a regular ſurface at the top; as in the ſiliquoſe plants (claſs *Tetradynamia*.) The corymbus may be ſuppoſed to be formed from a ſpike, by adding partial peduncles to the flowers; and ſeems to be the mean between racemus and umbella, the peduncles riſing gradually from different parts of the common ſtalk, like thoſe of the raceme, and proceed to a proportionable height like thoſe of the umbel.

5. THYRSUS (a *young ſtalk*); a mode of flowering reſembling the cone of a pine: Linnæus ſays, it is a panicle contracted intoan ovate, or egg-ſhaped, form; the lower peduncles, which are longer, horizontally; and the upper, which are ſhorter, mount vertically, as ſyringa, &c.

6. RACEMUS, (a *bunch of grapes*), is when the flowers are placed on ſhort partial peduncles, proceeding as little lateral branches, from and along the common peduncle. It reſembles a ſpike in having the flowers placed along a common peduncle, but differs from it in having partial peduncles: it alſo differs from a corymbus in the ſhortneſs and equal length of its peduncles, not forming a regular ſurface at the top; as in ribes-rubrum, vitis, &c.

7. PANICULA, (the *tuft* upon *reeds*), is when the flowers are diſperſed upon peduncles variouſly ſubdivided, or it is a ſort of branching ſpike, compoſed of ſeveral ſmaller ſpikes attached along a common peduncle, as in avena panicum, and ſeveral other graſſes, and many other plants. When the partial peduncles diverge and hang looſe, it is called a *diffuſe*, and when the converge, it is called a *cloſe, panicle*.

To theſe may be added the term AXILLARES, (from *axilla*, the arm-pit), being ſuch flowers as proceed from the angle formed by the leaf and the ſtem, as is moſt common: and TERMINALES, being ſuch flowers as terminate the ſtalk or branch. Alſo every other mode of flowering is called the *Infloreſcence*, whether oppoſite to the leaves, lateral, ſingle, double, erect, bending, &c.

Under this head of Infloreſcence may be explained LUXURIANT FLOWERS, (commonly called *double-flowers*); which, as they are conſidered only as varieties and unnatural, belong properly to the head, Habit of plants. A luxuriant flower is ſuppoſed generally to be owing to ſuperabundant nouriſhment; the luxuriant part is generally the corolla, but ſometimes the calyx alſo. It is divided into three degrees: 1. *multiplicatus*; 2. *plenus*; 3. *prolifer*; To which may be added, as an oppoſite imperfection, *flos mutilatus*.

1. MULTIPLICATUS, when the petals of the corolla are only ſo far multiplied as to exclude part of the ſtamina, and is called *duplicate, triplicate, quadruplicate, &c.* according to the number of rows of petals.

2. PLENUS, when the corolla is ſo much multiplied as to exclude all the ſtamina; which is occaſioned by the ſtamina turning petals, and the flower is ofen ſo crowded as to exclude or choak the piſtillum alſo. Therefore, as the eſſential parts of generation are thus wholly, or in part, deſtroyed, the plants become barren, and imperfect, and no ſeed, or very little, can be expected from them. Flowers with one petal are not very ſubject to fulneſs; when they are, it generally ariſes from an increaſe of the diviſions of the petal. It is moſt uſual in flowers of many petals, where it ariſes various ways; ſometimes by multiplication of the petals only, ſometimes of the calyx, or nectarium, and ſometimes of all. Compound flowers are alſo ſubject to luxuriance, ariſing ſeveral ways.

3. PROLIFER, when one flower grows out of another; this generally happens in full flowers, from their greater luxuriancy. In ſimple flowers, it riſes from the centre, and proceeds from the piſtillum ſhooting up into another flower, ſtanding on a ſingle footſtalk. In aggregate flowers (properly ſo called) many footſtalked flowers are produced out of one common calyx. In

umbellate flowers, a ſecond umbel proceeds from the centre of the firſt umbel, producing little umbels; which by a greater exertion of luxuriancy may produce others with little umbels, and thus may proceed ſeveral heads of flowers, each growing out of that immediately below it, furniſhed with little umbels variouſly compounded. A prolific flower is alſo called *leafy* (frondoſus), when it produceth branches with flowers and leaves, which, though rare, ſometimes happens in roſa, anemone, monarda, and others. [As in luxuriant flowers many parts of the natural character are deficient in the whole or in part, they can only be diſtinguiſhed by the general habit, and by ſuch parts as remain in the natural ſtate; as very often by the calyx, and in polypetalous flowers, the loweſt ſeries or rows of petals remain the ſame, as in roſa, papaver, nigella, &c.]

FLOS MUTILATUS, is ſuch a flower as occaſionally is deprived of all, or the greateſt part, of the petals, yet bears ſeeds, as in ſome ſpecies of tuſſilago, campanula, &c. This term is oppoſed to luxuriance, and is ſuppoſed by Linnæus to be cauſed by a defect of heat, though it may alſo happen from other cauſes.

Under this head of flowers, may alſo be mentioned the different ſexes.

FLOWERS, in reſpect to SEX, are diſtinguiſhed into male, female, hermaphrodite, and neuter. Male flowers are ſuch as have only the ſtamina, or males, as in the claſſes monoecia, dioecia, and polygamia. Female flowers are ſuch as have only the piſtilla, or females, as in the ſame claſſes monoecia, dioecia, and polygamia. Hermaphrodite flowers are ſuch as have both the ſtamina and piſtilla in the ſame flower, as in all the other claſſes: hermaphrodites are alſo diſtinguiſhed into male hermaphrodites, when the female is ineffectual; and female hermaphrodites, when the male is ineffectual. Neuter flowers are ſuch as have neither ſtamina nor piſtilla perfect. The plants themſelves alſo take a denomination from the ſex of their flowers; as male plants are ſuch as bear male flowers only; female plants are ſuch as bear female flowers only; hermaphrodite plants are ſuch as bear hermaphrodite flowers only. Androgynous (male and female) plants are ſuch as bear both male and female flowers, diſtinct, upon the ſame root, as in the claſs monoecia. Polygamous plants are ſuch as bear hermaphrodite flowers, and male or female flowers, or both diſtinct, on the ſame or on different roots: if on the ſame root, the flowers are either male hermaphrodites and female hermaphrodites; or hermaphrodites and male; or hermaphrodites and female, diſtinct: if on different roots, the flowers are either hermaphrodites and male; hermaphrodites and female; hermaphrodites and both male and female; or are androgynous and male; and ſometimes androgynous and male and female on three diſtinct plants.

VII. The HABIT of plants, by which ancient botaniſts meant the whole external appearance of every part thereof, whereby they were arranged in their ſeveral ſyſtems; but by Linnæus it is meant to be the agreement of plants of the ſame genus, or natural order; chiefly in the following circumſtances.

Gemmation. The ſtructure and diſpoſition of the bulb, as ſolid, coated, ſcaly, ſtem-bulb. Alſo of the bud; its origin petioled, ſtipuled, cortical; its contents leafy, floral, common.

Vernation. The complication of the leaves within the bud, as conduplicate or doubled together; convolute or rolled together; involute or rolled in; revolute or rolled back; imbricated or tiled; equitant or riding; obvolute or rolled againſt each other; plaited or folded over; ſpiral or coiled like a watch-ſpring, one end in the centre.

Æſtivation. The ſtate of the bud in ſummer, as convolute, imbricated, conduplicate, valved, unequal-valved.

Tortion. The twiſting, or bending, of the parts, as uniform, diſſimilar, from the right, from the left, reciprocal, reſupine, ſpiral.

Nuptials. Male, female, androgynous, hermaphrodite.

Semination. The ſhape and other circumſtances of the ſeed, as tail, wing, tuft, awn, hooks gluten, curvature. Alſo of the pericarpium; as berrying, inflation, viſcoſity, elaſticity, ſtructure.

Placentation. The number and diſpoſition of the cotyledons; or if wanting.

Variation. Of colour, ſize, pubeſcence, age.

External: plaited, bundled, broad-leaved, curled, awnleſs.

Internal: mutilated, great-flowered, luxuriant, creſted; viviparous, bulb-bearing.

By *variation* or *variety* are meant ſuch differences as are only incidental to vegetables, and are not found conſtant and unchangeable; that is, where plants raiſed from the ſame ſeed, by ſome accidental cauſe differ in form and appearance, from the true character of the ſpecies to which they belong; which cauſe being removed, the plant is reſtored to its true ſpecific character: and theſe incidental varieties chiefly ariſe by difference of ſoil or culture, in ſome of the above circumſtances. And, though it is as neceſſary to collect varieties under their proper ſpecies as the ſpecies under their proper genera; yet it is often more difficult; firſt, from the difficulty of aſcertaining the genus, and ſecondly, from the variety of confounding the ſpecies; and ſometimes ſome part of the ſpecific character itſelf are alſo ſubject to variety, particularly the leaves; though in general the true ſpecific character is conſtant and unchangeable, ariſing only from ſuch circumſtances wherein plants of the ſame genus are found to diſagree, which diſtinctions are commonly taken with moſt certainty, from the following parts, (viz.) root, trunk, leaves, fulcra, hybernacle, infloreſcence: all which parts have been already explained, except hybernacle.

The HYBERNACULUM, (*winter lodgement*), is that part of a plant which defends the embryo or future ſhoot from external injuries during the winter; and, according to Linnæus, is either a bulb or a bud.

I. A BULB (bulbus), is a large ſort of bud, produced under ground, placed upon the caudex of certain herbaceous plants, hence called *bulbous* plants; all of which are perennial, that is, perpetuated by their bulbs, or ground buds, as well as by ſeeds; they are therefore improperly called roots, being only the hybernacle of the future ſhoot. Bulbs are of the following ſorts:

1. Squamous; conſiſting of ſcales laid over each other, like tiles, as in the lily.
2. Solid; conſiſting of a cloſe ſubſtance, as in tulips.
3. Coated; conſiſting of many coats infolding each other, as in onions.
4. Cauline; produced not only from the ſides of the principal bulb, called a *ſucker*, or *offſet*, but from other parts of the ſtem; as in crow or wild garlic, and in ſome ſpecies of onion (hence called *bulbiferous*); where they are produced at the origin of the umbel of flowers.

II. A Bud (*gemma*), is the embryo of the plant, ſeated upon the ſtem and branches, covered with ſcales. In general there are three ſorts of buds:—That containing the flower only, as in poplar, aſh, &c. where the leaf buds and flower-buds are diſtinct:—That containing the leaves only, as in birch, &c.:—and, That containing both flower and leaves, as in the generality of plants; and theſe laſt ſometimes contain leaves and male flowers, ſometimes leaves and female flowers, ſometimes leaves and hermaphrodite flowers.

Annual plants are only renewed from ſeeds; and ſeveral other plants, both trees and ſhrubs, have no winter buds: It is alſo obſerved in hot countries, that few plants have buds; or at leaſt they are without that ſcaly covering which ſeems eſſential to a bud, and conſtitutes the hybernacle; inſtead whereof are protruded ſmall feather-like branches from the wings of the leaves, (defence and protection from cold not being neceſſary); whereas in cold contries moſt plants have buds, which are wrapped up all the winter, in readineſs to greet the approaching ſpring.

Laſtly, What is called the Sleep of plants, according to Linnæus, happens various ways; as by converging, including, ſurrounding, fortifying, conduplicating, involving, diverging, depending, inverting, imbricating. This diſpoſition in plants is very remarkable in chickweed, pimpernel, dandelion, goat's-beard, &c. which expand their flowers only at certain times of the day, and ſhut them up at the approach of night, or a ſtorm: this ſhows the great care nature takes to protect and invigorate her feeble offſpring; and from hence may often be prognoſticated a change of weather. In many plants, not only the flowers, but the young ſhoots, are defended from external injuries, by the neareſt leaves converging and incloſing the tender rudiments.

The Sexual Method of reducing plants to claſſes, genera, and ſpecies, is founded upon the ſuppoſition that vegetables propagate their ſpecies in a manner ſimilar to that of animals. Linnæus endeavours to ſupport this hypotheſis by the many analogies that ſubſiſt between plants and animals, which ſhall be more particularly pointed out in the next ſection. It is from this circumſtance that Linnæus's ſyſtem of botany has got the name of the *ſexual ſyſtem*. The names of his claſſes, orders, &c. are all derived from this theory. He calls the ſtamina of flowers, as we have ſeen, the *males*, or the male parts of generation; the piſtils he calls *females*, or the female parts of generation; and plants whoſe flowers contain both male and female parts, are ſaid to be *hermaphrodites*, &c. His claſſes, orders, and genera, are all derived from the number, ſituation, proportion, and other circumſtances attending theſe parts, as will appear from the following

SCHEME *of the* SEXUAL SYSTEM, *or* TABLE *of the* CLASSES.

Plants celebrate their nuptials

- Either publicly, *i. e.* have viſible flowers:
  - *Monoclinia*, males and females in the ſame bed:—*i. e.* The flowers are all hermaphrodite, having ſtamina and piſtils in the ſame flower.
    - *Diffinitas*, the males or ſtamina unconnected with each other.
      - *Indifferentiſſimus*, the males or ſtamina having no determinate proportion betwixt each other as to length.
        - 1. Monandria, *i. e.* one male, or ſtamen, in a hermaphrodite flower.
        - 2. Diandria, —— two males, or ſtamina.
        - 3. Triandria, —— three males.
        - 4. Tetrandria, —— four males.
        - 5. Pentandria, —— five males.
        - 6. Hexandria, —— ſix males.
        - 7. Heptandria, —— ſeven males.
        - 8. Octandria, —— eight males.
        - 9. Enneandria, —— nine males.
        - 10. Decandria, —— ten males.
        - 11. Dodecandria, —— eleven males.
        - 12. Icosandria, —— twenty, or more, males inſerted into the calyx, and not into the receptacle.
        - 13. Polyandria, —— all above twenty males inſerted into the receptacle.
      - *Subordinatio*, two of the males or ſtamina uniformly ſhorter than the reſt.
        - 14. Didynamia, —— four males, two of them uniformly ſhorter than the other two.
        - 15. Tetradynamia,— ſix males, two of which are uniformly ſhorter than the reſt.
    - *Affinitas*, the males or ſtamina either connected to each other, or to the piſtillum.
      - 16. Monodelphia, the males or ſtamina united into one body by the filaments.
      - 17. Diadelphia, the ſtamina united into two bodies or bundles by the filaments.
      - 18. Polyadelphia, the ſtamina united into three or more bundles by the filaments.
      - 19. Syngenesia, the ſtamina united in a cylindrical form by the antheræ.
      - 20. Gynandria, the ſtamina inſerted into the piſtillum.
  - *Diclinia*, males and females in ſeparate beds; *i. e.* plants that have male and female flowers in the ſame ſpecies.
    - 21. Monoecia, male and female flowers in the ſame plant.
    - 22. Dioecia, male flowers in one plant, and females in another, of the ſame ſpecies.
    - 23. Polygamia, male, female, and hermaphrodite flowers in the ſame ſpecies.
- Or *clandeſtinely*, *i. e.* whoſe parts of fructification are inviſible.
  - 24. Cryptogamia, the flowers inviſible, ſo that they cannot be ranked according to the parts of fructification.

Theſe 24 Classes comprehend every known genus, and ſpecies. It is an eaſy matter to claſs a plant belonging to any of the firſt 11 claſſes, as they all depend on the number of ſtamina, or male parts, without regard to any other circumſtance: only it is to be obſerved, that the 11th claſs, *Dodecandria*, although its title is expreſſive of 12 ſtamina only, conſiſts of ſuch plants as are furniſhed with any number of ſtamina from 11 to 19 incluſive. The reaſon of the chaſm in the claſſes from 10 to 12 ſtamina, is, that no flowers have yet been found with only 11, ſo as to form a claſs. Reſeda has ſometimes only 11, but oftener more, yet never exceeding 15. The 12th claſs requires more attention than the preceding. When the ſtamina amount to above 20, a tyro will be apt to imagine that the plant belongs to the polyandria claſs. In reducing plants of this kind to their claſſes, particular regard muſt be had to the inſertion of the ſtamina. If they are inſerted into the calyx, or cup, the plant belongs to the icoſandria claſs; if into the receptacle, or baſis of the flower, it belongs to the polyandria. This diſtinction it is very neceſſary to obſerve, as the plants of the latter claſs are frequently poiſonous.

The 14th claſs is likewiſe in danger of being confounded with the 4th. In the 4th, the number of ſtamina is the ſame with that of the 14th. But in the 14th, two of the ſtamina are uniformly much ſhorter than the other two; at the ſame time, each particular ſtamen belonging to the different pairs ſtands directly oppoſite to one another.

The 15th claſs may be miſtaken for the 6th, as they both conſiſt of the ſame number of ſtamina. But in the 15th, four of the ſtamina are uniformly longer than the other two; and theſe two are always oppoſite to each other.

ORDERS.

In the firſt 13 claſſes, the Orders, which are inferior diviſions, that lead us a ſtep nearer the genus, are taken from the piſtils, or female parts, in the ſame manner as the claſſes from the ſtamina: Monogynia, digynia, trigynia, tetragynia, &c. *i. e.* one, two, three, four, &c. female parts. When the piſtils or female parts have no ſtalk or filament like the ſtamina, they are numbered by the ſtigmata, or tops of the piſtils, which in that caſe adhere to the capſule in the form of ſmall protuberances, as may be obſerved in the flowers of the poppy, &c.

The Orders of the 14th claſs are derived from a different ſource. The plants belonging to it have their ſeeds either incloſed in a capſule, or altogether uncovered. Hence, they naturally admit of a diviſion into the following orders, viz. *gymnoſpermia*, comprehending ſuch as have naked ſeeds; and *angioſpermia*, which comprehends ſuch as have their ſeeds covered, or incloſed in a capſule.

The 15th claſs is divided into two Orders, viz. the *ſiliculoſa*, or thoſe which have a ſhort ſiliqua, or pod; and the *ſiliquoſa*, or thoſe which have a longer ſiliqua.

The orders of the 16th, 17th, 18th, and 20th claſſes, are taken from the number of ſtamina; *e. g.* monodelphia *pentandria*, *decandria*, *polyandria*, &c.

The 19th claſs conſiſts of plants whoſe flowers are compounded of a great number of ſmall flowers, or floſcules, incloſed in one common calyx. The Orders of this claſs are,

Polygamia æqualis, or ſuch whoſe floſcules are all furniſhed with ſtamina, and piſtils.

Polygamia ſpuria, comprehends thoſe which have hermaphrodite floſcules in the diſk, and female floſcules in the margin. This circumſtance is made the foundation of the three following orders. 1. *Polygamia ſuperflua*, includes all thoſe whoſe hermaphrodite flowers in the diſk are furniſhed with ſtigmata, and bear ſeed; and whoſe female flowers in the radius likewiſe produce ſeeds. 2. *Polygamia fruſtranea*, include ſuch as have hermaphrodite ſeed-bearing floſcules in the diſk; but whoſe floſcules in the radius, having no ſtigmata, are barren. 3. *Polygamia neceſſaria*, is the reverſe of the former: the hermaphrodite flowers in the diſk want ſtigmata, and are barren; but the female floſcules in the radius are furniſhed with ſtigmata, and produce ſeeds.

Polygamia ſegregata, many floſcules incloſed in one common calyx, and each of the floſcules likewiſe furniſhed with a perianthium proper to itſelf.

Monogamia. This order conſiſts only of ſeven genera, *viz.* the ſtrumphia, ſeriphium, corymbium, jaſione, lobelia, viola, and impatiens; none of which have proper compound flowers, but are ranked under this claſs, purely from the circumſtance of having their ſtamina united by the antheræ.

The Orders of the 21ſt claſs are partly taken from the number of ſtamina, and partly from the names and characters peculiar to ſome of the other claſſes; *e. g.* monœcia *triandria*, monœcia *ſyngeneſia*, monœcia *gynandria*.

The Orders of the 22d claſs are founded upon the number, union, and ſituation, of the ſtamina in the male flowers.

The Orders of the 23d claſs are all taken from claſſical characters; *e. g.* polygamia *monœcia*, polygamia *diœcia*, and polygamia *triœcia*.

The 24th claſs is divided into the four following Orders: 1. *Filices*, comprehending all thoſe plants that bear their ſeeds in the back or edges of the leaf, and thoſe that are called *capillary plants*. 2. *Muſci*, which comprehends all the moſs kind. 3. *Algæ*, including the lichens, fuci, and many others, whoſe parts of fructification are either altogether inviſible or exceedingly obſcure. 4. *Fungi*, comprehending all the muſhroom tribe.

Table of the Orders.

	Orders.	
Class I. conſiſts of	2:	Monogynia, Digynia; comprehending 18 genera.
II.	3:	Monogynia, Digynia, Trigynia; 35 genera.
III.	3:	Monogynia, Digynia, Trigynia; 76 genera.
IV.	3:	Monogynia, Digynia, Tetragynia: 85 genera.
V.	6:	Monogynia, Digynia, Trigynia, Tetragynia, Pentagynia, Polygynia; 264 genera.
VI.	5:	Monogynia, Digynia, Trigynia, Tetragynia, Polygynia; 82 genera.
VII.	4:	Monogynia, Digynia, Tetragynia, Heptagynia; 7 genera.

	Orders.	
CLASS VIII. conſiſts of	4:	Monogynia, Digynia, Trigynia, Tetragynia; 45 genera.
IX.	3:	Monogynia, Trigynia, Hexagynia; 6 genera.
X.	5:	Monogynia, Digynia, Trigynia, Pentagynia, Decagynia; 95 genera.
XI.	5:	Monogynia, Digynia, Trigynia, Pentagynia, Dodecagynia; 33 genera.
XII.	5:	Monogynia, Digynia, Trigynia, Pentagynia, Polygynia; 29 genera.
XIII.	7:	Monogynia, Digynia, Trigynia, Tetragynia, Pentagynia, Hexagynia, Polygynia; 77 genera.
XIV.	2:	Gymnoſpermia, Angioſpermia; 102 genera.
XV.	2:	Siliquoſa, Siliculoſa; 32 genera.
XVI.	7:	Triandria, Pentandria, Octandria, Decandria, Endecandria, Dodecandria, Polyandria; 36 genera.
XVII.	4:	Pentandria, Hexandria, Octandria, Decandria; 56 genera.
XVIII.	3:	Pentandria, Icoſandria, Polyandria; 12 genera.
XIX.	6:	Polygamia æqualis, Polygamia ſuperflua, Polygamia fruſtranea, Polygamia neceſſaria, Polygamia ſegregata, Monogamia; 116 genera.
XX.	9:	Diandria, Triandria, Tetrandria, Pentandria, Hexandria, Octandria, Decandria, Dodecandria, Polyandria; 33 genera.
XXI.	11:	Monandria, Diandria, Triandria, Tetrandria, Pentandria, Hexandria, Heptandria, Polyandria, Monadelphia. Syngeneſia, Gynandria; 80 genera.
XXII.	14:	Monandria, Diandria, Triandria, Tetrandria, Pentandria, Hexandria, Octandria, Enneandria, Decandria, Dodecandria, Polyandria, Monadelphia, Syngeneſia, Gynandria; 55 genera.
XXIII.	3:	Monœcia, Diœcia, Triœcia; 34 genera.
XXIV.	4:	Filices, Muſci, Algæ, Fungi; 51 genera.
APPENDIX,		Palmæ.

Theſe laſt, though capable of being arranged in the ſeveral claſſes of the ſyſtem, yet, on account of their ſingular ſtructure, have been placed in an appendix, containing ſuch genera as have a ſpadix, and ſpatha, *i. e.* whoſe flowers and fruit are produced on that particular receptacle, or ſeat, called a *ſpadix,* protruded from a common calyx in form of a ſheath, called *ſpatha*. This order conſiſts of trees and ſhrubs only. Theſe have always a ſimple ſtem, not branched, bearing leaves at the top, reſembling thoſe of fern, being a compoſition of a leaf and a branch: it is called *frons*; and the corolla always three petals, or three deep diviſions. The known genera are 10 in number.

GENERA.

HAVING, thus, explained the diſtinctions of claſſes and orders, the next ſtep is the inveſtigation of the genus, or family.

The eſſence of every vegetable, ſays Linnæus, conſiſts in the fructification (or mode of fruit-bearing), and the eſſence of the fructification conſiſts in the flower and fruit; the eſſence of the flower conſiſts in the antheræ and ſtigma, and the eſſence of the fruit conſiſts in the ſeed. Hence, in his ſexual theory, he neceſſarily makes the flower and fruit the foundation of his generic diſtinctions. Theſe are generally compoſed of ſeven parts; the CALYX, the COROLLA, the STAMINA, the PISTILLUM, the PERICARPIUM, the SEMINA, the RECEPTACULUM; and the preſence, or abſence, the number, figure, proportion, and ſituation of the ſeveral parts, conſtitute the genus. But, as there are few genera wherein all the parts of the *natural* character are conſtant in every one of the ſpecies, it is neceſſary to fix upon ſuch circumſtances as are conſtant in both genus and ſpecies, and call thoſe the *eſſential* or ruling character, as well the more eaſily to diſtinguiſh one genus from another, as to regulate and fix the ſeveral ſpecies and their varieties to their reſpective genera; for which purpoſe, in ſome caſes, Linnæus was obliged to have recourſe to the *nectarium,* afterwards explained. The firſt four parts of the fructification are properly parts of the flower, and the laſt three are parts of the fruit.

I. The CALYX (A), a *cup*, is the termination of the outer bark (*cortex*) of a plant. Its chief uſe is to incloſe, ſupport, and protect, the other parts of the fructification. When preſent, it is ſeated on the receptacle:

(A) The calyx is conſidered as a part of the flower, though it more generally attends, and is permanent with, the fruit, as in the claſs didynamia, and moſt other plants; yet ſometimes it drops before or with the corolla, and before the fruit is ripe, as in the claſs tetradynamia, and many other plants. It is alſo conſidered as a part of the flower, as there is no inſtance of its coming out after the plant has done flowering; yet in patagonula it is obſerved to grow to a much larger ſize in the fruit than it had in the flower. In ſome plants there is none, or ſcarce perceptible; in others, it is only a rim or border (margo). The germen is alſo conſidered as part of the flower, as being the baſe of the piſtillum, though it afterwards becomes the ſeed-veſſel.

ceptacle; and is diſtinguiſhed by its figure; by the number, diviſion, and ſhape, of its leaves, or ſegments; and by the following names, according to the circumſtances with which it is attended.

PERIANTHIUM, (*ſurrounding the flower*), when its ſtation is cloſe to, and ſurrounds the other parts of the fructification, and it is then called the *perianthium of the fructification*: If it includes many floſcules, as in ſcabioſa, and other aggregate and compound flowers, it is called a *common perianthium*: if it includes only one floſcule, in ſuch flowers it is called a *proper perianthium*: if it includes the ſtamina, and not the germen, it is the perianthium of the *flower*, and is ſaid to be *above*, as in lonicera, ribes, campanula, &c.: if it includes the germen, but not the ſtamina, it is the perianthium of the *fruit*, and is ſaid to be *below*, as in linnæa, and morina, each of which have two calyces and two receptacles above each other, one of the flower, and the other of the fruit, and may, therefore, ſerve as inſtances in both caſes.

INVOLUCRUM, (a *cover*), when ſtationed at the foot of an umbel, below the common receptacle, and at a diſtance from the flower: it is called *univerſal*, if placed under the univerſal umbel; and *partial*, if placed under a partial umbel.

AMENTUM, (a *thong*), meaning *a catkin*, when it conſiſts of a great number of chaffy ſcales, diſpoſed along a ſlender axis, or common receptacle, which, from its reſemblance to a cat's tail, has obtained the name *catkin*; and theſe flowers have generally no petals. Sometimes the ſame amentum ſupports both male and female flowers, diſtinct, on the ſame plant, as in carpinus, &c.; ſometimes the male and female flowers are removed from each other on the ſame plant, and the amentum ſupports only the male flowers, and the female flowers are incloſed by a perianthium, as in corylus, juglans, fagus, &c.; and ſometimes an amentum only ſupports male flowers on one plant, and female flowers on another plant, as ſalix, populus, &c.

SPATHA, (a *ſheath*), being a ſort of calyx growing from the ſtalk, burſting lengthways, and protruding a ſpadix, or *receptacle*, ſupporting one or more flowers, which have often no perianthium: it conſiſts either of one leaf, with a valve or opening on one ſide only, as in narciſſus, galanthus, and the greater number of ſpathaceous plants; or of two leaves, with two valves, or openings, as in ſtratiotes, &c.; or is imbricated, as in muſa, &c. with one or two valves.

GLUMA, (a *huſk*;) this chiefly belongs to corn and graſſes, conſiſting of one, two, three, or more, valves, folding over each other like ſcales, and frequently terminated by a long, ſtiff, pointed, prickle, called the *ariſta* (beard, or awn).

CALYPTRA, (a *veil*, or *covering*), the proper calyx to the moſſes; it is placed over the antheræ of the ſtamina, reſembling an extinguiſher, a hood, or monk's cowl.

VOLVA, from its *infolding*, or *involving*, is the proper calyx to funguſſes, being membranaceous, and ſurrounding the ſtalk or pillar before their expanſion.

[It is often difficult to diſtinguiſh the calyx from the bracteæ, or floral leaves, which are found on many plants, ſituated on the flower-ſtalks; and are often ſo near to the lower parts of the fructification as to be confounded with, and miſtaken for, the calyx, as in tilia, helleborus, paſſiflora, &c. (in helleborus the calyx is wanting): but they may be beſt diſtinguiſhed by this rule; the floral leaves differ in ſhape and colour from the other leaves of the plant, but are commonly of the ſame duration; whereas the calyx always withers when the fruit is ripe, if not before.]

II. The COROLLA, (a *wreath*, or *little crown*), is the termination of the inner bark (*liber*) of the plant; which accompanies the fructification, in the form of leaves variouſly coloured: it is generally ſeated on the receptacle, ſometimes on the calyx; ſerving as an inner work of defence to the part it incloſes; as the calyx, which is uſually of ſtronger texture, does for an outer work. The leaves of which the corolla are compoſed are called *petals*, by the number, diviſion, and ſhape of which it is diſtinguiſhed. It is ſaid to be *below*, when it includes the germen, and is attached to the part immediately below it, as in ſalvia, borago, convolvulus, primula, &c.; and it is ſaid to be *above*, when it is placed above the germen, as in lonicera, ribes, cratægus, &c. In reſpect to duration, the corolla either continues till the fruit is ripe, as is nymphæa; or falls off at the firſt opening of the flower, as in actæa, thalictrum; or falls off with the ſtamina and other parts of the flower, as in moſt plants; or does not fall, but withers, as in campanula, cucumis, and others.

There is alſo a part which Linnæus ſays principally belongs to the corolla, as an appendage to the petals; which he calls the *nectarium* (from nectar, the fabled drink of the gods); and is that part containing the honey, which is the principal food of bees, and other inſects. But, though in ſuch plants where it is found, it may more commonly be attached to the corolla, and be then moſt evident; yet it is almoſt as often attached to other parts of the fructification: Linnæus, therefore, chiefly makes uſe of it as an eſſential character in many of the genera, as being leſs variable than his other diſtinctions; and obſerves, that when it is diſtinct from the petals, that is, not united with their ſubſtance, thoſe plants are generally poiſonous. The tube or lower part of monopetalous flowers, he conſiders as a true nectarium, becauſe it contains a ſweet liquor. But, as it affords very ſingular varieties in other inſtances, it has obtained the following diſtinctions.

1. CALYCINE NECTARIA, ſuch as are ſituated upon, and make a part of, the calyx; as in tropæolum, monotropa, &c.

2. COROLLACEOUS NECTARIA, ſuch as are attached to the corolla. Theſe are called calcariate (from *calcar*), when they reſemble a ſpur, or horn: which are either on flowers of one petal, as in valeriana, antirrhinum, &c.; or on flowers of many petals, as in orchis, delphinium, viola, fumaria, &c. Or the nectarium lies within the ſubſtance of the petals, as in fritillaria, lilium, berberis, iris, ranunculus, &c.

3. STAMINEOUS NECTARIA, ſuch as attend the ſtamina, and are either ſeated upon the antheræ, as in adenanthera; or upon the filaments, as in laurus, dictamnus, campanula, &c.

4. PISTILLACEOUS NECTARIA, ſuch as accompany the piſtillum, and are placed upon the germen, as in hyacinthus, butomus, cheiranthus, heſperis, &c.

5. RECEPTACULACEOUS NECTARIA, ſuch as join to the receptacle, as in polygonum, ſedum, ſempervivum, &c.

6. Nectaria that crown the corolla, that is, when placed in a ſeries or row within the petals, though entirely unconnected with their ſubſtance, as in paſſiflora, lychnis, ſilene, &c.; and in this ſituation it often reſembles a cup, as in Narciſſus, &c.

7. Nectaria, of ſingular conſtruction, being ſuch as cannot properly be placed under any of the foregoing diſtinctions, as in amomum, curcuma, ſalix, urtica, &c.

The proper uſe of the nectarium, and why it ſhould have ſuch very different ſituations, is not yet known: but as it is found in moſt plants, there is great reaſon to believe it an eſſential part in the fructification, though not always perceptible.

III. The STAMINA, *(threads*, or *chives)*; the males of the flower proceeding from the wood of the plant, each ſtamen conſiſting of two parts, viz. the filament and the antheræ. In moſt flowers they are placed upon the receptacle, within the corolla, and round the germen; and are chiefly diſtinguiſhed by number.

The Filament, (from *filum*, a thread), is the thread-ſhaped part of the ſtamen, ſerving as a footſtalk to elevate the antheræ, and is ſometimes found to have jags, or diviſions *(laciniæ)*; which are either two, as in ſalvia; three, as in fumaria; or nine, as in the claſs diadelphia. They are alſo diſtinguiſhed by their form, or figure, as awl-ſhaped, thread-ſhaped, hair-like, ſpiral, revolute, &c.: by their proportion, as equal, unequal, irregular, long, or ſhort: and by their ſituation, being generally oppoſite to the leaves, or diviſions, of the calyx, and alternate with the petals; that is, when the diviſions of the calyx are equal in number to the petals, and to the ſtamina. In monopetalous flowers they are generally inſerted into the corolla; but ſcarcely ever in the flowers of more than one petal, but into the receptacle: Yet in the claſs icoſandria they are inſerted into the calyx or corolla (though the flowers have many petals), as alſo in a few other plants. But in the claſs polyandria, and moſt other polypetalous plants, they are inſerted into the receptacle, like the calyx and corolla. The claſs gynandria, however, is an exception to the above rules, where the ſtamina are placed upon the piſtillum, or female part of the flower; and are ſometimes without filaments.

The Anthera (from *anthos*, a flower), emphatically ſo called from its great utility in the fructification, is the top or ſummit of the filament, containing the impregnating pollen, or farina; and is either one to each filament, as in moſt plants; or one common to three filaments, as in cucurbita, &c.; or one common to five filaments, as in the whole claſs of ſyngeneſia: or ſometimes there are two antheræ to each filament, as in ranunculus and mercurialis; three to each filament, as in fumaria; five to three filaments, as in bryonia; or five to each filament, as in theobroma. The anthera is alſo diſtinguiſhed by its form or figure, as oblong, round, angular, &c. It alſo conſiſts of one or more cells, which burſt differently in different plants; either on the ſide, as in moſt plants; on the top; or from the top to the baſe. It is alſo faſtened to the top of the filament, either by its baſe, as in moſt plants, or horizontally by its middle, to the top of the filament, ſo poiſed as to turn like a vane *(verſatilis)*: or it is fixed by its ſide, leaning to the top of the filament, then called incumbent: or it ſometimes grows to the nectarium, as in coſtus; to the receptacle, as in aurum; to the piſtillum, as in the claſs of gynandria.

IV. The PISTILLUM, or female part of the flower, is ſaid by Linnæus to be a production of the pith of the plant. It is that erect column which is generally placed in the centre of the flower, amidſt the ſtamina; and conſiſts of three parts, the germen, the ſtyle, and the ſtigma.

1. Germen (a *bud)*, is the baſe of the piſtillum, ſupporting the ſtyle. After a proceſs of nature, it becomes a ſeed-veſſel, and may, therefore, be conſidered as the rudiment of the pericarpium. It is diſtinguiſhed by its ſhape, number, and ſituation; and is ſaid to be *above* or *below*, according to its ſituation above or below the attachment of the corolla.

2. The Style (from *ſtylus*, a pillar), is that part which elevates the ſtigma from the germen, in order to receive the influence of the ſtamina, and to convey the effects down to the germen, as through a tube. It is diſtinguiſhed either by its number, which, when preſent (or when abſent, the number of ſtigmata), gives riſe to moſt of the orders, and are called ſo many females; or by its diviſions *(laciniæ)*, being double, treble, or quadruple, &c. though joined at the baſe; or by its length, being longer, ſhorter, or equal with the ſtamina; or by its proportion, being thicker or thinner than the ſtamina; or by its figure, being angular, cylindric, awl-ſhaped, bent, &c.; or by its ſituation, being generally on the top of the germen, though in ſome inſtances ſuppoſed to be both above and below, as in capparis, and euphorbia; unleſs the lower part in theſe genera be conſidered as the extenſion of the receptacle: It is alſo often placed on the ſide of the germen, as in hirtella, ſuriana; alſo in roſa, rubus, and the reſt of the plants in the claſs and order icoſandria polygynia. With reſpect to duration, it generally falls with the other parts of the flower; but in ſome plants is permanent, and attends the fruit to its maturity, as in the claſs tetradynamia. In flowers which have no ſtyle, the ſtigma adheres to the germen.

3. The Stigma (a *mark)*, when ſingle, is generally placed like a head on the ſummit of the ſtyle: when ſeveral, they are either placed on the top, or regularly diſpoſed along the ſide; and covered with a moiſture, to retain the pollen of the antheræ. It is diſtinguiſhed either by its number, being ſingle in moſt plants; by its diviſions; by its figure, or ſhape; by its length; by its thickneſs; and by its duration, as in moſt plants it withers when the germen is become a ſeed-veſſel; in ſome it is permanent, as in papaver.

V. The PERICARPIUM, *(round the fruit)*; the germen grown to maturity, and now become a matrix, or ſeed-veſſel. All plants, however, are not furniſhed with a ſeed-veſſel, as in corylus, &c. In many, it is ſupplied chiefly by the calyx, which converging incloſes the ſeeds till they arrive at maturity; as is the caſe with the rough-leaved plants, and the labial and compound flowers of the ſeveral claſſes pentandria, didynamia, and ſyngeneſia. Sometimes the receptacle ſupplies the office of ſeed-veſſel, as in gundelia; and ſometimes the nectarium, as in carex. The pericarpium is ſituated at the receptacle of the flower, either above or below, or both, as in ſaxifraga, and lobelia; and is diſtinguiſhed by the following appellations, according to its different ſtructure.

1. Capsula (a *little cheſt*, or *caſket*), which is frequently ſucculent whilſt green; but when ripe, it is a dry huſky ſeed-veſſel, that cleaves, or parts in ſome determinate manner to diſcharge its contents; and by ſome ſort of elaſtic motion, the ſeeds are often darted forth with conſiderable velocity, as in dictamnus, &c. It opens alſo various ways; either at the top, as in moſt plants; at the bottom; at the ſide; horizontally acroſs the middle; or longitudinally; and if it is articulated, or jointed, it opens at each of the joints, which contains a ſingle ſeed. It is further diſtinguiſhed externally, by its number of valves; and internally, by the number of its cells, or diviſions, wherein the ſeed is incloſed; as alſo by its ſhape, and ſubſtance.

2. Siliqua (a *pod*), which is a pericarpium of two valves; but as ſome are long, others round or broad, Linnæus thought it neceſſary to diſtinguiſh them by their form into *ſiliqua* and *ſilicula*; which gives riſe to the two orders in the claſs tetradynamia. The *ſiliqua* means a long pod, being much longer than broad, as in braſſica, ſinapis, &c.; the *ſilicula* (a little ſiliqua), is a roundiſh pod, either flat or ſpherical, and the length and breadth nearly equal, as in lunaria, draba, thlaſpi, &c. In both, the apex, which had been the ſtyle, is often ſo long beyond the valves, as to be of equal length with the pod; and the ſeeds in both are faſtened alternately by a ſlender thread, to both the ſutures or joinings of the valves.

3. Legumen (*pulſe*), is alſo a pod, and is likewiſe a pericarpium of two valves, wherein the ſeeds are faſtened to ſhort receptacles along the upper ſuture only, on each ſide, alternate; this chiefly belongs to the papilionaceous or butterfly flowers of the claſs diadelphia.

4. Folliculus (a *little bag*, in former editions called *conceptaculum*), is a pericarpium of one valve only, opening lengthwiſe on one ſide, and the ſeeds not faſtened to the ſuture, but to a receptacle within the fruit, as in apocynum, aſclepias, &c.

5. Drupa (from *drupæ*, unripe olives), is a pericarpium that is ſucculent, or pulpy, having no valve or external opening. It contains within its ſubſtance a ſtone or nut; that is, a ſeed incloſed with an hard ligneous cruſt, as olea, cornus, juglans, prunus, amygdalus, &c.; and when the drupa is ſeated below the calyx, it is furniſhed with an umbilicus like the pomum.

6. Pomum (an *apple*), is alſo a pericarpium that is ſucculent, or pulpy, and without valve; but containing in the middle a membranous capſule, with ſeveral cells or cavities containing the ſeeds; and at the end oppoſite to the footſtalk there is generally a ſmall cavity called *umbilicus* (the navel), from its reſemblance to that part in animals, and which was formerly the calyx, ſeated above the fruit, and perſiſtent, as in pyrus, cucumis, cucurbita, &c.

7. Bacca (a *berry*), is alſo a pulpy pericarpium without valve, incloſing one or more ſeeds, which have no membranous capſule, or covering, but are diſpoſed promiſcuouſly through the pulp, as in ſolanum, &c. and are generally placed on footſtalks attached to receptacles within the pulp, as in ribes, &c. The berry alſo admits of the following diſtinction: It is ſaid to be *proper*, when it is a true pericarpium formed of a germen; and *improper*, when it is formed from other parts of the fructification; as in morus, roſa, juniperus, taxus, &c. A large ſucculent calyx becomes a berry; and in juniperus the three petals become the umbilicus; in poterium the berry is formed of the tube of the corolla; in fragaria, &c. it is formed of the top of the receptacle; in rubus, &c. it is formed from a ſeed, which is the receptacle of the berry; in ruſcus, &c. it is incloſed within and is a part of the nectary. The berry is commonly either round or oval, and is frequently furniſhed with an umbilicus, as in ribes, &c.: It does not naturally open to diſperſe the ſeeds like the capſule, that office being performed by birds and other animals.

8. Strobilus (a *cone*), is a pericarpium formed of an amentum, being a ſeed-veſſel compoſed of woody ſcales placed againſt each other in the form of a cone, opening only at the top of the ſcales, being firmly fixed below to a ſort of axis or receptacle, occupying the middle of the cone; as in pinus, thuya, cupreſſus, &c.

VI. SEMINA (the *ſeeds*). A *ſeed* is the eſſence of the fruit of every vegetable; and is defined by Linnæus to be "a deciduous part of the plant, containing the rudiments of a new vegetable, fertilized by the ſprinkling of the pollen." Seeds are diſtinguiſhed according to number, ſhape, texture, appendage, &c. A ſeed, properly ſo called, conſiſts of the five following parts; to which are added the nux, and propago.

1. The Corculum (for *cor*, a heart), is the eſſence of the ſeed, and principle of the future plant; and conſiſts of two parts, viz. plumula, and roſtellum, *Plumula* is the ſcaly part and eſſence of the corculum, which aſcends, and becomes the ſtem, or trunk, of the plant: it extends itſelf into the cavity of the lobes, or cotyledons, and is terminated by a ſmall ſort of branch reſembling a feather. *Roſtellum* is the plain or ſimple part of the corculum, which deſcends into the earth, and becomes the root: its form is that of a ſmall beak, placed without the the lobes, and adhering internally to the plumula.

2. The Cotyledons (from *cotyledon*, the hollow of the huckle-bone), are the thick porous ſide-lobes of the ſeed, conſiſting of farinaceous matter, and which involve, and for ſome time furniſh nouriſhment to the embryo plant, but wither and die away when it becomes ſtrong. If a plant be cut below the cotyledons, it will ſcarce ever put out freſh leaves, but withers and decays; if it is cut above the cotyledons, it generally ſhoots out afreſh, and continues to grow: Therefore, if plants whoſe cotyledons riſe above ground, as turnips, &c. be cut or eat to the ground by cattle, they decay; but where the cotyledons remain below ground, as in graſſes, and are cut or eat to the ground, they will ſhoot out afreſh. The cotyledons are alſo called the *ſeminal* or *ſeed* leaves: ſome plants have only one, as in graſſes and in cuſcuta, &c.; others two, as in vicia, &c.; linum has four; cupreſſus has five; and pinus, Linnæus ſays, has ten. The cotyledons in muſhrooms, ferns, and moſſes, are not ſufficiently aſcertained to know if they have any.

3. The Hilum (the black ſpot on a bean, called the *eye*), is the external mark or ſcar on the ſeed, where it was faſtened within the pericarpium.

4. The Arillus, a term uſed to expreſs the proper exterior coat or covering of the ſeed; which falls off ſpontaneouſly, and is either cartilaginous of ſucculent:

lent . yet ſeeds are ſaid to be *naked*, when not incloſed in any ſort of pericarpium, as in the claſs and order didynamia gymnoſpermia.

5. The Coronula, is either a little ſort of calyx adhering to the top of the ſeed, like a little crown, and aſſiſting to diſperſe it by flying, as in ſcabioſa, knautia, &c. where the little calyx of the floret becomes the crown of the ſeed: Or a down; which is either feathery, as in valeriana, leontodon, gnaphalium, &c.; or it is hairy, as in tuſſilago, ſenecio, hieracium, &c. [This down has generally been thought intended to diſperſe the ſeeds; yet as it frequently breaks off when thoſe have flown to ſome diſtance, and is ſeen flying alone, ſome have imagined that the down is only intended as a defence of the ſeed till arrived at maturity.] —The coronula is alſo either ſitting (*ſeſſilis*), that is, attached cloſe to the ſeed, as in hieracium, &c.; or foot-ſtalked (*ſtipitatus*), by a thread elevating and connecting the crown, or tuft, with the ſeeds, as in lactuca, crepis, &c. Some ſeeds are alſo furniſhed with a wing, a tail, a hook, awn, &c. all coming under the term *coronula*, and tending either to diſperſe or fix the ſeveral ſeeds to which they belong. Other ſeeds are furniſhed with an elaſtic force, in order to diſperſe them; which is either in the calyx, as in oats, and ſome others; in the pappus, as in centaurea-crupina; or in the capſule, as in geranium, fraxinella, ſpurting cucumber, &c. Other ſeeds, eſpecially thoſe whoſe pericarpium is a berry, as alſo the nutmeg, and other nuts, are diſperſed by birds, and other animals.

Nux (*Nut*), a ſeed incloſed in an hard woody ſubſtance, called the *ſhell*, which is one-celled, two-celled, &c. and the incloſed ſeed is called the *kernel*.

Propago. The ſeed of a moſs, not coming under the above deſcription, Linnæus calls *Propago* (*a ſlip*, or *ſhoot*;) which has neither coat nor cotyledon, but conſiſts only of a naked plumula where the roſtellum is inſerted into the calyx of the plant.

VII. The RECEPTACULUM is the baſe which receives, ſupports, and connects, the other parts of the fructification; but it is only mentioned by Linnæus (in his *Gen. Pl.*) when it can be introduced as a character varying in ſhape and ſurface, as principally in the claſs ſyngeneſia. It has the following diſtinctions.

Proper, when it ſupports the parts of a ſingle fructification only: When it is a baſe to which only the parts of the flower are joined, and not the germen, it is called a *receptacle of the flower*; in which caſe, the germen being placed below the receptacle of the flower, has a proper baſe of its own, which is called the *receptacle of the fruit*: And it is called a *receptacle of the ſeeds*, when it is a baſe to which the ſeeds are faſtened within the pericarpium. In ſome ſimple flowers, where the germen is placed above the receptacle of the flower, the fruit has a ſeparate receptacle, as in magnolia, uvaria, &c. in which genera the numerous germina are ſeated upon a receptacle, riſing like a pillar above the receptacle of the fructification.

Common, when it ſupports and connects a head of flowers in common; as in the amentum, and other aggregate flowers.

Umbella, which Linnæus calls a *receptacle*. See aggregate flowers, under the head of Inflorescence, above, p. 427.

Cyma (a *ſprout*), is alſo called a *receptacle*. *Ibid.*

Rachis (the *back-bone*); a filiform receptacle, collecting the florets longitudinally into a ſpike, in many of the glumoſe flowers, as wheat, barley, rye, &c.

Spadix, anciently only ſignified the receptacle of a palm (*phœnix*) iſſuing out of a ſpatha, and branched; but now every flower-ſtalk that is protruded from a calyx called *ſpatha*, is denominated a *ſpadix*, as in narciſſus, &c.

When all theſe parts are underſtood, the genus may be eaſily inveſtigated. But, in order ſtill further to aſſiſt the young botaniſt, we ſhall give a ſyſtematic deſcription of a few common plants belonging to different claſſes. [The numbers refer to the figures in the ſubjoined *Explanation of the Plates*.]

DIANDRIA MONOGYNIA.

Veronica, or Speedwell.

The Calyx is a perianthium (18) divided into four parts or ſegments, and perſiſtent (*i. e.* does not fall off till the ſeeds are ripe); the ſegments are ſharp, and lance-ſhaped.

The Corolla (11) conſiſts of one rotated petal; the *tubus* (11) is about the ſame length with the calyx; the *limbus* (11) is plane, and divided into four oval ſegments, the loweſt of which is narrower than the reſt, and the one immediately oppoſite broader.

The Stamina (12) are two, narrower below, and inclined upwards; the antheræ (12) are oblong.

The Pistillum (12) has a compreſſed germen (12), a filiform or thread-like ſtylus (12), about the ſame length with the ſtamina, and a little declined to one ſide: the ſtigma (12) is ſimple.

The Pericarpium (12) is a heart-ſhaped capſule, compreſſed at the top, and having two cells, or partitions, and four valves.

The Seeds are roundiſh, and numerous.

ICOSANDRIA POLYGYNIA.

Fragaria, or Strawberry.

The Calyx is a perianthium conſiſting of one plain leaf, divided into ten ſegments, each alternately narrower.

The Corolla has five roundiſh open petals, inſerted into the calyx.

The Stamina are 20 in number, ſubulated, or tapering, ſhorter than the corolla, and inſerted into the calyx. The antheræ are lunulated, or ſhaped like a creſcent.

The Pistillum conſiſts of many ſmall germina collected into a little head, or knob. The ſtyli are ſimple, and inſerted into the ſides of their reſpective germina. The ſtigmata are ſimple.

The Pericarpium is wanting in this plant. But the common receptacle of the ſeeds, which ſupplies the place of a pericarpium, is a roundiſh oval berry, plain at the baſe, pretty large, ſoft, pulpy, coloured, and deciduous, *i. e.* falls off before the ſeeds ripen.

The Seeds are ſmall, pointed, very numerous, and diſperſed through the ſuperficial part of the receptacle.

DIDYNAMIA ANGIOSPERMIA.

Digitalis, or Fox-glove.

The Calyx is a perianthium divided into four deep-cut ſegments, which are roundiſh, ſharp at the top, perſiſtent, and the higheſt one is narrower than the reſt.

The COROLLA conſiſts of one bell-ſhaped petal; the tubus is large, open, ventricoſe, or bellied at the backſide; the baſe is cylindrical, and narrow: the limbus is ſmall, and divided into four ſegments, the ſuperior ſegment is more open and more emarginated than the reſt.

The STAMINA are four, ſubulated (44), inſerted into the baſe of the corolla, and inclined to the ſame ſide; two of them are longer than the other two: the antheræ are divided into two parts, and pointed at the top.

The PISTILLUM conſiſts of a germen ſharp at the top, a ſimple ſtyle ſituated like the ſtamina, and an acute ſtigma.

The PERICARPIUM has an oval capſule, of the ſame length with the calyx, ſharp at the top, having two cells, and two valves which burſt open at both ſides.

The SEEDS are many, and ſmall.

TETRADYNAMIA SILIQUOSA.

SINAPIS, or MUSTARD.

THE calyx is a perianthium conſiſting of four open or ſpreading leaves; the leaves are linear (43), concave, furrowed, diſpoſed in the form of a croſs, and deciduous.

The COROLLA conſiſts of four cruciform petals: the petals are roundiſh, plain, open, entire, or not emarginated, with erect linear ungues (13), ſcarcely ſo long as the calyx.

The NECTARIA (14, &c.), or *glandulæ nectariferæ*, are four, of an oval figure, one of which is ſituated on each ſide betwixt the ſhort ſtamina and ſtylus, and likewiſe one on each ſide between the long ſtamina and the calyx.

The STAMINA have ſix ſubulated erect filaments, two of which are of the ſame length with the calyx, and always oppoſite to each other, and the other four are uniformly longer: the *antheræ* are erect, and ſharp at the top.

The PISTILLUM has a cylindrical germen; the ſtylus is of the ſame length with the germen, and the ſame height with the ſtamina; the ſtigma is entire, with a little knob, or button.

The PERICARPIUM is an oblong, ſcabrous, double-celled, two-valved pod, gibbous, and full of little protuberances on the under parts: the diſſepimentum (29) is large, compreſſed, and often twice the length of the valves.

The SEEDS are many, and round.

MONADELPHIA POLYANDRIA.

MALVA, or COMMON MALLOW.

THE CALYX is a double perianthium: the exterior one conſiſts of three lanceolated, looſe, perſiſtent, leaves; the interior has but one large, broad, perſiſtent leaf, divided into five ſegments.

The COROLLA has five plain leaves united at the baſe, heart-ſhaped, and premorſe, (54).

The STAMINA conſiſt of numerous filaments, united into a cylindrical form below, looſe above, and inſerted into the corolla: the antheræ are kidney-ſhaped.

The PISTILLUM has an orbicular germen, a cylindrical ſhort ſtylus, and many briſtly ſtigmata of an equal length with the ſtylus.

The PERICARPIUM conſiſts of ſeveral diſtinct capſules joined by an articulation, reſembling a depreſſed globe, and opening from within when ripe: the receptaculum is a kind of column binding the capſules together.

The SEEDS are ſolitary, and kidney-ſhaped.

SYNGENESIA POLYGAMIA-ÆQUALIS.

LEONTODON, or DANDELION.

The *common* CALYX is oblong, and imbricated: the *interior ſcales* are linear, parallel, equal, and open at the top; the *exterior ſcales* are fewer in number, and frequently reflected at the baſe.

The *compound* COROLLA is uniform, and imbricated.

The *ſmall hermaphrodite corollæ* are very numerous, and equal.

The *corolla* proper to each floſcule conſiſts of one ligulated (*i. e.* plain and expanded outwards), linear, truncated (*i. e.* terminated by a tranſverſe line), and five-teethed petal.

The STAMINA conſiſt of five very ſmall capillary filaments: the antheræ are connected together, and form a cylindrical tube.

The GERMEN of the *piſtillum* is ſituated below the proper corolla. The ſtylus is filiform, and nearly of the ſame length with the corolla: the ſtigmata are two, and turned back in a ſpiral form.

This plant has no *pericarpium*.

The SEEDS are ſolitary, oblong, rough, and terminated by a long pappous ſtipes (31).

The receptacle, or common baſe of the floſcules (9), is naked, and full of ſmall hollow points.

GYNANDRIA PENTANDRIA.

PASSIFLORA, or PASSION-FLOWER.

THE CALYX is a perianthium conſiſting of five plain coloured leaves, ſimilar to thoſe of the corolla.

The COROLLA conſiſts of five plain, obtuſe, ſemi-lanceolated, leaves, of the ſame magnitude and figure with thoſe of the calyx.

The *nectarium* is a triple corona, the exterior of which is longeſt, ſurrounding the ſtylus within the petals ſtraitened above.

The STAMINA are five, ſubulated, open, and connected to the ſtylus at the baſe of the germen: the antheræ are oblong, obtuſe, and incumbent.

The PISTILLUM conſiſts of an erect cylindrical ſtylus, upon the top of which an oval germen is placed: the ſtyli are three, thicker and wider above; the ſtigmata are roundiſh knobs.

The PERICARPIUM is a fleſhy, ſuboval, one-celled, berry, reſting upon the ſtylus.

The ſeeds are numerous, oval, and each of them incloſed in a ſmall membrane.

MONOECIA TETRANDRIA.

URTICA, or COMMON NETTLE.

THE CALYX of the male flowers is a four-leaved perianthium; the leaves are roundiſh, concave, and obtuſe.

The COROLLA has no petals; but there is a ſmall urceolated (*i. e.* an inflated ſkin, gibbous on each ſide) nectarium in the centre of the flower.

The STAMINA conſiſt of four ſubulated open filaments, of an equal length with the calyx, and one of them is placed between each leaf of the calyx: the *antheræ* have no cells.

The CALYX of the female flowers is a double-valved, oval, concave, erect, perſiſtent, perianthium.

The COROLLA is wanting.

The PISTILLUM has an oval germen, no ſtylus, and a downy ſtigma.

They have no *pericarpium.*

The SEED is ſingle, oval, ſhining, and a little compreſſed.

SPECIES.

THE genera include a great number of relative ſpecies, diſtinguiſhed by the ſpecific difference of the root, the trunk, the branches, the leaves, &c. (yet all agreeing in the eſſential generic character); and are called by trivial names (expreſſive of the difference, or ſome other circumſtance) added to the generic name. In order to inveſtigate the ſpecies, therefore, it is neceſſary to underſtand thoſe differences, and be acquainted with the names by which they are expreſſed. Several of theſe have been already incidentally explained; but, for a complete enumeration, the reader muſt have recourſe to the nomenclature ſubjoined to this ſection. And, to illuſtrate the manner in which thoſe terms are uſed, we ſhall here give a few examples; referring, by numbers, to the figures on the plates.

Claſs II. DIANDRIA.
Order, MONOGYNIA.
Genus, VERONICA, or SPEEDWELL.
Species, Veronica *arvenſis*, has ſolitary flowers; cut, ſeſſile, (130), and cordated (46) leaves.
Veronica *agreſtis*, has ſolitary flowers; cut, cordated (46), and petiolated (129) leaves.

Claſs XVI. MONODELPHIA.
Order, POLYGYNIA.
Genus, MALVA, or MALLOW.
Species, Malva *ſpicata*, has tomentoſe (84), crenated (74), and cordated (46), leaves, and oblong hairy ſpicæ (34).
Malva *ſylveſtris*, has an erect (119) herbaceous ſtalk (148), with accute, (74), ſeven-lobed (50) leaves, and hairy pedunculi, and petioli (129).

Claſs XIX SYNGENESIA.
Order, POLYGAMIA ÆQUALIS.
Genus, CARDUUS, or THISTLE,
Species. Carduus *Helenioides*, or *melancholy thiſtle*, has lanceolated (42), teethed (66), amplexicaule (132) leaves; with unequal, ciliated (86), ſmall ſpines (157).

Claſs XXIV. CRYPTOGAMIA.
Order, FILICES,
Genus, ASPLENIUM, or MAIDENHAIR.
Species, Aſplenium *trichomanes*, has a pinnated (104) frons (144); the pinnæ are roundiſh (38), and crenated (74).

To theſe examples we ſhall add a deſcription of a plant, according to the *natural* character, from the *Genera Plantarum;* and according to the *eſſential* character, with the ſeveral ſpecies, from the *Syſtema Vegetabilium*, as tranſlated by the Litchfield Society.

PAPAVER, POPPY.

NATURAL CHARACTER.

CALYX.	A perianthium two-leaved, ovate, end-nick'd; *leaflets* ſubovate, concave, obtuſe, deciduous.
COROLLA.	Petals four, roundiſh, flat, expanding, large, narrower at the baſe, leſs alternately.
STAMINA.	Filaments numerous, capillary, much ſhorter than the corolla: *antheræ* oblong, compreſſed, erect, obtuſe.
PISTILLUM.	Germ. roundiſh, large; *ſtylus* none; *ſtigma* pellated, flat, radiated.
PERICARPIUM.	A capſule crown'd with the large flat ſtigma, unilocular, ſemi-multi-unilocular, gaping at the top under the crown, with many apertures.
SEMINA.	Seeds, numerous, very ſmall; *receptacles*, longitudinal folds, of equal number with the rays of the ſtigma adhering to the ſides of the pericarpium.

ESSENTIAL CHARACTER.

PAPAPVER.	*Corolla* four-petal'd, *calyx* two-leav'd, *capſule* one-cell'd, gaping with pores under the permanent ſtigma. *Poppy.*
	** With hiſpid capſules.*
1 P. HYBRYDUM.	Capſules ſubglobular, brawny, hiſpid, ſtem leafy, many-flower'd. *mule.*
2 P. ARGEMONE.	Capſules club'd, hiſpid, ſtem leafy, many-flower'd.
3 P. ALPINUM.	Capſules hiſpid, ſcape one-flower'd, naked, hiſpid, leaves twice-feather'd. *alpine.*
4 P. NUDICAULE.	Capſules hiſpid, ſcape one-flower'd, naked, hiſpid, leaves ſimple, feather-ſinuous. *naked ſtem.*
	*** With ſmooth capſules.*
5 P. RHOEAS.	Capſules ſmooth, globular, ſtem hairy, many flower'd, leaves feather-cleft, gaſh'd.
6 P. DUBIUM.	Capſules oblong, ſmooth, ſtem many-flower'd, with briſtles appreſs'd, leaves feather-cleft, gaſh'd. *dubious.*
7 P. SOMNIFERUM.	Calyxes and capſules ſmooth, leaves ſtem-claſping, gaſh'd *ſomniferous.*
8 P. CAMBRICUM.	Capſules ſmooth, oblong, ſtem many-flower'd, poliſh'd, leaves feather'd, gaſh'd.
9 P. ORIENTALE.	Capſules ſmooth, ſtem one-flower'd, rugged, leafy, leaves feather'd, ſaw'd. *oriental.*

Laſtly, we ſhall ſubjoin a complete deſcription of a plant reduced to its claſs, order, genus, and ſpecies, with figures of all the parts neceſſary for that purpoſe.

RHEUM

RHEUM PALMATUM, or *True Rhubarb*,

Plate CVII.

The flower of this plant has no CALYX.

The COROLLA, *dd*, conſiſts of one petal, narrower at the baſe, not perforated, and divided in the margin into ſix obtuſe ſegments, one leſs and one larger alternately; the petal is marceſcent, *i. e* decays, but does not fall off till the ſeeds be ripe.

The STAMINA, *e e*, conſiſt of nine capillary filaments, inſerted into the corolla, and about the ſame length with it. The *antheræ* are didymous (*i. e.* appear to be double), oblong, and obtuſe.

The PISTILLUM, *f*, has a ſhort three-ſided germen. It can hardly be ſaid to have any ſtyli; but has three reflected plumoſe ſtigmata.

The PERICARPIUM is wanting.

Each flower contains but one large, three-ſided, acute SEED *g*, with a membranaceous edge.

The number of *Stamina* determines this plant to belong the ENNEANDRIA *Claſs*; and the number of *Stigmata* fixes its *Order* to be TRIGYNIA. The other parts of the above deſcription clearly demonſtrate the genus to be the RHEUM, or *Rhubarb*; and ſufficiently diſtinguiſh it from the Laurus, Tinus, Anacardium, Caſſyta, and Butomus, the only other known genera belonging to this claſs.

The SPECIFIC mark is taken from the leaves, which are PALMATED (58), and ſharp and tapering at the points. Botaniſts are acquainted with five diſtinct ſpecies of Rheum, (beſides the *Hybridum*), none of whoſe leaves are *palmated*, except the ſpecies now deſcribed.

EXPLANATION of the PLATES.

PLATE CII. exhibits the 24 claſſes; fig. 1. repreſenting the firſt claſs, or Monandria; fig. 2. the ſecond claſs, or Diandria; fig. 3. the third claſs, or Triandria; and ſo on, according to the enumeration in the table.

Plate CIII. repreſents the parts of the plant upon which the inveſtigation of the GENUS depends.

Parts of the FLOWER.—Fig. 1. Spatha. Fig. 2. Spadix. Fig. 3. Gluma, or glume; b b, *ariſta*, or awn. Fig. 4. *Umbella* and *involucrum*: a, *Umbella univerſalis*, or univerſal umbel; b, partialis, or partial umbel: c, *Involucrum univerſale*, univerſal involucre; d, *partiale*, or partial involucre. Fig. 5. *Calyptra*: a, *capitulum*; b, *operculum*; parts of moſſes. Fig. 6. Amentum. Fig. 7. Strobilus. Fig. 8. a, *Pileus*; b, *volva*; c, *ſtipes*: parts of fungi, or muſhrooms. Fig. 9. a, *Receptaculum commune nudum*, the common receptacle, or baſe of the flower, when the ſtamina, piſtillum, capſule, &c. are taken off. Fig. 10. *Receptaculum commune paleis imbricatum*, or common receptacle imbricated with paleæ, or membranaceous lamellæ. Fig. 11. *Corollæ monopetalæ*—a, *tubus*; b, *limbus*: i. e. *a* the tube, *b* the edge, or margin, of a monopetalous corolla. Fig. 12. is a flower laid in a proper poſition for ſhowing its different parts. a, *Germen*, which includes the ſeeds and capſule in which they are incloſed; b, *ſtylus*, a continuation of the germen; c, *ſtigma*, or top of the ſtylus; d d d d d d, *filamenta*, or threads; e e e e e, *antheræ*; f f f f f, *Petala*, or flower-leaves. Fig. 13. a, the *ungues*, or *claws*, *b* the *laminæ*, or plates, of a polypetalous corolla. Fig. 14. a, *Nectarium campanulatum in narciſſo*, or bell-ſhaped nectarium of the narciſſus. Fig. 15. *Nectaria cornuta in aconito*, horned nectaria of the monkſhood. Fig. 16. *Horned nectarium* in the calyx of the tropœolus. Fig. 17. a a a a, *Nectarium in parnaſſia*; the nectaria of the graſs of parnaſſey are ſix in number, each of which have 13 ſtyli, with round buttons on their tops.

Parts of the FRUCTIFICATION.—Fig. 18. a, *Perianthium*; b, *germen*; c, *ſtylus*; d, *ſtigma*; e e, *filamenta*; f f, *antheræ dehiſcentes*, or antheræ ſhedding the pollen, or duſt; g, *anthera integra*, i. e. the appearance of the anthera before it ſheds the pollen. Fig. 19. *a* the *filament*, and *b* the *anthera*, ſeparated from the flower. Fig. 20. *a*, one grain of the *pollen* magnified by a microſcope; b, *halitus elaſticus*, i. e. an elaſtic aura ſuppoſed to be neceſſary for impregnating the ſeeds. Fig. 21. a, *Germen*; b, *ſtylus*; c c, *ſtigma*. Fig. 22. *Folliculus*: The ſeeds not adhering to the ſuture, are incloſed in a particular receptacle *a*. Fig. 23. *Legumen*, or a double-valved pericarpium, having the ſeeds fixed only to one of the ſutures *a a*. Fig. 24. *Siliqua*, or a double-valved pericarpium with the ſeeds fixed to both ſutures, or margins *a b*. Fig. 25. *Pomum*, or a fleſhy pericarpium, containing a capſule in which the ſeeds are incloſed, as in the apple, &c.; a, the *pericarpium*; b, the *capſule* or ſeed-caſe. Fig. 26. a, *Drupa*, or pericarpium containing a nut, or ſtone, and having no valve. b, The *nucleus*, or ſtone. Fig. 27. *Bacca*, or berry, a pericarpium containing naked ſeeds diſperſed through the pulpy part. Fig. 28. *Capſula apice dehiſcens*, a capſule opening at the top to allow the ſeeds to fall out. Fig. 29. Four capſules included in a common pericarpium. *a a*, The valves; *b b*, the diſſepimentum, or partition which ſeparates the different ſeed-capſules from one another; *c*, columella, or central column, by which the capſules are connected. Fig. 30. A capſule cut open longitudinally, to ſhow the receptacle of the ſeeds. Fig. 31. *Pappus*, or down; a, *piloſus*, reſembling hair; b, *plumoſus*, or feathered; c, *ſemen*; d, *ſtipes*.

Pedunculi or *Footſtalks* of FLOWERS.—Fig. 32. Corymbus. 33. Racemus. 34. Spica. 35. Verticillus. 36. Panicula.

Plates CIV. CV. CVI. contain delineations relative to the SPECIES of plants. Pl. CIV. fig. 32—36.

1. LEAVES as to figure. A, *Simple*.—Fig. 37. *Orbiculatum*, of a circular figure. Fig. 38. *Subrotundum*, roundiſh, or nearly circular. Fig. 39. *Ovatum*, ovate. Fig. 40 *Ovale*, *ſive Ellipticum*, oval, or elliptical. Fig. 41. *Oblongum*, oblong. Fig. 42. *Lanceolatum*, lanceolate. Fig. 43. *Lineare*, linear. Fig. 44. *Subulatum*, ſubulated, or awl-ſhaped. Fig. 45. *Reniforme*, reniform, kidney-ſhaped. Fig. 46. *Cordatum*, cordate, heart-ſhaped. Fig. 47. *Lunulatum*, lunulated. Fig. 48. *Triangulare*, triangular. Fig. 49. *Sagittatum*, ſagittated. Fig. 50. *Cordato-ſagittatum*, heart-ſhaped behind, and ſharp like the point of an arrow before. Fig. 51. *Haſtatum*, halberd-ſhaped. Fig. 52. *Fiſſum*, notched. Fig. 53. *Trilobum*, trilobous, or having three (55) lobes. Fig. 54. *Præmorſum*, fore bitten. Fig. 55. *Lobatum*, lobed. Fig. 56. *Quinquangulare*, quinquangular. Fig. 57. *Eroſum*, eroded. Fig. 58. *Palmatum*, palmated. Fig. 59. *Pinnatum*, pinnated. Fig. 60. *Laciniatum*, laciniated. Fig. 61. *Sinuatum*, ſinuated. Fig. 62. *Dentato-ſinuatum*, tooth-ſinuous. Fig. 63. *Retrorſum ſinuatum*; ſinuous backwards. Fig. 64. *Partitum*, partite. Fig. 65. *Repandum*, ſcollop'd. Fig. 66. *Dentatum*, dentated. Fig. 67. *Serratum*, ſerrated, or ſawed.

Fig. 68. *Duplicato-ſerratum*, doubly ſerrated. Fig. 69. *Duplicato-crenatum*, doubly crenated. Fig. 70. *Cartilagineum*, cartilaginous. Fig. 71. *Acutè-crenatum*, acutely crenated. Fig. 72. *Obtuſè-crenatum*, obtuſely crenated. Fig. 73. *Plicatum*, plaited. Fig. 74. *Crenatum*, crenated. Fig, 75. *Criſpum*, curled. Fig. 76. *Obtuſum*, obtuſe. Fig. 77. *Acutum*, acute. Fig. 78. *Acuminatum*, accuminated, Fig. 79. *Obtuſum cum acumine*, obtuſe with a ſharp point ſuperadded. Fig, 80. *Emarginatum-acutè*, acutely emarginated. Fig. 81. *Cuneiforme-emarginatum*, cuneiform and emarginated. Fig. 82. *Retuſum*, retuſe. Fig. 83. *Piloſum*, hairy. Fig. 84. *Tomentoſum*, tomentoſe, or downy. Fig. 85. *Hiſpidum*, briſtly. Fig. 86. *Ciliatum*, ciliated, or fringed. Fig. 87. *Rugoſum*, rugoſe, or wrinkly. Fig. 88. *Venoſum*, venoſe, or veined. 89. *Nervoſum*, nervoſe. Fig. 90. *Papilloſum*, papillous. Fig. 91, *Linguiforme*, linguiform, or tongue-ſhaped. Fig. 92. *Acinaciforme*, ſcimitar-ſhaped. Fig. 93. *Dolabriforme*, hatchet-ſhaped. Fig. 94. *Deltoides*, deltoid. Fig. 95. *Triquetrum*, triquetrous, or priſmatical. Fig. 96. *Canaliculatum*, channelled. Fig. 97, *Sulcatum*, ſulcated. Fig. 98. *Teres*, cylindrical.—B. *Compound* Leaves. Fig. 99. *Binatum*, binate. Fig. 100. *Ternatum foliolis petiolatis*, ternated with ſeſſile feuillets, or leaflets. Fig. 101. *Ternatum foliolis petiolatis*, ternated with petiolated feuillets. Fig. 102. *Digitatum*, digitated, or fingered. Fig. 103. *Pedatum*, pedated. Fig. 104. *Pinnatum cum impari*, pinnated with an odd feuillet. Fig. 105. *Pinnatum abruptè*, abruptly pinnated. Fig. 106. *Pinnatum alternatim*, pinnated alternately. Fig. 107. *Pinnatum interruptè*, abruptly pinnated. Fig. 108. *Pinnatum cirrhoſum*, pinnated with a cirrhus. Fig. 109. *Pinnatum conjugatum*, pinnated with only two feuillets. Fig, 110. *Pinnatum decurſivè*, pinnated decurſively. Fig. 111. *Pinnatum articulatè*, pinnated jointedly. Fig. 112. *Lyratum*, lyre-ſhaped. Fig. 113. *Biternatum*, or *duplicato-ternatum*, biternate (100), or double-ternate, or having three ternated (100) leaves upon one petiole. Fig. 114. *Bipinnatum*, or *duplicato-pinnatum*, bipinnated, or double pinnated, *i. e.* having the primary *pinnæ* pinnated again a ſecond time. Fig. 115. *Triternatum*, or *triplicato-ternatum*, triple ternated, or conſiſting of three biternated (113) leaves. Fig. 116. *Tripinnatum ſine impari*, triple-pinnated without an odd feuillet, or having the ſecondary *pinnæ* pinnated again, and theſe laſt *pinnæ* not terminated by an odd feuillet. Fig. 117. *Tripinnatum cum impari*, triple-pinnated with an odd feuillet.

2. LEAVES, as to determination.—Fig. 118. *Inflexum*, incurvated. Fig. 119. *Erectum*, erect. Fig. 120. *Patens*, patent, or expanding. Fig. 121. *Horizontale*, horizontal. Fig. 122. *Reclinatum*, or *reflexum*, reclined, or reflex. Fig. 123. *Revolutum*, revolute. Fig. 124. *Seminale*, ſeminal leaves, or ſeed leaves. Fig. 125. *Caulinum*, cauline or ſtem leaf. Fig. 126. *Rameum*, a branch-leaf. Fig. 127. *Florale*, floral; leaf next the flower; alſo termed a *bractea*, or *ſpangle*. Fig. 128. *Peltatum*, peltated. Fig. 129. *Petiolatum*, petiolated. Fig. 130. *Seſſilè*, ſeſſile, or ſitting. Fig. 131. *Decurrens*, decurrent. Fig. 132. *Amplexicaulè*, amplexicaule. Fig. 133. *Perfoliatum*, perfoliate. Fig. 134. *Connatum*, connate. Fig. 135. *Vaginans*, ſheathing. Fig. 136. *Articulatum*, articulated, or jointed. Fig. 137. *Stellatum*, ſtellated, or verticillated. Fig. 138. *Quaterna*, *quina*, *ſena*, &c. denote different ſpecies of ſtellated, or verticillated leaves, when there are four, five, ſix, &c. leaves in one verticillus, or whirl. Fig. 139. *Oppoſita*, oppoſite. Fig. 140. *Alterna*, alternate. Fig. 141. *Aceroſa*, linear, and perſiſting. Fig. 142. *Imbricate*, imbricated, or tyled. Fig. 143. *Faſciculata*, faſciculated, or penciled. Fig. 144. *Frons*, a ſpecies of ſtalk, or trunk, conſiſting of branches and leaves, and ſometimes the fructification, all united together; peculiar to the Filices, or Ferns, and the Palmæ. Fig. 145. *Folium ſpatulatum*, (Sauv.) ſpatulated, or roundiſh above, with a long linear baſe. Fig. 146. *Folium parabolicum*, parabolical; having its longitudinal diameter longer than the tranſverſe, and growing narrower from the baſe till it terminate ſomewhat like an oval.

3. CAULES, or STEMS.—Fig. 147. *Culmus ſquamoſus*, a ſcaly culm, or ſtalk. Fig. 148. *Caulis repens*, a repent or creeping ſtalk, or ſtem; appropriated to herbaceous plants. Fig. 149. *Scapus*, ſcape. Fig. 150. *Calmus articulatus*, a jointed culm (147), or ſtalk. Fig. 151. *Caulis volubilis*, a twining ſtem. Fig. 152. *Caulis dichotomus*, a dichotomous, or two-forked ſtem. Fig. 153. *Caulis brachiatus*, brachiated. Pl. CVI.

4. FULCRA, or SUPPORTS.—Fig. 154. a *Cirrhus*, a claſper, or tendril; b, *Stipulæ*, the little ſcales at the baſe of the petiole, or foot-ſtalk of the leaf, or at the baſe of the peduncle, or flower-ſtalk; c, *Glandulæ concavæ*, ſmall hollow glands for the ſecretion of ſome particular fluid. Fig. 155. a, *Glandulæ pedicellatæ*, ſmall pedicellate glands. Fig. 156. a, *Bractea*, a ſpangle, or flower-leaf, differing from the other leaves of the plant. Fig. 157. a, *Spina ſimplex*, a ſimple, or one-pointed ſpine. b, *Spina triplex*, a triple, or three-pointed ſpine. Fig. 158. *Aculeus ſimplex*, a ſimple, or one-pointed prickle. Fig. 159. *Aculeus triplex*, a triple or three-pointed prickle. Fig. 160. *Folia oppoſita*, oppoſite leaves; a, the *axilla*, or angle betwixt the leaf and the ſtalk.

5. ROOTS.—Fig. 161. *Bulbus ſquamoſus*, a ſcaly bulb. Fig. 162. *Bulbus ſolidus*, a ſolid bulb. Fig. 163. *Bulbus tunicatus*, a tunicated, or coated bulb. Fig. 164. *Radix tuberoſa*, a tuberous root. Fig. 165. *Radix fuſiformis*, fuſiform, or ſpindle-ſhaped. Fig. 166. *Radix ramoſa*, a branchy root. Fig. 167. *Radix repens*, a repent, or creeping-root.

ARRANGEMENT and RECAPITULATION of the BOTANICAL TERMS uſed in the *Linnæan Syſtem*.

THE ARRANGEMENT.

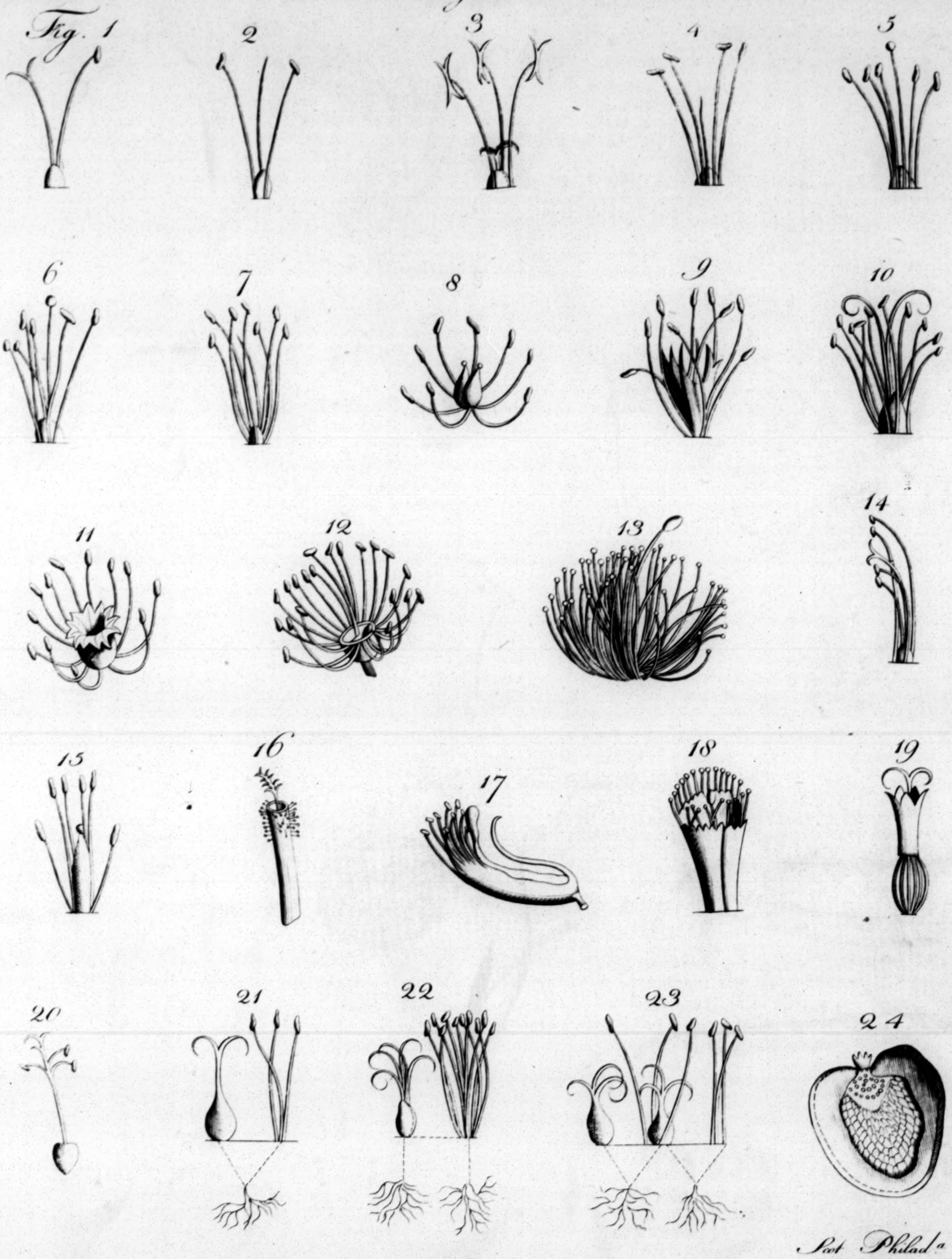
I. Names of parts.

GENERAL TERMS applicable to all parts whatever.

II. Terms expreſſing the mode of Duration.
III. of Magnitude.
IV. of Subſtance.
V. of Diviſion.
VI. of Direction.
VII. of Figure; as,
  1. of Surfaces.
  2. of Solids.
  3. of Similitude.

BOTANY
Claſses

Plate CII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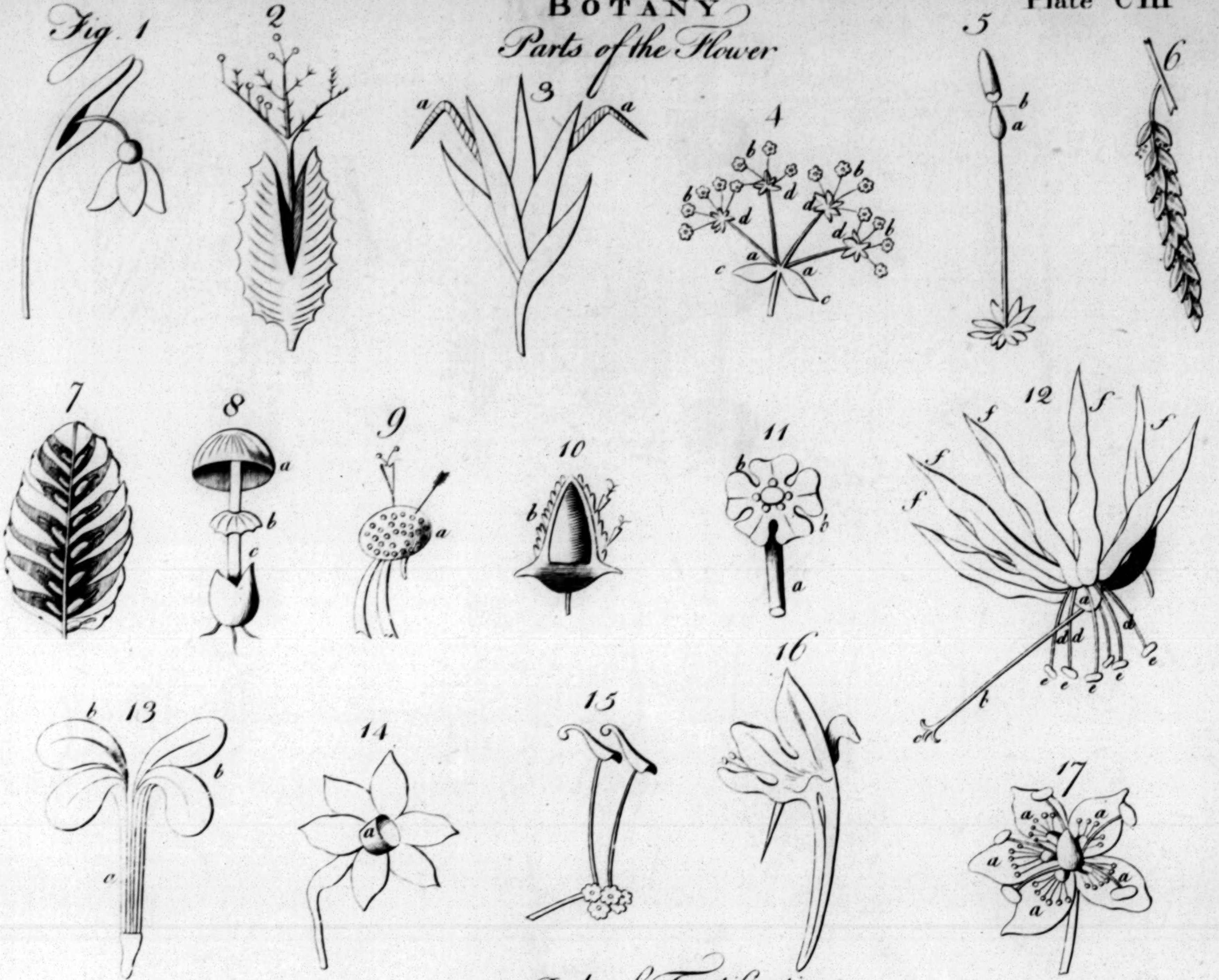
Scot Philad^{a}

BRITISH MUSEUM

BOTANY

Parts of the Flower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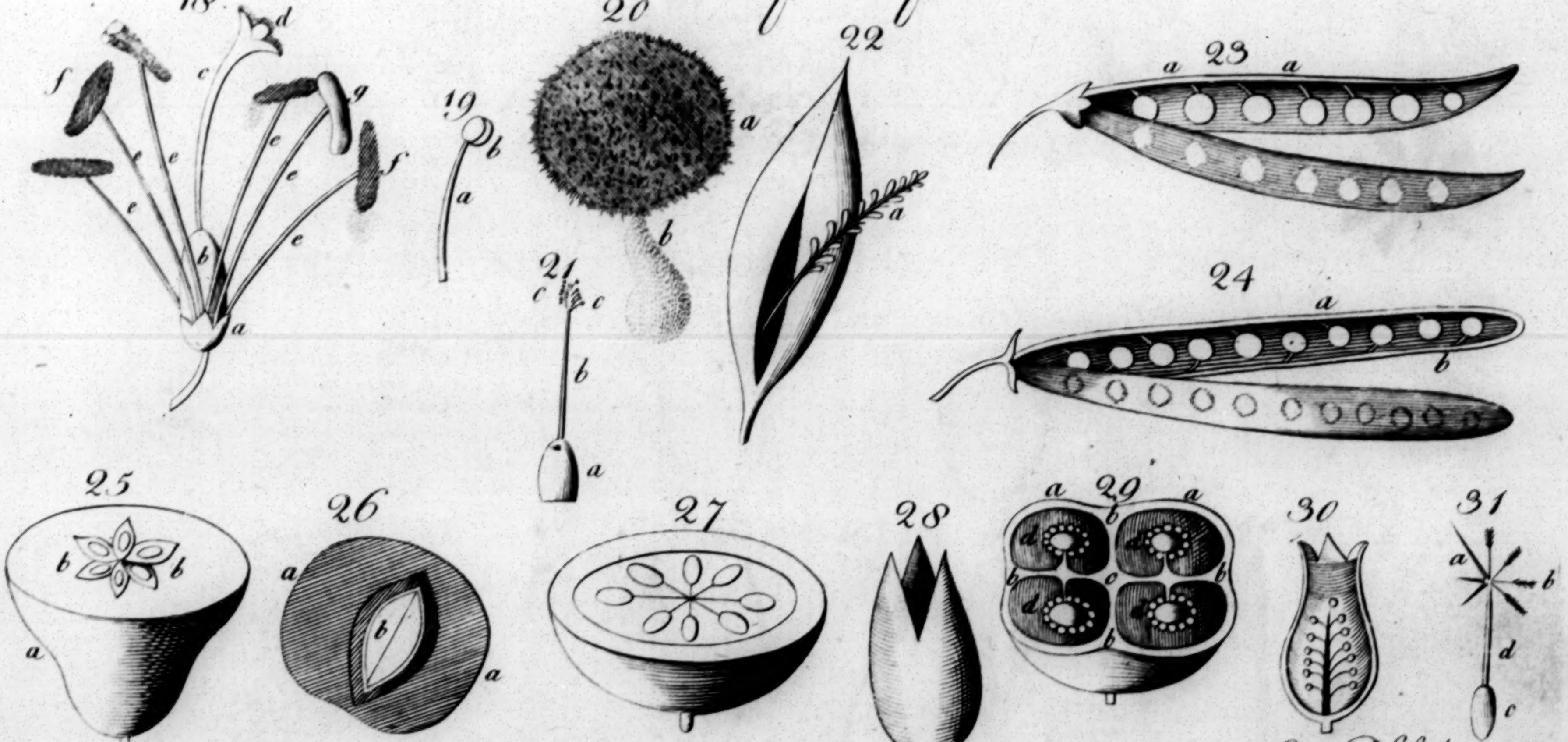
Parts of Fructification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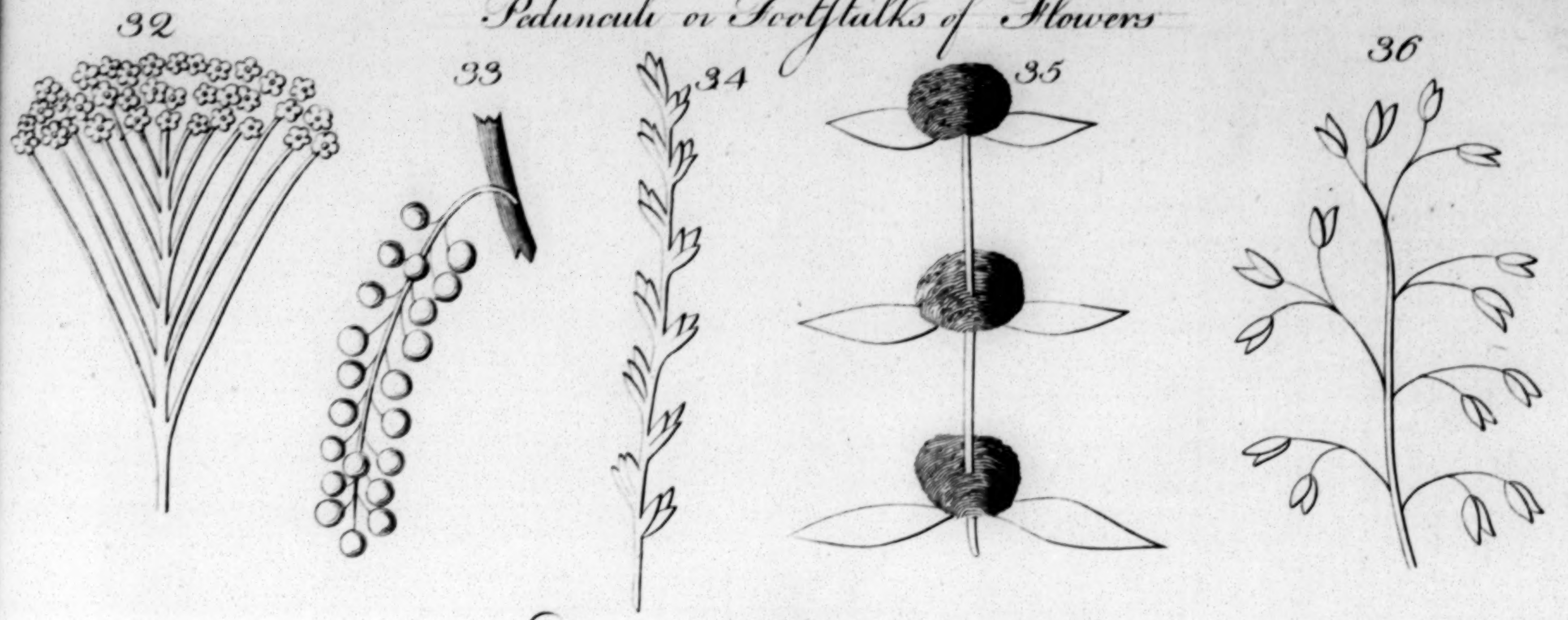
BOTANY

Plate CIV

Pedunculi or Footstalks of Flowers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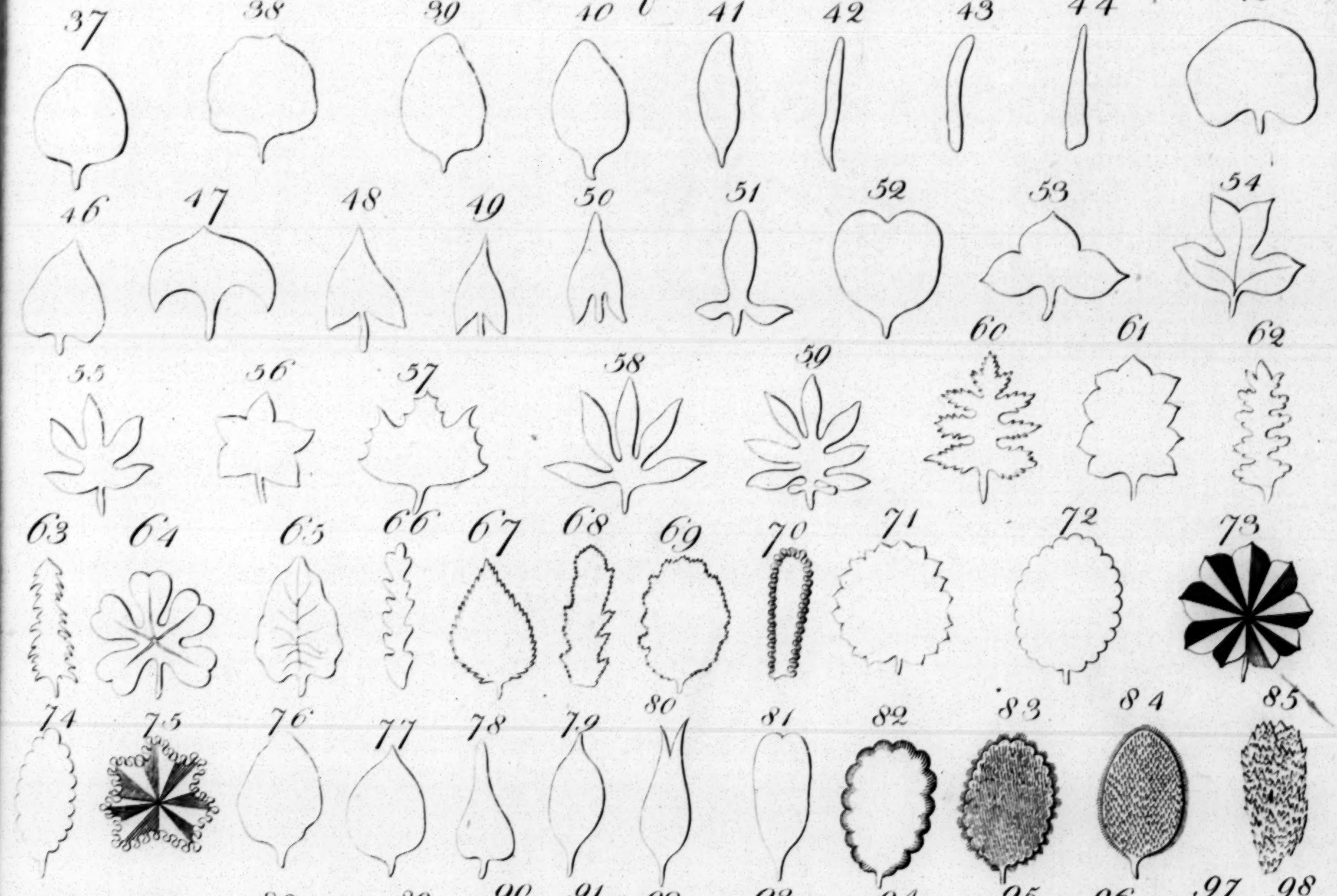
Leaves as to figure A Simple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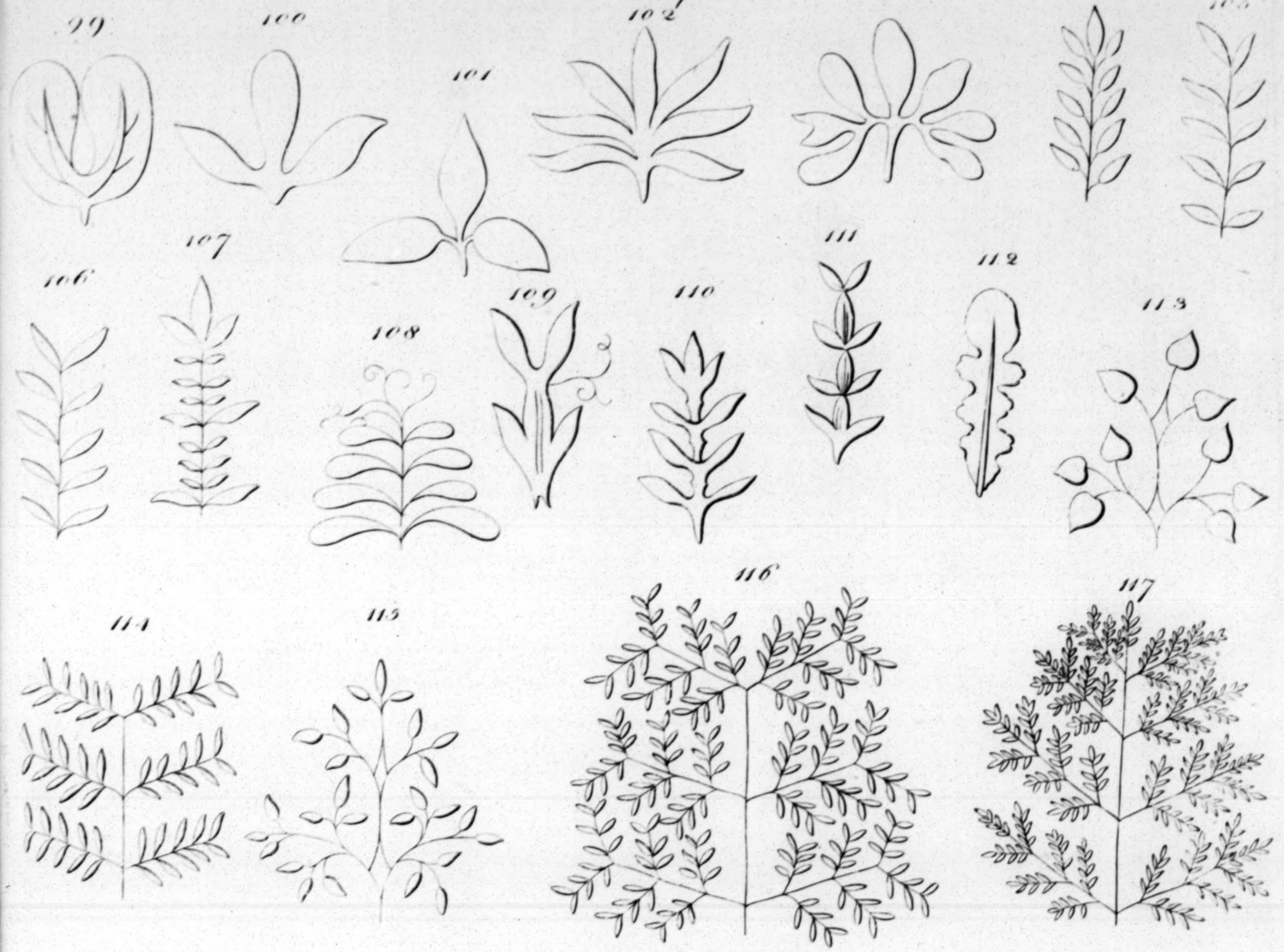
BOTANY

Plate CV

B *Leaves Compound*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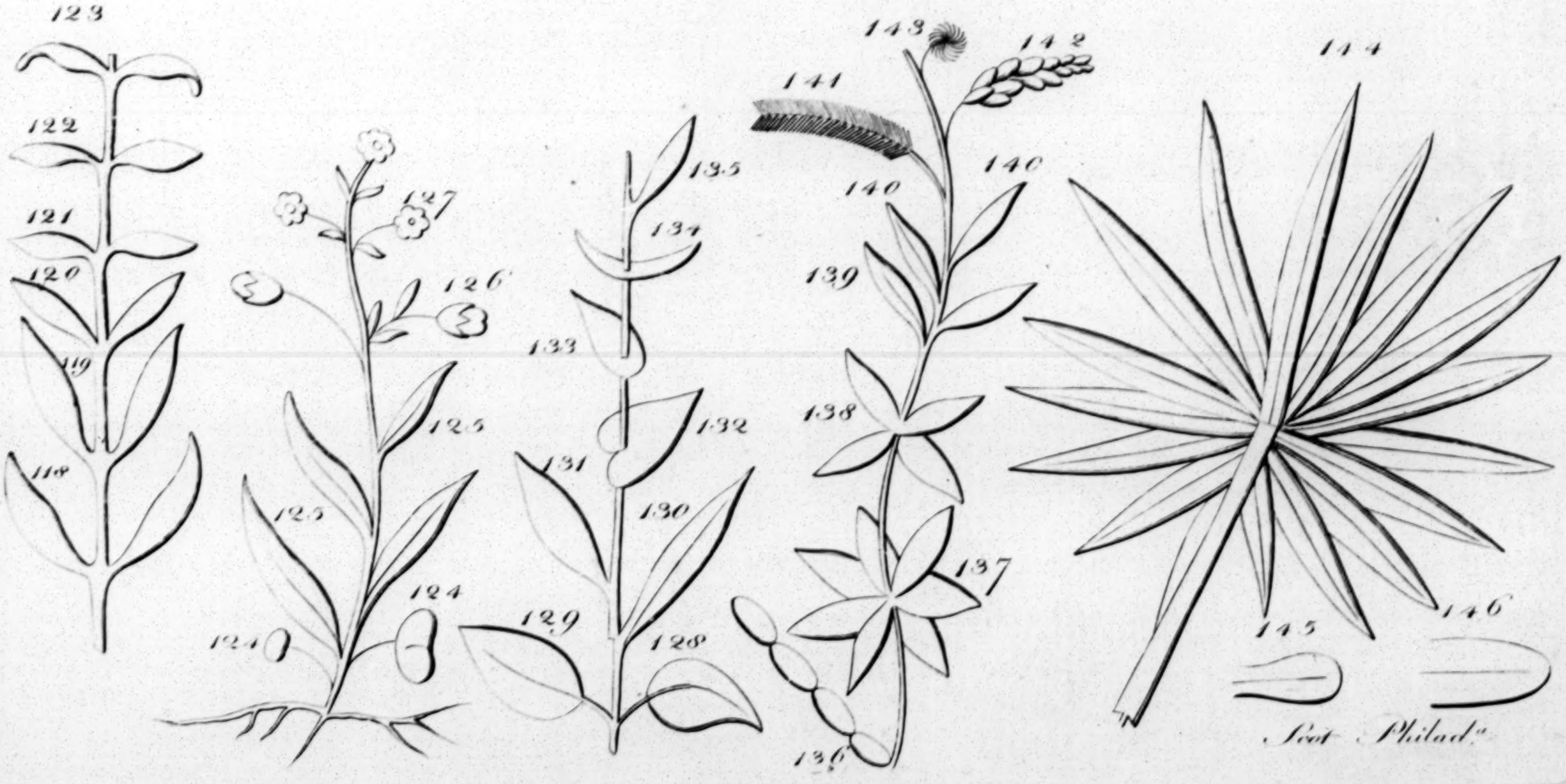
Leaves, as to determination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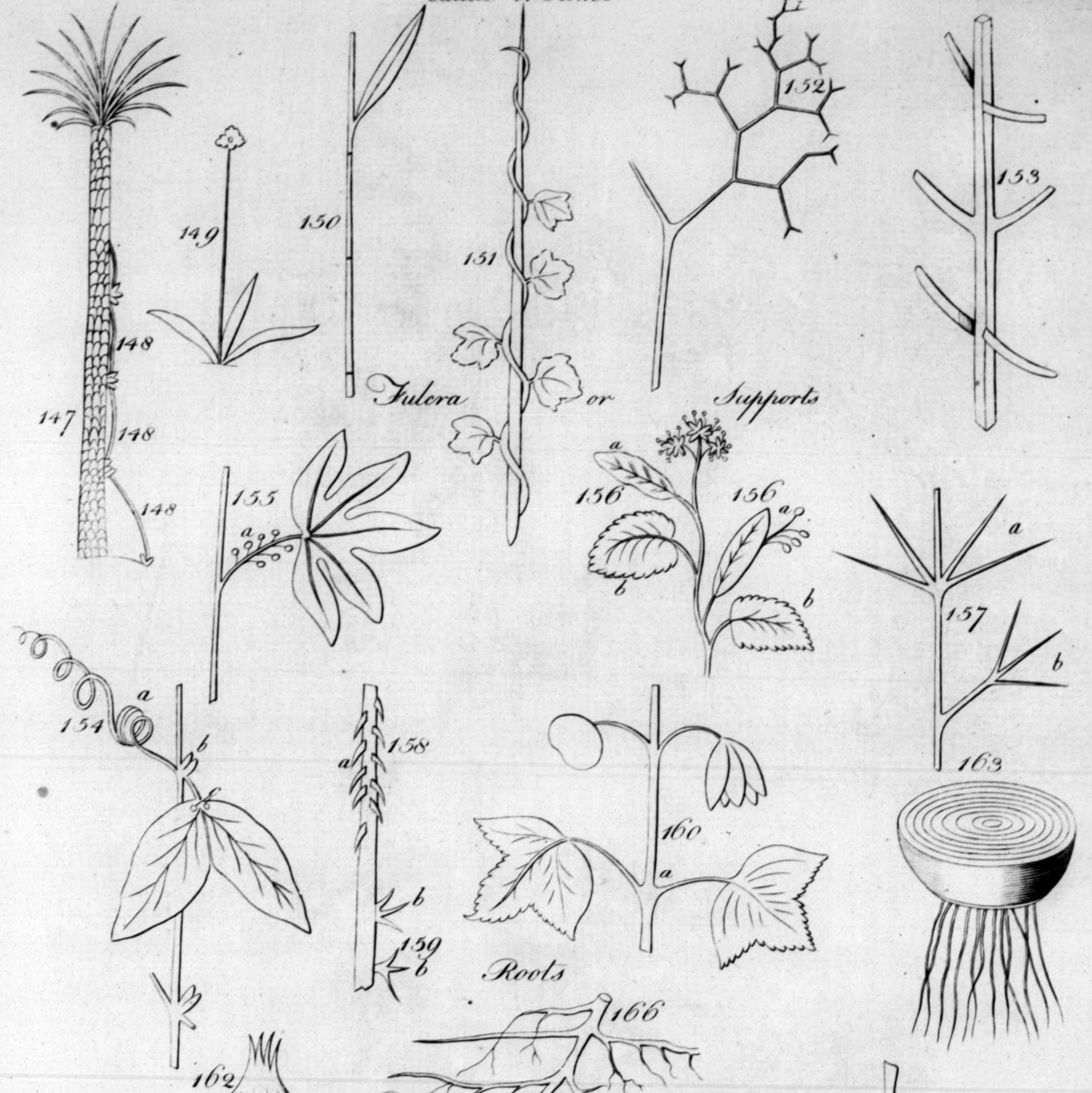
BOTANY

Plate CVI

Caules or Stems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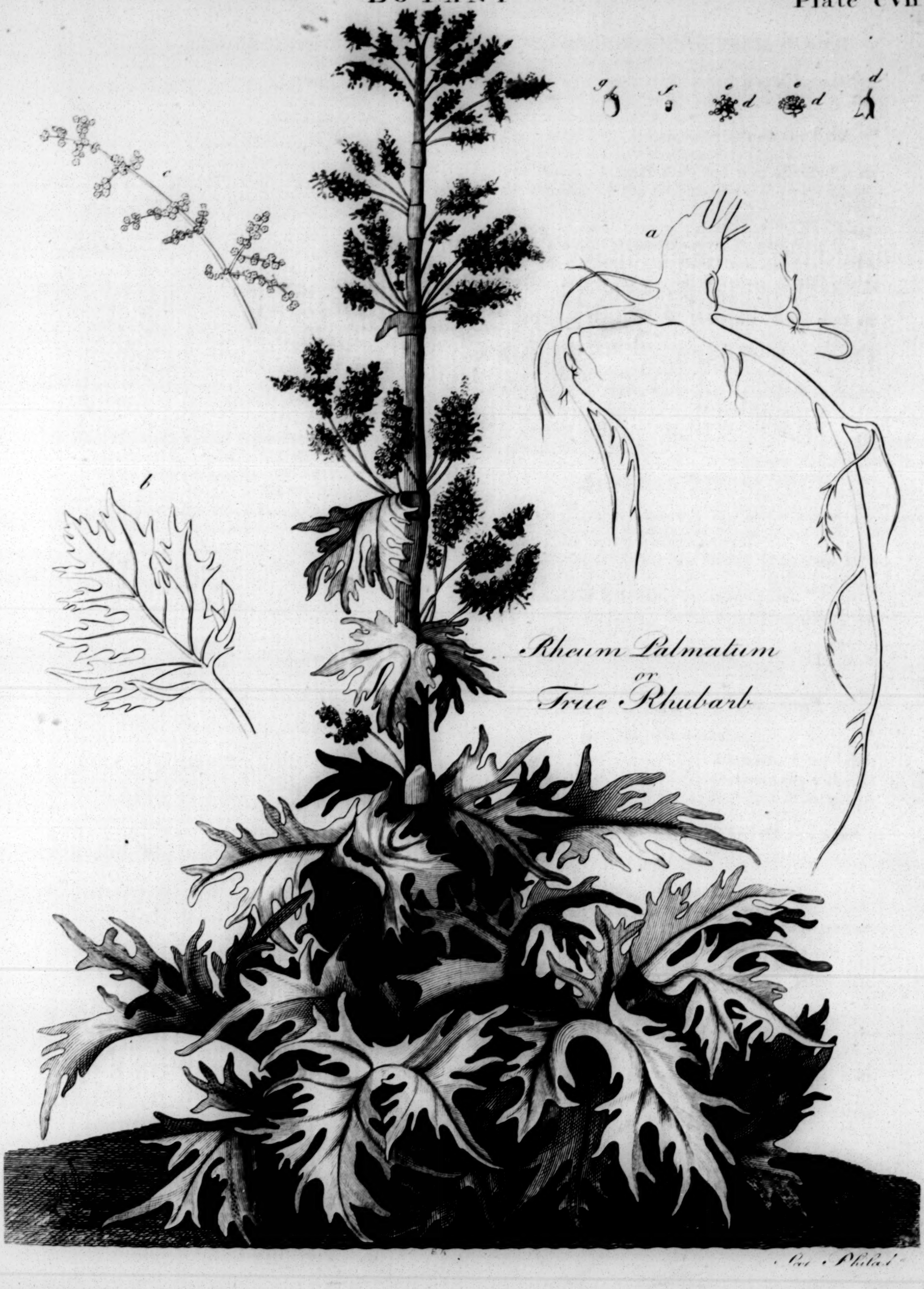
BRITISH MUSEUM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Rheum Palmatum
or
True Rhubarb

Scot Philad

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VIII. Terms expreſſing the mode of Expanſion.
IX. of Place.
X. of Situation.
XI. of Surface.
XII. of the Margin.
XIII. of the Point or Top

Special Terms, or ſuch as agree or are applicable only to certain Parts.

XIV. Terms applicable to the Root.
XV. the Trunk.
XVI. the Petiole.
XVII. the Leaf; as being either
- 1. Simple; or
- 2. Compound, Decompound, or Supradecompound.

XVIII. the Down, Hair, &c.
XIX. the Armour.
XX. the Floral-leaves.
XXI. the Peduncle.
Under this are included the Infloreſcence and its different modes.
XXII. Terms applicable to the Fructification.
Under this are included,
- 1. The calyx or cup.
- 2. The corolla, or coloured part of the flower.
- 3. The ſtamina, or chives.
- 4. The piſtillum.
- 5. The pericarpium, or ſeed-caſe.
- 6. The ſeed.
- 7. The receptacle.

XXIII. Terms applicable to the Vernation.
XXIV. Additional Terms.

N° I. *The* Parts *of a* Plant *are*,

1 The root, the organ that nouriſhes the plant.
2 The trunk or ſtalk, the organ that multiplies it.
3 The branches, or diviſions and ſubdiviſions of the ſtalk.
4 The petioles, or ſtalks that ſupport the leaves (6).
5 The peduncles or ſtalks that ſupport the fructification.
6 The leaves, which are the organs of motion to the plant.

The Fructification, conſiſting of the Flower and the Fruit.

The *Parts* of a *Flower* are,

7 The cup, or outer rind of the plant, continued to, and preſent in the fructification.
8 The corolla, or inner rind of the plant, continued to, and preſent in the coloured part of the flower, fig. 11.
9 The ſtamina, or chives, the organs deſtined for the preparation of the pollen (332) or flower-duſt, fig. 18. f, f.
10 The piſtil, or organ adhering to the fruit, for the reception of the pollen, f. 18. c d.

The *Parts* of the *Fruit* are,

11 The pericarpium, or ſeed-caſe; the bowel or organ containing the ſeeds (12), which, when ripe, it lets go, f. 23, 24, 28.
12 The ſeed, or rudiment of a new plant, ſuppoſed to be vivified by the irrigation or ſprinkling of the pollen or flower-duſt, f. 27.
13 The receptacle, or baſe with which the parts of the fructification are connected, f. 9, a.
14 The ſtipula, or ſmall ſcaly leaf that uſually ſtands at the baſe of the petioles when they are riſing, fig. 154. b.
15 A cirrhus, tendril, or ſpiral thread by which a plant is tied to any neighbouring body, fig. 154. a.
16 A bractea, ſpangle, or floral leaf, differing in its appearance from the other leaves of the plant, fig. 156. a. a.
17 The pubes, the down or hairyneſs of any ſort on plants.
18 Arma, the armour or ſharp points that defend a plant from being hurt by animals.
19 A blub, the winter habitation of a plant, conſiſting of the remains of its former leaves.
20 A gem or bud, conſiſting of the rudiments of the plants future leaves.

GENERAL TERMS.

N° II. *The* Duration *of a Plant is either*,

21 Annual, or dying within one year.
22 Biennial, or flowering the ſecond year, and then dying.
23 Perennial, or flouriſhing for many years.
24 Caducous, or falling down and dying before the end of one ſeaſon.
25 Deciduous, dying at the end of one ſeaſon.
26 Perſiſting, not dying after one ſeaſon.
27 Sempervirent, evergreen, or remaining freſh and green through all the ſeaſons of the year.

N° III. Magnitude.

"I very ſeldom admit," ſays Linnæus, "any other than the proportional meaſure between the different parts of plants, while this or that part is longer or ſhorter, broader or narrower, than another."

Phil. Bot. p. 262.

N° IV. Substance *is either*,

28 Solid, filled internally with hard matter.
29 Inane, filled only with ſpongy matter.
30 Pulpous, filled with tenacious or glutinous matter.
31 Carnous, or fleſhy, filled with a hardiſh pulp.
32 Cartilaginous, conſiſting of griſtly matter.
33 Membranaceous, conſiſting of dry and ſkinny matter.
34 Fiſtulous, tubulated or hollow within.

N° V. Division *is either*,

35 Fiſſured, or divided by linear (70) notches, with ſtraight (42) margins, f. 52.
36 Bifid, trifid, &c. to quinquefid, according to the number of fiſſures.
37 Partite, divided almoſt to the baſe.
38 Bipartite, tripartite, &c. to quinquepartite, according to the number of diviſions.
39 Lobate, or lobed, divided down to the middle into parts ſtanding aſunder, fig. 55.

40 Sinuated, admitting of wide ſinuſes or notches on the ſides, f. 61, 62, 63.

41 Dichotomous, trichotomous, &c. divided ſucceſſively into two, three, or more parts, fig. 152.

N° VI. DIRECTION *is either*,

42 Right, or ſtraight, free of bendings.

43 Erect, riſing nearly to a perpendicular, f. 119.

44 Oblique, departing from a perpendicular, or horizontal line.

45 Aſcending, or turned archwiſe upward.

46 Declining, or declined, turned archwiſe downward.

47 Incurvated, turned archwiſe inward.

48 Nutant, nodding, having the point turned outward.

49 Reflex, having any part turned backward.

50 Revolute (377) rolled back into a ſpiral line.

51 Procumbent, weak and leaning on the ground.

52 Flexuoſe, bent hither and thither.

The following terms reſpect chiefly the direction of branches (3).

53 Patent, expreſſes the direction of an acute angle,

54 Diverging, parting at a right angle.

55 Divaricated, expreſſes the direction of an obtuſe angle.

56 Dependent, looking ſtraight to the ground.

57 Diſtich, or diſtichated [flowers, leaves, or branches] turning to the two ſides, though inſerted all round.

58 Sequent, turning all to one ſide.

59 Appreſt, approaching ſo as to be almoſt parallel to the ſtalk or trunk.

60 Coarctate, almoſt incumbent towards the top.

61 Diffuſe, having ſmall patent (53) branches.

N° VII. FIGURE *is that, either of* Surfaces, *or* Solids, *or* Similitudes.

1. The figure of *Surfaces* is either,

62 Orbicular, of a circular form, f. 37.

63 Subrotund, almoſt circular; and Subgloboſe, almoſt ſpherical, fig. 38.

64 Ovate, having its longitudinal diameter longer than the tranſverſe, with the baſe terminated by a ſegment of a circle, and the top narrower, f. 39.

65 Parabolical, reſembling a parabola.

66 Elliptical, reſembling an ellipſe or oval, f. 40.

67 Cuneiform, wedge-ſhaped, growing by degrees narrower toward the baſe.

68 Oblong, having the longitudinal diameter any number of times longer than the tranſverſe diameter, f. 41.

69 Lanceolate, oblong (68), and attenuated (75) on either end, f. 42.

70 Linear, everywhere of equal breadth, f. 43.

71 Triangular, quadrangular, &c. according to the number of angles, f. 48.

72 Rhombeous, or rhomboidal, of the ſhape of a rhombus.

73 Trapeziform, of the ſhape of a trapezium.

2. The figure of *Solids* is either,

74 Filiform, everywhere of equal thickneſs.

75 Attenuated, gradually loſing its thickneſs towards the point.

76 Subulated, awl-ſhaped; linear, but attenuated towards the point.

77 Clavated, club-ſhaped, growing thicker towards the point or top.

78 Turbinated, top-ſhaped like an inverted cone.

79 Globoſe, globular, like a ſphere.

80 Conical, reſembling a cone.

81 Teres, round, like a cylinder, f. 98.

82 Semiteres, half round, ſemicylindrical.

83 Anceps, two-edged, having the two oppoſite angles acute.

84 Trigonous, tetragonous, &c. having three, four, &c. prominent longitudinal angles.

85 Triquetrous, having three exactly plain ſides (109).

86 Gibbous, or gibboſe, having both upper and under ſurface convex, by reaſon of a more copious pulp (30) intervening.

87 Compreſſed pulpous (30), having the edges flatter than the diſk or middle.

88 Depreſſed pulpous, having the diſk flatter than the edges.

89 Lingulated, tongue-ſhaped; linear (70), carnous (31), convex (112), below.

90 Enſiform, ſword-ſhaped, ancipitous (83), gradually attenuated, or tapering from the baſe to the top.

91 Acinaciform, ſabre-ſhaped, compreſſed (87), carnous, having the one edge convex and thin, and the other ſtraighter and thicker, fig. 92.

92 Dolabriform, hatchet ſhaped, compreſſed, ſubrotund (63), gibbous on the outſide (86), with the edge ſharp, and roundiſh below, f. 93.

The tubulated figures that are moſtly applied to the corolla, are,

93 Infundibuliform, funnel-ſhaped, an inverted cone placed upon a tube.

94 Campanulated, bell-ſhaped, ventricoſe (107), without any tube.

95 Inflated, hollow, and as it were blown up like a bladder.

96 Rotated, wheel-ſhaped, plain, and not placed on a tube.

3. The figure of *Similitudes* is either,

97 Cordate, heart-ſhaped, ſubovate, having a notch cut out of the baſe, without any poſterior angles, f. 46.

98 Reniform, kidney-ſhaped, ſubround (63), having a notch cut out of the baſe, without poſterior angles, f. 45.

99 Lunular, creſcent-ſhaped, ſubrotund, having the baſe notched, with acute poſterior angles, f. 47.

100 Sagittated, arrow-ſhaped, triangular (71), having acute poſterior angles ſeparated by a blunt notch, f. 49, 50.

101 Haſtated, halberd-ſhaped, ſagittated (100), having the poſterior angles divided by a blunt notch, and prominent towards the ſides, f. 51.

102 Lyrated, lyre-ſhaped, divided acroſs into laciniæ, or ſegments of no determinate form, whereof the under ones are leſſer and more remote from one another than the upper ones, f. 112.

103 Runcinated, pinnatified (*i. e.* divided acroſs into horizontal oblong ſegments), in ſuch ſort that the ſegments are convex on the fore ſide and tranſverſe behind, *e. g.* the dandelion.

104 Panduriform, pandour-ſhaped, oblong, and coarctated or narrowed below.

105 Spathulated, ſubrotund or roundiſh, with a linear and narrower baſe.

106 Palmated, divided paſt the middle into lobes nearly equal, f. 58.

107 Ventricoſe, gibbous or ſwelling out on the ſides.

108 Deltoid, rhomboidal (72), conſiſting of four angles, of which the lateral ones are leſs diſtant from the baſe than the other two; as the leaves of the black popular. See alſo the figure of the ancient *delta* of the Greeks.

N° VIII. EXPANSION *is either,*

109 Plain, having an equal ſurface.

110 Canuliculated, hollowed above with a deep longitudinal furrow, f. 96.

111 Concave, by the margin being leſs in proportion than the diſk, and the diſk of courſe depreſſed or puſhed downwards.

112 Convex, by the margin being leſs in proportion than the diſk, ſo that the diſk is elevated or puſhed upwards.

113 Cucullated, cowl-ſhaped, having the edges folded or curling inwards at the baſe, and ſpreading at the top like a cowl.

114 Undated, waved, having the diſk alternately bending up and down in obtuſe plaits.

115 Criſped, curled, by having the margin ſo luxuriant that the diſk becomes longer than its rachis (283) or quill.

N° IX. PLACE.

1. A *Leaf* is either,

116 Radical, growing out of the root.

117 Cauline, growing on the caulis (197) or ſtalk, f. 125.

118 Ramous, growing on a branch, f. 126.

119 Axillary, placed under the baſe of a branch.

120 Floral, next the flower. See Def. 16. f. 127.

2. A *Stipula*, or *ſcale*, is either,

121 Lateral, inſerted into the ſide of a petiole.

122 Extrafoliaceous, placed below a leaf.

123 Intrafoliaceous, placed above a leaf.

124 Oppoſitifolious, placed on the ſide of the ſtalk oppoſite to a leaf.

3. A *Cirrhus*, or *tendril*, is either,

125 Petiolar, growing out of a petiole or leaf-ſtalk.

126 Peduncular, growing out of a peduncle or flower-ſtalk, &c. &c.

N° X. *The* SITUATION *of the Parts of a Plant is either,*

127 Oppoſite, when the leaves, &c. are placed in decuſſated (129) or croſs pairs, f. 114, 116.

128 Alternate, growing all round a ſtalk or branch one after another gradually, f. 140.

129 Decuſſated, placed oppoſite in ſuch a manner, that if one look down from the top of the plant, the leaves, &c. repreſent four diſtinct rows.

130 Verticillated, whirled; leaves, flowers, &c. ſurrounding the ſtalk or trunk at the joints in great number like a whirl, f. 35.

131 Bifarious, leaves, &c. growing only on the oppoſite ſides of a ſtalk or branch.

132 Sparſe, placed without any certain order.

133 Faſciculated, pencilled, growing in numbers out of the ſame point like a pencil, f. 143.

134 Confert, cloſe-ranged, leaves, &c. almoſt covering the whole ſurface.

135 Diſtant, parts remote from one another.

136 Terminal, placed at the top.

N° XI. *A* SURFACE *is either,*

137 Naked, deſtitute of ſetæ (245) or briſtles, and pili (240) or hairs.

138 Levigated, ſmooth, of an equal plainneſs. The ſame with plain (109).

139 Glabrous, of a ſlippery nature.

140 Nitid, ſlippery and ſhining.

141 Lucid, as if it were illuminated.

142 Coloured, of a colour different from green (when that is the natural colour).

143 Lineated, lined, the nerves being depreſſed.

144 Striated, gently furrowed in parallel lines.

145 Sulcated, furrowed in deep lines, f. 97.

a. Alveolated, honey-combed, a receptacle deeply pitted ſo as to reſemble a honey-comb.

b. Hiſpid, any ſurface planted with ſtiff ſhort hairs, f. 85.

c. Rimoſe, full of rents or chinks.

[*The following terms, to 156, belong chiefly to Leaves.*]

146 Nervous, having unconnected ſmall veſſels, reſembling nerves, running from the baſe to the top, f. 89.

147 Trinerved, having three ſmall nerves meeting at the baſe.

148 Triplinerved, having three nerves meeting above the baſe.

149 Trinervated, having three nerves meeting below the baſe.

150 *Enervis*, nerveleſs, the oppoſite to nervous.

151 Venous, having veins or ſmall veſſels divided variouſly, without any regular order.

152 *Avenis*, veinleſs, the oppoſite to venous.

153 Rugoſe, wrinkled, full of wrinkles, f. 87.

154 Bullated, having the ſurface, from being rugoſe, raiſed up in the form of bubbles, by the veins being contracted, the other ſide by that means becoming concave.

155 Lacunous, pitted, by the diſk being depreſſed between the interſperſed veins.

156 Punctated, beſprinkled with hollow points.

157 Papillous, covered with carnous or fleſhy points, f. 90.

158 Papulous, covered with veſicular or bladder-like points.

159 Viſcid, beſmeared with a gluey moiſture.

160 Tomentoſe, covered with fine down interwoven together, hardly to be diſcerned, f. 84.

161 Villous, covered with ſoft hairs. See *Villi* (241).

162 Sericeous, ſilky, covered with very fine hairs laid cloſe down.

163 Lanated, woolly, covered as it were with a cobweb (or ſpontaneouſly curled hairs). See *Lana* (242).

164 Piloſe, hairy, covered with long diſtinct hairs. See *Pili* (240), and f. 83.

165 Bearded, covered with parallel hairs. See *Barba* (243).

166 Setaceous, briſtly, ſet or covered with Briſtles. See *Seta* (245).

167 Scabrous, having hard prominent points cauſing a roughneſs to the touch.

168 Aculeated, armed with prickles fixed only to the bark. See *Aculei* (253).

169 Strigoſe, having ſtiff lanceolated (69) prickles. See *Strigæ* (244).

170 Paleaceous, chaffy, covered with dry ſcales reſembling chaff. See *Palea* (246).

171 Muricated, beſprinkled with ſubulated points.

172 Spinous, thorny, beſet with ſpines, or prickles riſing out of the wood of the plant.

173 Burning, beſet with ſtimulating and inflaming points, as the nettle, &c.

Nº XII. *A* Margin *is either,*

174 Entire, linear without the leaſt dent or notch.

175 Crenated, having notches without reſpect to the extremity, f. 74.

176 Serrated, ſaw toothed, all the notches and teeth looking towards the extremity, f. 67, 68.

177 Ciliated, having parallel briſtles ſet in a row lengthwiſe, like eye-laſhes.

178 Dentated, toothed, with the points patent and aſunder, f. 66.

179 Repand, having a plain ſerpentine form, f. 65.

Nº XIII. *An* Apex *or Point is either,*

180 Obtuſe, terminated within the ſegment of a circle, f. 76.

181 Emarginated, terminated by a notch, f. 80, 81.

182 Retuſe, terminated by a round boſom.

183 Truncated, terminated by a tranſverſe line.

184 Acute, terminated by an acute angle, f. 77.

185 Acuminated, terminated by a ſubulated or awl-ſhaped point, f. 78.

186 Cuſpidated, terminated by a briſtle or prickle.

SPECIAL TERMS.

Nº XIV. *A* Root *is either,*

187 Fibrous, conſiſting wholly of ſmall fibres.

188 Bulbous, furniſhed with a bulb (19).

189 1. Solid (28).

190 2. Scaly, with the ſcales imbricated (390).

191 3. Tunicated, having coats above coats.

192 Tuberous, conſiſting of fleſhy parts connected by threads to the baſe.

193 Faſcicular, conſiſting of fleſhy parts connected to the baſe without the intervention of threads.

194 Granulated, compoſed of ſmall fleſhy particles.

195 Fuſiform, ſpindle-ſhaped, ſingle and tapering, f. 165.

196 Repent, running out a great way, and budding here and there.

Nº XV. *A* Trunk *is,*

197 1. A ſtem or ſtalk (f. 147, 148), a trunk ſupporting both the fructification and the leaves.

198 2. A culm, proper to graſſes, f. 147.

199 3. A ſcapus or ſhaft: a trunk ſupporting the fructification, but not the leaves, f. 149.

200 4. A ſtipes or ſtock; a trunk changing into leaves.

201 Scandent, climbing, but needing the ſupport of other bodies.

202 Voluble, twining, aſcending (45) in a ſpiral line by the aſſiſtance of other bodies.

203 Repent, creeping, lying on the ground and ſending out roots here and there. See 196, f. 167.

204 Sarmentoſe, full of twigs, filiform, with rooting joints.

205 Stoloniferous, putting forth young ſhoots at the root, or tillering.

206 *Simpliciſſimus*, very ſimple, having ſcarcely any branches.

207 *Simplex*, ſimple, extended in a continued ſeries towards the top.

208 Entire, with the branches gathering inwards.

209 Proliferous, putting forth branches only from the middle of the top.

210 Subramoſe, having only a few lateral branches.

211 Ramoſe, having many lateral branches.

212 *Ramoſiſſimus*, very ramoſe, loaded with numerous branches, without any determinate order.

213 Virgated, having ſmall weak pliant branches of unequal length.

214 Panicled, having branches variouſly ſubdivided.

Nº XVI. *A* Petiole *is either filiform, or,*

215 Alated, winged, dilated on the ſides.

216 Spineſcent, hard and pricking.

Nº XVII. *A* Leaf *is either ſimple or compound.*

A. *A ſimple Leaf*, f. 37 to 43, *may be,*

217 Submerſed, hid under the face of water.

218 Natant, ſwimming, lying on the ſurface of the water.

219 Acerous, chaff-like, linear and perſiſtent (26), f. 141.

The Inſertion of Leaves.

220 Petiolated, having a petiole inſerted at its baſe, f. 129.

221 Peltated, or targetted, having the petiole in the diſk of the leaf, f. 128.

222 Adnate, connected with the branches at the baſe on the upper ſide.

223 Connate, having the oppoſite pairs united at the baſe on each ſide, f. 134.

224 Coadunate, having more than two united.

225 Decurrent, having the baſe of the leaf running along the ſtalk downwards, f. 131.

226 Amplexicaul, having the baſe ſurrounding or embracing the ſtalk, f. 132.

227 Perfoliated, having the baſe ſurrounding the ſtalk ſtraight acroſs, without any opening before, f. 133.

228 Vaginating, or ſheathing, having the baſe forming a tube that covers the ſtalk, f. 135.

B. 1. *A Leaf is called Compound, when the ſame Petiole produces more Leaves than one. It is*

229 Articulated, jointed, when one leaf grows out of the top of another, f. 111.

230 Digitated, when a ſimple petiole connects leaflets or ſmall leaves at the top. Binate, ternate, &c. are modifications of this according to the number of leaflets thus connected, f. 102.

231 Pedated, when a bifid or forked petiole connects ſeveral leaflets only by the interior ſide, f, 103.

232 Pinnated, or feathered, when a ſimple petiole connects any number of leaflets to its ſides. Bijugous (double-paired), quadrijugous (four-paired), &c. when only four, eight, &c. &c. leaflets are thus connected, f. 104—110.

Pinnated with an odd one, when terminated by a ſingle or odd leaflet.
  abruptly, when terminated neither by a tendril nor a leaflet.
  cirrhous, when terminated by a tendril (15).
  with oppoſite (127) leaflets.
  with alternate (128 leaflets.
  with interrupted leaflets, when the leaflets are alternately greater and ſmaller.
  with decurſive leaflets, or leaflets running down the petioles.

2. *A Decompound Leaf is either,*

233 Bigeminous, q. double-twin, leaves, when the petiole is dichotomous, or ſucceſſively divided into two, and every top carries a pair of leaflets.

234 Biternated, doubly ternated (230), f. 113.

235 Bipinnated, doubly pinnated (232), f. 114.

3. *A Supradecompound Leaf is either,*

236 Tergeminous, when the petiole being twice dichotomous, or divided into two, bears a pair of leaflets.

237 Triternated, thrice terrated, f. 115.

238 Tripinnated, thrice pinnated, f. 116.

Stipula, or Scale.
Cirrhus, or Tendril.

N° XVIII. Pubes, *the hair, wool, &c. of plants, is either,*

239 *Tomentum*, a flock, fine interwoven hairs (*villi,*) ſcarcely viſible. See 160, 241, and f. 84.

240 *Pili* (164), excretory ducts of a plant reſembling ſetæ or briſtles (166).

241 *Villi* (161), ſoft hairs.

242 *Lana* (163), curled thick hairs.

243 *Barba*, a beard, parallel hairs.

244 *Strigæ*, comb-teeth, ſtiff rigid plain hairs.

245 *Setæ*, briſtles, ſtiff round hairs.

246 *Palea* (170), a membranaceous ſcale (33).

247 *Hamus*, hook, an acuminated (185) crooked point.

248 *Glochis*, a point or prickle with many teeth turned backwards.

249 Glandule, a papilla, or ſmall gland ſecreting moiſture, f. 155. a.

250 Utricle, a ſmall veſſel full of ſecerned moiſture.

251. Viſcoſity, expreſſes the quality of tenacious moiſture.

252 Glutinoſity, expreſſes the quality of ſlippery humour.

N° XIX. Arma, *the arms of plants, are either,*

253 *Aculei*, prickles, pricking points affixed only to the bark.

254 *Furcæ*, forks, prickles (253) divided or forked.

255 *Spinæ* (172), thorns, points or prickles put forth from the wood of the plant, f, 157.

256 *Stimuli* (273), points producing inflammatory punctures, whereby the parts become itching.

N° XX. *A* Bractea, *or floral leaf.*

257 *Coma*, the bracteæ or ſpangles on the top of the ſtalk of ſome plants, remarkable in ſize compared to the other leaves.

N° XXI. *A* Peduncle *is either,*

258 Common, to more flowers than one.

259 Partial, bearing any number of flowers of the common peduncle.

260 A pedicle, proper to flowers in a common peduncle.

261 Cernuous, ſtooping, having the top looking to the ground.

262 Retrofract, broken backward, reduced to a depending ſtate as if by force.

263 Multiflorous, producing many flowers.

264 Inflorescence is the mode in which flowers are connected to the peduncle of a plant; and this is either,

265 1. *Verticillus*, a whirl, when a number of flowers ſurround the plant in a ring.

266 2. *Capitulum*, a knot, when a number of flowers are collected together in a form of a globe. It ſignifies alſo the upper parts of the fructification of moſſes.

267 3. *Faſciculus*, a bunch, when erect parallel flowers of equal height are collected together (392).

268 4. *Spica*, a ſpike, when ſeſſile alternate flowers are placed on a common ſimple peduncle. A ſpike is either,

269 Simple, continued and undivided.

270 Compound, when more ſmall ſpikes ſtand on one peduncle.

271 Glomerated, when the ſmall ſpikes are crowded together, without any certain order.

272 Interrupted, when the ſmaller ſpikes are placed alternately and diſtant one from another.

273 6. A *corymbus*, is formed of a ſpike (268), having every ſingle flower provided with a pedicle of its own, and the whole elevated to a proportionable height, f. 32.

274 6. *Racemus*, a cluſter, when the common peduncle has lateral branches, f. 33.

275 Unilateral, when all the flowers grow on one ſide.

276 7. *Panicula*, a panicle, when the flowers are ſparſe, and grow on peduncles variouſly divided f. 36.

277 8. *Thyrſus*, a panicle (276) gathered into an ovate (64) form.

278 *Umbella*, an umbel; a receptacle (13) lengthened out from one centre into filiform peduncles riſing to a proportionable height, ſo as to reſemble an umbrella above, f. 4. b b.

279 Simple, when all the peduncles ſpring out of one and the ſame receptacle.

280 Compound, when every peduncle carries a ſmall umbel on its top.

281 *Umbellula ſeſſilis*, a ſmall ſeſſile umbel, when a number of peduncles riſe from the ſame centre, and ſtand equally all around it.

282 *Cyma*, a receptacle riſing from the ſame general centre, with partial ones here and there, and lengthened into peduncles all equally high at top.

283 *Rachis*, a filiform receptacle connecting any number of florets into a long ſpike.

284 *Spadix*, the receptacle of a palm-tree riſing within a *ſpatha* or ſheath, and divided into fructifying branches, f. 2.

N° XXII. Fructification *is*,

285 The temporary part of a vegetable, deſtined to generation. And is either,

286 Simple, conſiſting of few flowers.

287 Compound, when a number of flowers are ſet together.

A. *Calyx*, the Cup.

288. 1. *Perianthium*, a cup contiguous to the fructification, f. 18.

289 —— of the fructification, containing the ſtamina (9) and the germen (333).

290 —— of the flower, containing ſtamina without a germen.

291 —— of the fruit, containing a germen without ſtamina.

292 —— *a*, Proper, belonging to any particular flower. And is either

293 —— Monophyllous, conſiſting only of one leaf.

294 —— Polyphyllous, conſiſting of a number of leaves.

295 —— Superior, having the germen below the receptacle.

296 —— Inferior, having the germen above the receptacle.

297 —— *b*, Common, containing a number of flowers ſet together.

298 —— Calyculated, a calyx or cup, having, as it were, another leſſer cup round its baſe

299 2. *Involucrum*, or wrapper, a cup remote from a flower, f. 4.

300 —— Univerſal, ſet under an univerſal umbel, (278) f. 4. a a.

301 —— Partial, ſet under a partial umbel, f. 4. d d.

302 —— Proper, ſet under any particular flower.

303 3. *Gluma*, a glume or chaff, the cup of any kind of graſs, conſiſting of valves embracing one another, f. 3. Either

304 —— Uniflorous, containing a ſingle flower.

305 —— Multiflorous containing any number of flowers.

306 Ariſta, or awn, f. a a. a tapering point growing out of the glume or chaff; either ſtraight, or

306 Tortile, twiſted like a cord.

308 4. *Amentum*, a catkin, conſiſting of a chaffy common receptacle like a gem or bud, f. 6.

309 5. *Spatha*, ſpath or ſheath, a cup opening longitudinally, f. 1.

310 6. *Calypra*, hood, the cowl ſhaped cup of ſome moſſes placed over the anthera (331) f. 5.

311 7. *Volva*, the membranaceous cup of a muſhroom.

—— a. *Perichetium*, a circular tuft of fine hair-like leaves ſurrounding the baſe of the filaments in the genus Hypnum.

B. *Corolla*, or coloured part of a flower.

312 Petal a part of a corolla when divided into more parts than one. f. 13. b b.

313 Tube, the inferior part of a monapetalous corolla, f. 11. a.

314 Limb, the ſuperior ſpreading part of a monopetalous corolla, f. 13, 14.

315 *Unguis*, heel, the inferior part of a polypetalous corolla affixed to the receptacle.

316 *Lamina*, lappet, the ſuperior ſpreading part of a polypetalous corolla, f. 14.

317 Regular, equal in figure, magnitude, and proportion of parts.

318 Irregular, when the ſegments of the limb differ in figure, magnitude, or proportion of parts.

319 Ringent, irregular (318) gaping like two lips opened very wide.

320 *Galea-ringentis*, the vizard or upper lip of a ringent corolla.

321 *Faux*, the throat, or opening between the ſegments of a corolla where the tube (313) terminates.

322 Cruciated, croſſed, having four equal and patent petals.

323 *Perſonata*, maſked, ringent (319), but ſhut cloſe between the lips by the palate.

324 Papilionaceous, butterfly-ſhaped, irregular; the inferior petal being cymbiform or ſhaped like a boat (called the *carina* or keel); the ſuperior aſcending, (called the *vexillum* or flag); the ſide petals ſtanding ſingle (called the *alæ* or wings).

325 Compound, conſiſting of a number of florets, on a common receptacle, and within a common perianthium.

326 1. Ligulated, having all the exterior florets plain on the outſide.

327 2. Tubulous, having all the ſmall corollæ of the florets tubulated.

328 3. Radiated, having all the ſmall corollæ of the diſk tubulous, and thoſe of the circumference ligulated and of a different form.

329 Nectary, the melliferous part proper to any flower, f. 15, 16.

C. *Stamen*, a Chive,

330 Filament, the part ſupporting the anthera, and connecting it with the plant, f. 18. e e.

331 Anthera, the part of a flower which is full of pollen (332) or fine flower-duſt, which it diſcharges as ſoon as itſelf comes to maturity, f. 18. f f. g.

332 Pollen, flower-duſt, burſting by being brought into contact with moiſture, and throwing out elaſtic atoms. (According to the principles of the ſexual ſyſtem, this is the origin of generation in plants).

D, *Piſtillum*, a Piſtil.

333 Germen, the rudiment of the unripe fruit in a flower. This is either.

334 Superior, included in the corolla.

335 Inferior, placed below the corolla.

336 Style, the part of the piſtil that raiſes the ſtigma (337) from the germen, f. 18. c.

337 Stigma, the ſummit of the piſtil bedewed with moiſture, f. 18. d.

E. *Pericarpium*, a Fruit-caſe, is a

338 1. Capſule, a fruit-caſe, hollow and opening in a certain determinate manner, f. 23, 24, 25.

339 2. Valvule, a ſcreen or defence, with which the fruit is covered on the outſide.

340 *Loculamentum*, a hole or cavity for lodging the ſeeds.

341 *Diſſepimentum*, a partition, by which the fruit is diſtinguiſhed or divided within, into any number of cavities, f. 29.

342 Bicapſular, having two capſules (338).

343 Bilocular, having two cavities (340).

344 Tricoccous, a capſule having three protuberant knobs, and divided into three cavities within, each containing one ſeed.

345 Didymous, having two knobs protuberant on the outſide.

346 *Siliqua*, a huſk; a fruit-caſe having two valves, and attaching the ſeeds along both ſutures, f. 23, 24.

347 *Toruloſa*, having prominences ſwelling out on each ſide.

348 *Parallelum Diſſepimentum*, a parallel partition of equal breadth with the valves.

349 *Contrarium Diſſepimentum*, a croſs partition narrower than the valves.

350 3. *Legumen*, a cod or ſwob; a pericarpium having two valves, and attaching the ſeeds only along the one ſuture, f. 23.

351 *Iſthmis interceptum*, having parts at regular diſtances ſtraiter than the reſt, ſo as to divide it acroſs into different internal cavities.

352 4. Follicle, a pericarpium of one valve, opening longitudinally on one ſide, and not having the ſeeds attached to the ſuture, f. 22.

353 5. *Drupa*, plum; a pericarpium ſtuffed with fleſhy ſubſtance, without any valve, and containing a nut or ſtone in the middle, f. 26.

354 5. *Pomum*, apple or pear; a pericarpium ſtuffed with fleſhy ſubſtance without valves, and containing a capſule or ſeed-caſe in the middle, f. 25.

355 6. *Bacca*, berry; a pericarpium full of pulpy or ſoft ſubſtance, without valves, and containing ſeeds otherwiſe naked.

356 7. Nidulant, neſtling; ſeeds diſperſed through a pulpy or ſoft ſubſtance.

357 8. *Strobilus*, cone; a pericarpium formed by the induration of the ſcales of a catkin, (308). f. 7.

F. *Semen*, Seed.

358 *Hilum*, ſpeck; the external ſcar or mark of the ſeed, occaſioned by its attachment to the fruit-caſe before it come to maturity.

359 *Corculum*, the original ſubſtance of a new plant within a ſeed.

360 *Corona*, crown, or dreſs adhering to the top of a ſeed, by which it is enabled to fly about after it is ripe.

361 *Pappus*, down; a feathery or hairy crown with which it flies, f. 31.

362 *Stipitatus*, ſtalked, having a thread betwixt it and the down.

363 Capillary, conſiſting of fine undivided hairs.

364 Plumoſe, feathery; conſiſting of hairs feathered on the ſides.

365 *Cauda*, tail; a thread or membrane at the end of a ſeed.

366 *Hamus*, a hook, (247).

367 *Caliculus*, the interior and proper integument of a ſeed.

368 *Nux*, kernel; a ſeed covered with a bony ſhell.

369 *Arillus*; the outer coat of a ſeed, which falls off of its own accord.

G. *Receptaculum*, a receptacle.

370 Common, containing more flowers and fruits than one.

371 Compound, or compoſite flower; having the receptacle dilated and entire, the florets ſeſſile.

372 Aggregate flower; having the receptacle dilated, and the florets ſubpedicellated, or ſtanding on very ſhort flower-ſtalks.

Bulbus, a bulb. *Gemma*, a gem or bud.

Nº XXIII. VERNATION *is the*

373 Diſpoſition of leaves within the bud (20).

374 Conduplicated, doubled together, having the oppoſite edges approaching each other in parallel lines.

375 Convoluted, rolled together ſpirally like a cowl.

376 Involuted, rolled inwards, having the edges on both ſides rolled ſpirally, ſo as to be nearly met on the upper ſurface of the leaf.

377 Revoluted, rolled backwards, having the edges on both ſides rolled ſpirally, ſo as to be nearly met on the back of the leaf, f. 123.

378 Equitant, riding, when two leaves oppoſite to each other cloſe their edges, ſo that the one includes or claſps about the other.

379 Obvoluted, when two edges of one leaf cloſe on the upper ſurface, ſo that one edge divides or lies betwixt the two ſides of the other.

380 Plicated, plaited, gathered into various plaits, f. 73.

381 Circinal, rolled ſpirally from the top to the baſe, ſo that the top comes to occupy the centre.

Nº XXIV. GENERAL TERMS *to be added.*

382 *Laxus*, flexible at pleaſure. *Debilis* (weak), and *flaccidus* (flagging) are almoſt ſynonymous.

383 Rigid, not enduring to be bent.

384 Articulated (229), jointed or knotted.

385 *Enodis*, without joints or knots.

386 *Præmorſus*, forebitten; having the top as it were bitten off. f. 54.

387 Radicant, puſhing down roots.

388 Squamous, covered with ſcales.

389 Proliferous flowers, having one flower riſing within another.

390 Imbricated parts, one overlapping another like tiles or ſlates, f. 10.

391 Squarroſe, rough or ſcurfy, applied to the tops or irregular ſegments of leaves, &c. when they ſtand out on all ſides.

392 Faſtigiated, trunks, branches, or peduncles riſing all alike high.

393 Reſupinated, turned upſide down.

394 Lacerated, a term applied to the edges of flowers or leaves when divided irregularly as if they were torn.

295 Laciniated, divided into parts or ſegments in an indeterminate manner, f. 60.

Terms omitted to be inſerted in their proper places.

396 Branchiated branches, when each pair ſtands at right angles with the pairs immediately above and below them, f. 116, 117.

397 Aphyllous, without any leaves.

398 Adverſe leaves, turning their faces, not to the ſky but to the ſouth; as, *Amomum.*

399 *Arboreus*, arboreſcent, of the nature of a tree producing buds. A term of great lubricity.

400 Bulbiferous, bearing bulbs.
Bulbs are either

401 Scaly, conſiſting of imbricated lamellæ, as the lily root, f. 161.

402 Solid, conſiſting of ſolid ſubſtance; as the tulip, f. 162.

403 Tunicated, coated, like the common onion, f. 163.

404 Articulated, conſiſting of lamellæ linked together as the *Lathræa*.

405 Calcareous, of a hard crumbly nature, like dry lime plaſter.

406 *Circumſciſſus*, parting as if cut ſtraight over; as the capſule of *Stellaria*.

407 Cirrhous, terminating in a tendril.

408 Columela, the part of a fruit-caſe that connects the internal partitions with the ſeeds.

409 Intortion, the twiſting of any part towards one ſide:

410 To the right, ſuppoſing one's ſelf placed in the centre;

411 To the left, ſuppoſing one's ſelf placed in the centre.

412 Cotyledon, the lateral body or lobe of a ſeed, porous, and imbibing moiſture, and afterwards falling off.

413 *Acotyledones*, plants whoſe ſeeds have no lateral bodies or lobes; as the *Muſci*.

414 *Monocotyledones*, plants whoſe ſeeds have only one lateral body; as the Graſſes, &c.

415 *Dicotyledones*, plants whoſe ſeeds have two lateral bodies or lobes; as the *Legumina*, &c.

416 *Polycotyledones*, plants whoſe ſeeds have many lateral bodies or lobes; as the Pines, &c.

417 Monoſpermous, capſules or ſeed-caſes that contain only one ſeed.

418 Di—tri—tetra—penta,—&c. ſpermous, containing 2, 3, 4, 5, &c. ſeeds in one capſule.

419 Polyſpermous; containing many ſeeds,

420 *Suberoſus*, reſembling cork.

421 *Echinatus*, beſet with ſpines or prickles, ſo as to reſemble a hedge-hog.

422 *Muticus*, without awn, beard or prickle.

423 *Pileus*, the hat or bonnet of a muſhroom, which has the fructifications on its under ſide, f. 8. a.

424 *Diſcus*, the middle part of a compound flower, conſiſting of regular florets.

425 *Radius*, the rim or outward part, conſiſting of irregular florets.

Sect. V. *Of the Sexes of Plants.*

As many philoſophers and botaniſts deny that ſuch a thing as the diſtinction of ſexes takes place in vegetables, it will be neceſſary to give a narration of the arguments employed by both parties on this ſubject. We ſhall begin with the arguments in favour of the ſexes.

I. Linnæus is at great pains in tracing the notion of ſexes in plants to the remoteſt periods of antiquity. He informs us, that Empedocles, Anaxagoras, and other ancient philoſophers, not only attributed the diſtinction of ſexes to plants, but maintained that they were capable of perceiving pleaſure and pain.

Hippocrates and Theophraſtus are next introduced as diſtinguiſhing the conyza, the abies, the filix, &c. into male and female. The latter of theſe writers affirms that the fruit of the female palm will not germinate, unleſs the pollen of the male be ſhaken over the ſpatha of the female previous to the ripening of the ſeed.

Dioſcorides takes notice of a male and female mandragora, mercurialis, ciſtus, &c.

Pliny does not confine his views of ſex to animals, but exclaims, that every thing this earth produces is characterized by the diſtinction of ſex.

From the days of Pliny to thoſe of Cæſalpinus, who lived in the 16th century, the analogy between the vegetable and animal ſeems to have been entirely neglected. Cæſalpinus tells us, that the males of the oxycedrus, taxus, mercurialis, urtica, and cannabis, are barren; and that the females of theſe plants only bear fruit.

After Cæſalpinus, we find Dr Grew and Sir Thomas Millington engaged in a converſation concerning the utility of the ſtamina and ſtyli of plants. The reſult of this converſation was the mutual agreement of theſe two eminent naturaliſts, that the ſtamina and ſtyli of vegetables were analogous to the organs of generation in animals, and that they were adapted by nature to anſwer the ſame purpoſes. Dr Grew, in his anatomy of plants, after enumerating the analogies between plants and animals, concludes, that the pollen probably emits certain *vivific* effluvia, which may ſerve for the impregnation of the ſeeds.

Mr Ray gave a further ſanction to the doctrine of ſexes, by concurring with Grew, and adding ſome further illuſtrations from analogy.

In the year 1695, Camerarius attempted to prove the ſexes of plants. But as he truſted ſolely to the palm tree, and withal ſeemed to be doubtful as to the authenticity of the fact, he cannot be conſidered as having done any thing in confirmation of the ſexual hypotheſis.

Mr Morland, in the year 1703, adopted the ſame hypotheſis; but gave it a new modification, by ſuppoſing that the pollen contained the ſeminal plant in miniature, and conſequently that it behoved one pollen at leaſt to be conveyed into every ſeparate ſeed before it could be properly impregnated. Analogy and the ſtructure of the parts are the only arguments he employs.

Some years after this, Mr Geoffroy wrote a treatiſe on the ſexes of plants; but as he advanced nothing new, we ſhall take no farther notice of him.

Vaillant, in the year 1717, judiciouſly conſidering that the canal in the ſtylus of moſt plants is too narrow to admit the pollen itſelf, republiſhed Dr Grew's theory of impregnation, by means of a ſubtile ſeminal aura.

Theſe were the ſentiments of the principal botaniſts with regard to the generation of plants, until the celebrated Charles Linnæus made his appearance as a botannical writer, who has extended the idea ſo far as to compoſe a complete ſyſtem upon it.

Although Linnæus can have little claim to the ſuppoſed diſcovery of the ſexual hypotheſis, his idea being preciſely the ſame with that of Dr Grew; yet, as he is the chief ſupporter and improver of this beautiful doctrine, we ſhall give a ſuccinct narration of the arguments he makes uſe of, in order to prove that vegetables propagate their ſpecies by a regular commerce of ſexes.

In a treatiſe, intitled *Sponſalia Plantarum*, publiſhed as an inaugural diſſertation by J. Guſtavus Wahlbom, in the firſt volume of the *Amœnitates Academicæ*, all the arguments made uſe of by Linnæus, in his *Fundamenta Botanica*, and other works, are collected, and arranged, in one view. But, as Wahlbom honeſtly attributes all the merit of his diſſertation to his great maſter, we ſhall here drop his name altogether, and give the arguments as the property of Linnæus, by whom they were originally employed.

Linnæus, then, firſt attempts to ſhow, that vegetables are endowed with a certain degree of life; and, ſecondly, that they propagate their ſpecies in a manner ſimilar to that of animals.

“ That vegetables are really living beings (ſays he), muſt be obvious at firſt ſight; becauſe they poſſeſs all the properties contained in the accurate definition of life laid down by the great Dr. Harvey, namely, *Vita eſt ſpontanea propulſio humorum*. But, univerſal experience teaches, that vegetables propel humours, or juices: hence it is plain, that vegetables muſt be endowed with a certain degree of life.”

Not truſting ſolely to a ſyllogiſm founded on a definition, Linnæus proceeds to ſupport the life of vegetables by arguments drawn from the following particulars in their œconomy; the firſt of which he intitles,

“ *Nutritio*.”—The very idea of nutrition implies a propulſion of humours, and, of courſe, the idea of life. But, vegetables derive their nouriſhment from the earth, air, &c. and, conſequently, muſt be conſidered as living creatures.

“ 2. *Ætas*.”—Every animal muſt not only begin to exiſt, and have that exiſtence diſſolved by death, but muſt, likewiſe, paſs through a number of intermediate changes in its appearance, and affections. *Infancy, youth, manhood, old age*, are characteriſed by *imbecility, beauty, fertility, dotage*. Are not all theſe viciſſitudes conſpicuous in the vegetable world? Weak and tender in *infancy*; beautiful and ſallacious in *youth*; grave, robuſt, and fruitful in *manhood*; and, when *old age* approaches, the head droops, the ſprings of life dry up, and, in fine, the poor tottering vegetable returns to that *duſt* from whence it originally ſprung.

3. “ *Motus*”—No inanimate body is capable of ſelf-motion. Whatever moves ſpontaneouſly is endowed with a living principle: for motion depends on the ſpontaneous propulſion of humours; and wherever there is a ſpontaneous propulſion of humours, there alſo is life. That vegetables are capable of motion, is evident from the following facts; plants, when confined within doors, always bend towards the light, and ſome of them even attempt to make their eſcape by the windows. The flowers of many plants, eſpecially thoſe of the ſyngeneſia claſs, purſue the ſun, from eaſt to weſt, rejoicing in his beams. Who, then, can deny, that vegetables are poſſeſſed of living and ſelf-moving powers?

“ 4. *Morbus*.”—The term *diſeaſe* implies nothing more than a certain corruption of life. It is well known, that vegetables are ſubject to diſeaſes, as well as animals: when over-heated, they turn thirſty, languiſh, and fall to the ground; when too cold, they are tormented with the chilblain, and not unfrequently *expire*: they are ſometimes afflicted with cancers; and almoſt every plant is infeſted with lice peculiar to its ſpecies.

“ 5. *Mors*.”—Death is oppoſed to life, the former being only a privation of the latter. Experience ſhows, that every living creature muſt die. But, as vegetables are daily cut off by internal diſeaſes, and external injuries; as they are ſubject to death from the attacks of hunger, thirſt, heat, cold, &c. with what propriety could vegetables be thus ſaid to *die*, unleſs we allow that they previouſly *lived*?

“ 6. *Anatomia*.”—Under this article we are referred to Malpighius, and Grew, for the organic fibres, membranes, canals, veſicles, &c. of plants, as additional proofs of their living powers.

“ 7. *Organizatio*.”—Vegetables not only propel humours, but alſo prepare and ſecern a number of different juices for the fruit, the nectar, &c. analagous to the various ſecretions in animal bodies.

From theſe ſeveral facts, and obſervations, Linnæus concludes, that plants are unqueſtionably endowed with life, as well as animals; and, then, proceeds, in the following manner, to ſhow how theſe animated vegetables propagate their ſpecies.

After diſcuſſing the long exploded doctrine of equivocal generation, he lays hold of another maxim of Dr Harvey, viz. *Omne vivum ex ovo*.—“ It being fully evident (ſays he), from the foregoing chain of reaſoning, that vegetables are endowed with life, it neceſſarily follows, agreeable to this maxim of Harvey's, that every vegetable muſt in like manner derive its exiſtence from an *egg*. But, as vegetables proceed from eggs, and as it is the diſtinguiſhing property of an egg to give birth to a being ſimilar to that which produced it, the ſeeds muſt, of courſe, be the *eggs* of vegetables.

“ Granting, then, that the ſeeds of vegetables are intended by nature to anſwer the ſame end as the eggs of animals, and conſidering, at the ſame time, that no egg can be fecundated without receiving an impregnation from the male, it follows, that the ſeed or eggs of vegetables cannot be fecundated by any other means. Hence alſo the neceſſity of vegetables being provided with organs of generation. But, where are theſe organs ſituated? The anſwer is eaſy:—We have already found impregnated ſeeds within the flowers of plants; and it it is natural to expect that the *genitalia* ſhould not be at a greater diſtance. Now, as *copulation* always precedes *birth*, and every *flower* precedes the *fruit*, the *generating faculty* muſt be aſcribed to the *flower*, and the *birth* to the *fruit*. Again, as the *antheræ* and *ſtigmata* are the only eſſential parts of flowers, theſe parts muſt neceſſarily be the *organs of generation*.”

Being thus far advanced, Linnæus affirms, that the *antheræ* are the *teſtes*, and that the pollen performs the office of the male *ſemen*. Theſe affirmations he attempts to eſtabliſh by the following arguments; the firſt of which he terms,

"1. *Præcedentia*."—The antheræ, or vegetable teſtes, always precede the fruit; and as ſoon as the antheræ come to maturity, which conſtantly happens before the maturity of the fruit, they continue to throw out their pollen as long as the flower laſts; but decay and fall off whenever the fruit comes to perfection.

"2. *Situs*."—The antheræ of all plants are uniformly ſituated in ſuch a manner that the pollen may with the greateſt facility fall upon the ſtigma, or female organ.

"3. *Tempus*."—The antheræ and ſtigmata always flouriſh at the ſame time, whether the flowers be of the hermaphrodite or dioicous kind.

"4. *Loculamenta*."—When the antheræ are diſſected, they diſcover as great a variety of ſtructure as the pericarpia, or ſeed capſules: for ſome of them have one cell, as the mercury; ſome two, as the hellebore, &c.

"5. *Caſtratio*."—If all the antheræ be cut off from an hermaphrodite plant, juſt before the flowers begin to expand, taking care, at the ſame time, that no plant of the ſame ſpecies grow near it, the fruit will either prove entirely abortive, or produce barren ſeeds.

"6. *Figura*."—When the pollen of different plants is examined by the microſcope, it exhibits as great a variety of figures as is diſcoverable in the ſeeds themſelves.

"The accumulated force of theſe arguments (concludes Linnæus) amounts to a full demonſtration that the antheræ are the teſtes, and that the pollen is the ſemen, or genitura, of vegetables.

"The male organ being thus inveſtigated, we hope (ſays Linnæus) that none will heſitate to pronounce the ſtigma to be the female organ, eſpecially when the following obſervations are ſufficiently attended to.

"The piſtillum is compoſed of the germen, ſtylus, and ſtigma. The germen, being only a kind of rudiment of the future fœtus, or ſeed, ceaſes to exiſt as ſoon as the flower comes to maturity. Neither is the ſtylus an eſſential part, as many flowers have no ſtylus. But, no fruit ever comes to maturity without the aſſiſtance of the ſtigma. It follows, that the ſtigma muſt be the female organ adapted by nature for the reception of the pollen, or impregnating ſubſtance. This will appear ſtill clearer from the following chain of reaſoning.

"1. *Situs*."—The ſtigmata are always ſituated ſo that the pollen may with moſt eaſe fall upon them. Beſides, it is remarkable, that in moſt plants (though not in all) the number of the ſtigmata exactly correſponds with the loculamenta, or cells of the pericarpium.

"2. *Tempus*."—Here the obſervation, that the ſtigmata and antheræ conſtantly flouriſh at the ſame time, is repeated.

"3. *Decidentia*."—The ſtigmata of moſt plants, like the antheræ, decay and fall off as ſoon as they have diſcharged their proper function; which evidently ſhows, that their office is not to ripen the fruit, but ſolely to anſwer the purpoſe of impregnation.

"4. *Abſciſſio*."—The argument here is preciſely the ſame with the caſtration of the antheræ; and the reſult is, likewiſe, the ſame, namely, the deſtruction of the fruit

"Theſe arguments (concludes Linnæus) are ſufficient to demonſtrate that the ſtigma is the female organ of generation, or that organ which is ſuited for the reception and conveyance of the ſemen to the *vegetable eggs*. Hence, plants may be ſaid to be *in actu veneris*, when the antheræ, or teſticuli, ſpread their pollen over the ſtigma, or female *vulva*."

To ſhow how the *coitus* of vegetables is effected, is our author's next object of inveſtigation. He affirms, that the pollen is conveyed, by means of the wind, or inſects, to the moiſt ſtigma, where it remains until it diſcharges a ſubtle fluid, which being abſorbed by the veſſels of the ſtigma, is carried to the ſeeds, or ova, and impregnates them. His proofs are taken from the following particulars.

"1. *Oculus*."—When the flowers are in full blow, and the pollen flying about, every one may then ſee the pollen adhering to the ſtigma. This he illuſtrates by mentioning as examples, the viola tricolor, iris, campanula, &c.

"2. *Proportio*."—The ſtamina and piſtilla, in moſt plants, are of equal heights, that the pollen, by the intervention of the wind, may, with the greater facility, fall upon the ſtigma.

"3. *Locus*."—The ſtamina of moſt plants ſurround the piſtillum, to give the pollen an opportunity of falling upon the ſtigma, at every breeze of wind. Even in the monœcia claſs, the male flowers ſtand generally above the female ones, to afford an eaſier conveyance of the pollen to the ſtigma.

"4. *Tempus*."—It is remarkable that the ſtamina and piſtilla conſtantly appear at the ſame time, even in plants belonging to the monœcia claſs.

"5. *Pluviæ*."—The flowers of moſt plants expand by the heat of the ſun, and ſhut themſelves up in the evening, or in rainy weather. The final cauſe of this muſt be to keep the moiſture from the pollen, leſt it ſhould be thereby coagulated, and of courſe prevented from being blown upon the ſtigma.

"6. *Palmicolæ*."—That the cultivators of palm-trees were in uſe to pull of the ſpadices from the males, and ſuſpend them over the ſpathæ of the females, is atteſted by Theophraſtus, Pliny, Proſper Alpinus, Kempfer, and many others. If this operation happened to be neglected, the dates were ſour, and deſtitute of nuts. Kempfer adds this ſingular circumſtance, that the male ſpadix, after being thoroughly dried and kept till next ſeaſon, ſtill retained its impregnating virtue.

"7. *Flores nutantes*."—As the pollen is ſpecifically heavier than air, ſuch flowers as have their piſtillum longer than the ſtamina, hang down or incline to one ſide, *e.g.* the fritillaria, campanula, &c. An eaſy admiſſion of the pollen to the ſtigma is the final cauſe of this appearance.

"8. *Submerſi*."—Many plants that grow below water, emerge when their flowers begin to blow, and ſwim upon the ſurface till they receive their impregnation, and then ſink down.

"9. *Omnium florum genuina conſideratio*."—Here a number of particulars are recited. We ſhall confine ourſelves to thoſe that are moſt ſtriking, and applicable to the ſubject.

“ When the flowers of the male hemp are pulled off before thoſe of the female are fully expanded, the females do not produce fertile ſeeds. But as a male flower is ſometimes found upon a female plant, this may be the reaſon why fertile ſeeds are ſometimes produced even after this precaution has been obſerved.

“ The tulip affords another experiment to the ſame purpoſe.—Cut off all the antheræ of a red tulip before the pollen is emitted; then take the ripe antheræ of a white tulip, and throw the pollen of the white one upon the ſtigma of the red; the ſeeds of the red tulip being thus impregnated by one of a different complexion, will next ſeaſon produce ſome red, ſome white, but moſt variegated, flowers.”

In the year 1744, Linnæus publiſhed a deſcription of a new genus, which he called *peloria*, on the ſuppoſition of its being a *hybrid* or *mule* plant, *i. e.* a plant produced by an unnatural commixture of two different genera. The root, leaves, caulis, &c. of this plant are exceedingly ſimilar to thoſe of the antirrhinum linaria, or yellow toad-flax: but the flower, and other parts of the fructification are totally different. On account of its ſimilarity to the linaria, in every part but the flower, Linnæus imagined it to have been produced by a fortuitous commixture of the linaria with ſome other plant, although he was never able to point out the father. This doctrine of the production of *mule* plants has, ſince, been greatly prized, and carefully propagated by Linnæus, and the other ſupporters of the ſexual hypotheſis. In the third volume of the *Amœnitates Academicæ* there is a complete diſſertation, intitled *Plantæ Hybridæ*, wherein the doctrine of *vegetable mules* is much improved, and extended. This diſſertation contains a liſt of 47 mules, with their ſuppoſed fathers, and mothers. For example:

The Veronica ſpuria is ſaid to be a *mule* plant *begot by* the Verbena officinalis *upon* the Veronica maritima.

The Delphinium hybridum, a *mule begot* by the Aconitum napellus *upon* the delphinium elatum.

The Arctotis calendula, a *mule begot* by the Calendula pulvialis *upon* the arctotis triſtis.

The Aſclepias nigra, a *mule begot* by the Cynanchum acutum *upon* the Aſclepias vincetoxicum, &c.

From the examples given in this diſſertation, Linnæus draws this concluſion, That only two ſpecies of each genus exiſted *ab origine*; and that all the variety of ſpecies which now appears has been produced by unnatural embraces betwixt ſpecies of different genera.

Under this head, Linnæus quotes from Ray the ſtory of a certain Richard Baal, gardener at Brentford. This Baal ſold a large quantity of the ſeeds of the braſſica florida to ſeveral gardeners in the ſuburbs of London. Theſe gardeners, after ſowing their ſeeds in the uſual manner, were ſurpriſed to find them turn out to be plants of a different ſpecies from that which Baal made them believe they had purchaſed; for, inſtead of the braſſica florida, the plants turned out to be the braſſica longifolia. The gardeners, upon making the diſcovery, commenced a proſecution of fraud againſt Baal in Weſtminſter-hall. The court found Baal guilty of fraud, and decreed, that he ſhould not only reſtore the price of the ſeeds but likewiſe pay the gardeners for their loſt time, and the uſe of their ground. “ Had theſe judges (ſays Linnæus) been acquainted with the ſexual hypotheſis, they would not have found Baal guilty of any crime, but would have aſcribed the accident to the fortuitous impregnation of the braſſica florida by the pollen of the braſſica longifolia.”

Linnæus, next, proceeds to celebrate the utility of inſects, becauſe they convey the pollen of the male to the ſtigma of the female. “ In this way (ſays he), it is reaſonable to think that many dioicous plants are impregnated. Nay, even the hermaphrodites themſelves are greatly obliged to the different tribes of inſects, which, by fluttering, and treading, in the corolla, are conſtantly ſcattering the pollen about the ſtigma.

“ Upon the whole, then, (concludes Linnæus), the coitus of vegetables is evident to a demonſtration. This coitus is nothing more than the conveyance of the pollen to the ſtigma, to which it adheres till it burſts, and diſcharges a ſubtile elaſtic fluid. This fluid, or aura, is abſorbed by the veſſels of the ſtylus, and carried directly to the ovarium, or germen, where the myſterious work of impregnation is fully completed.”

THESE are the arguments employed by Linnæus, and the other advocates for the ſexual commerce of vegetables.—Let us, next, attend to thoſe employed by the oppoſers of this hypotheſis.

It is admitted by Pontedera, Dr Alſton, &c. that ſome of the ancients applied the terms *male* and *female* to ſeveral plants. But, then, they deny that theſe terms conveyed the ſame ideas to the ancients that they do to the moderns. *Male* and *female*, when applied to plants, were to the ancients mere terms of diſtinction, ſerving only as trivial names to diſtinguiſh one ſpecies, or variety, from another. The ancients were ignorant of the very characters which conſtitute the difference between what is called a *male* and *female* plant among the moderns. Theophraſtus, Dioſcorides, Pliny, and, in a word, all the ancient botanical writers, confound the very notion of the modern ſexes; they call the real female, or ſeed-bearing plant, the *male*; and the male, or barren plant, the *female*. Nay, they have even applied the terms *male* and *female* to many plants which bear nothing but hermaphrodite flowers.

Such is the nature of this controverſy, that it cannot be determined with any degree of certainty but by experiments made upon dioicous plants. If a female plant can produce fertile ſeeds without having any communication with the pollen of the male, the uſe of this pollen with reſpect to the impregnation of ſeeds muſt, of neceſſity, be entirely ſuperſeded.

Now, both Camerarius and Dr Alſton tried theſe experiments with the ſame ſucceſs. Thoſe two eminent botaniſts took female plants of the mercury, ſpinage, and hemp; tranſplanted them at a great diſtance from any males of the ſame genus, and, beſides, had them incloſed by double rows of hedges. The reſult was, that each of theſe plants produced great quantities of fertile ſeeds. Tournefort made the ſame trial upon the common hop, Miller upon the bryony, and Geoffroy upon the mays; and all of them declare that the ſeeds of theſe plants were as fertile as if they had been ſurrounded by a thouſand males.

Linnæus, in his firſt argument for the coitus of plants, refers every man to the evidence of his ſenſes.

“ Do we not ſee (ſays he) the ſtigma of almoſt every hermaphrodite flower covered over with the pollen, or impregnating ſubſtance? Do not we ſee the parietaria, the urtica, &c. by violent exploſions, diſcharging their pollen in the open air, that it may be carried in that vehicle to the ſtigmata of their reſpective females?—All this is admitted by the oppoſers of the ſexes: but, then, they deny that theſe exploſions, &c. are intended to create any intercourſe between the male and the female; and, further, allege, that this ejection of the pollen is intended by nature to throw off ſomething excrementitious, or, at leaſt, ſomething which, if retained, would prove noxious to the fructification.

Linnæus takes his ſecond argument from the proportion which the ſtamina bear to the ſtylus, alleging that they are generally of the ſame height.—This obſervation (ſay the anti-ſexualiſts) is not only contrary to experience, but, allowing it to be univerſal, no concluſion can be drawn from it either for or againſt the ſexual hypotheſis.

The third argument is taken from the *locus*, or ſituation, of the ſtamina with reſpect to the ſtylus: and as the male flowers in the monœcia claſs generally ſtand above the female flowers, it muſt be concluded (ſays Linnæus), that the intention of nature, in this diſpoſition of the parts, is to allow a free and eaſy acceſs of the pollen to the ſtigma.—But, the ſtamina cannot be ſaid to ſurround the piſtillum in the monandria and diandria claſſes: and the poſition of the male flowers in the monœcia claſs is a mere chimera; for in the ricinus, one of the examples which Linnæus mentions in confirmation of his doctrine, the female flowers ſtand uniformly ſome inches above the males.

That the ſtamina and piſtilla generally come to perfection at the ſame time, and that this happens even in the dioicous plants, is Linnæus's fourth argument. But, as it is acknowledged by Linnæus himſelf, that there are many exceptions with reſpect to this fact, the oppoſers of the ſexual hypotheſis allege that it carries the beſt anſwer in its own boſom.

The fifth argument is founded on the circumſtance of ſome flowers ſhutting up their petals in rainy or moiſt evenings.—But, many flowers do not ſhut themſelves up, either in the night or moiſt weather, as the paſſion-flower, &c. The lychnis noctiflora, mirabilis peruvianæ, &c. open their flowers in the night, and ſhut them at the approach of the ſun. Hence, this is another final cauſe (ſay the anti-ſexualiſts) perverted to ſupport a favourite hypotheſis.

We come, now, to the culture of the palm-tree, which is the ſixth and moſt plauſible argument employed by the ſexualiſts. Of this, the moſt authentic account we have is the following by Dr Haſſelquiſt, in one of his letters to Linnæus, dated Alexandria, May 18th, 1750. "The firſt thing I did after my arrival was to ſee the date-tree, the ornament, and a great part of the riches, of this country. It had already bloſſomed; but I had, nevertheleſs, the pleaſure of ſeeing how the Arabs aſſiſt its fecundation, and, thus, ſecure to themſelves a plentiful harveſt of a vegetable, which was ſo important to them, and known to them many centuries before any botaniſt dreamed of the difference of ſexes in vegetables. The gardener informed me of this before I had time to inquire; and would ſhow me, as a very curious thing, the male and female of the date or palm-trees: nor could he conceive how I, a Frank, lately arrived, could know it before; for, ſays he, all who have yet come from Europe to ſee this country, have regarded this relation either as a fable, or miracle. The Arab ſeeing me inclined to be further informed, accompanied me and my French interpreter to a palm-tree, which was very full of young fruit, and had by him been wedded or fecundated with the male, when both were in bloſſom. This the Arabs do in the following manner: When the ſpadix has female flowers that come out of its ſpatha, they ſearch out a tree that has male flowers, which they know by experience, for a ſpadix which as not yet burſted out of its ſpatha: this they open, take out the ſpadix, and cut it lengthwiſe in ſeveral pieces, but take care not to hurt the flowers. A piece of this ſpadix with male flowers they put lengthwiſe between the ſmall branches of the ſpadix which has female flowers, and, then, lay the leaf of a palm over the branches. In this ſituation I yet ſaw the greateſt part of the ſpadices which bore their young fruit; but, the male flowers which were put between were withered. The Arab beſides gave me the following anecdotes: Firſt, unleſs they, in this manner, wed and fecundate the date-tree, it bears no fruit. Secondly, they always take the precaution to preſerve ſome unopened ſpathæ with male flowers, from one year to another, to be applied for this purpoſe, in caſe the male flowers ſhould miſcarry, or ſuffer damage. Thirdly, if they permit the ſpadix of the male flowers to burſt, or come out, it becomes uſeleſs for fecundation: it muſt have its *maidenhead* (theſe were the words of the Arab), which is loſt in the ſame moment the bloſſoms burſt out of their caſe. Therefore, the perſon who cultivates date-trees muſt be careful to hit the right time of aſſiſting their fecundation, which is almoſt the only article in their cultivation. Fourthly, on opening the ſpatha, he finds all the male flowers full of a liquid, which reſembles the fineſt dew; it is of a ſweet and pleaſant taſte, reſembling much the taſte of freſh dates, but much more refined, and aromatic: this was, likewiſe, confirmed by my interpreter, who has lived 32 years in Egypt, and, therefore, had opportunities enough of taſting both the nectar of the bloſſoms and the freſh dates."

Now, although this account ſeems fully to confirm the fact, *viz.* that ſuch a practice obtains among the *Arabs*, and that *they* aſſert its efficacy in fecundating the trees, it is certain (ſay the oppoſers of this doctrine), that no intelligent perſon, who is not already wedded to an hypotheſis, will attempt to found an argument upon the aſſertions of a people ſo prone to ridiculous ſuperſtitions. Before Dr Haſſelquiſt, or any other perſon, can draw any argument from the abovementioned account, he ought to ſee the experiment ſeveral times repeated, with his own eyes, and not to take it upon the word of a people, who, beſides their ſuperſtition, may, very probably, find it their intereſt to impoſe upon travellers.

Mr Milne, author of the Botanical Dictionary, &c. however, relates an experiment, near akin to the abovementioned, which merits ſome attention: "In the garden of M. de la Serre, of the Rue S. Jacques at Paris, was a female turpentine-tree, which flowered every year, without furniſhing any fruit capable of vegetation. This was a ſenſible mortification to the owner, who greatly deſired to have the tree increaſed. Meſſieurs Duhamel and Juſſieu very properly judged that they might procure him that pleaſure by the aſſiſtance of a male piſtachio-tree. They ſent him one very much loaded with flowers. It was planted in the garden of M. de la Serre, very near the female turpentine-tree, which the ſame year produced a great quantity of fruits, that were well-conditioned, and roſe with facility. The male plant was, then, removed; the conſequence of which was, that the turpentine-tree of M. de la Serre in none of the ſucceeding years bore any fruit, that, upon examination, was found to germinate."

Upon this experiment it is obſerved by the anti-ſexualiſts, that, though it were a thouſand times repeated, it never could be deciſive. The nature of the controverſy, ſay they, is ſuch, that one experiment is more deciſive in favour of their opinion, than 10,000 can be againſt them. The reaſon is plain: If there is ſuch a thing as a ſexual intercourſe in vegetables, it is as wonderful that any ſeeds ſhould be perfected without that intercourſe, as that a virgin ſhould have a child; the laſt is not, in the leaſt, more extraordinary than the firſt. One experiment, therefore, which ſhows that ſeeds may be perfected without ſuch ſexual intercourſe, is either to be reſolved into a miracle, or muſt prove abſolutely deciſive againſt the ſexual ſyſtem; while numberleſs experiments ſuch as the above mentioned could prove nothing, becauſe we know not what effect vegetables may have by growing in each other's neighbourhood, independent of any ſexual intercourſe.

In Milne's Botanical Dictionary, under the article *Sexus Plantarum*, the author quotes Dr Alſton's experiments partially. The facts recorded by Dr Alſton are as follow: 1. Three ſets of ſpinach, planted at a great diſtance from each other, proved all of them fertile, and ripened *plenty* of ſeeds, which were found to anſwer as well as other ſpinach ſeed. 2. A plant of hemp growing by itſelf, being taken care of, produced about 30 good ſeeds, though in a ſituation very much expoſed, and plucked up too ſoon, on account of bad weather, in the autumn. 3. This experiment, which is the moſt remarkable of the three, we ſhall give in the Doctor's own words. "In the ſpring of 1741, I carried two young ſeedling plants of the French mercury, long before there was any in, from the city phyſic-garden, the only place where it was then to be found in this country, to the king's garden at the Abbey; which are more than 700 yards diſtant from one another, with many high houſes, trees, hedges, and part of a high hill, between them; and planted one of them in one incloſure, where it was ſhaded from the ſun the greateſt part of the day; and the other in another, 25 yards diſtant, expoſed to the ſouth, and weſt. Both plants ripened fertile ſeeds; and the laſt ſhed them ſo plentifully, that it proved a troubleſome weed, for ſeveral years, though none of the ſpecies was to be found in that garden for more than 20 years preceding."

Of this experiment Mr Milne hath not taken any notice; but upon the other two, has the following remark. "The reſult of theſe, and ſuch like experiments, can be accounted for, on the principle of the ſexes, in no other way than on the ſuppoſition that ſome male flowers have been intermixed with the female, and operated the fecundation, in queſtion. This appears the more probable, as only *a part* of the ſeeds in the above experiments attained to perfect maturity, ſo as to be capable of vegetation."

The ſeventh argument of Linnæus is taken from the *flores nutantes*.—The piſtils of theſe flowers, according to the Swediſh naturaliſt, are always longer than the ſtamina; and nature has aſſigned them this penſile poſture, that the pollen, which is ſpecifically heavier than air, may the more conveniently fall upon the ſtigma.—But, the piſtils of the campanula, lilium, and many other *flores nutantes*, are not longer than the ſtamina. Beſides, granting this were uniformly the caſe; yet, as the pollen is heavier than air, this poſture muſt, of neceſſity, either make the pollen miſs the piſtillum altogether, or, at any rate, it can only fall upon the back part of the piſtil in place of the ſtigma; and, of courſe, ſuch a direction would rather tend to fruſtrate than promote the impregnation of the ſeed.

The eighth argument is taken from the *plantæ ſubmerſæ*, which are ſaid to emerge as ſoon as their flowers begin to blow, leſt the pollen ſhould be coagulated, or waſhed off, by the water.—But, many ſubmarine and aquatic plants fructify entirely below water; and, ſuppoſing they did not, the ſame argument would equally prove it to be the intention of nature, that the pollen ſhould be blown away by the winds, as that it ſhould be ſubſervient to the impregnation of the ſeed.

The ninth and laſt argument is intitled *Omnium florum genuina conſideratio*; which (ſay the anti-ſexualiſts) is nothing more than a collection of vague obſervations upon the ſtructure and œconomy of particular plants, ſome of them true, others falſe, but, all of them evidently thruſt in as ſupports to a favourite hypotheſis.

SUCH was the ſituation of this diſpute ſome years ago: but, of late there has appeared a tranſlation of one of Linnæus's works upon the ſubject, which, although it was publiſhed as early as 1759, was but little known in Britain. Some remarks on the Sexual Syſtem had alſo been publiſhed by the Abbe Spallanzani, in which he not only oppoſed the Linnæan doctrine, but treated it with ridicule, though without taking any notice of this laſt publication, which it were to be wiſhed he had been well acquainted with. The Italian mentions an experiment with hemp ſimilar to ſome of thoſe already related; but which was alſo tried by Linnæus, and in his hands turned out the very reverſe of what it did with Spallanzani. In the treatiſe alluded to, Linnæus mentions Sir Thomas Millington as the firſt among the moderns who thought of the diſtinction of ſexes in plants. This gentleman was Savilian profeſſor at Oxford; and Dr Grew, in his anatomy of plants, relates, that, in a converſation on the nature of the antheræ of flowers, Sir Thomas hinted, that thoſe parts might probably be analogous to the male organs of animals, and ſerve for the impregnation of the fruit. Grew improved on the idea, and purſued it. That the ſubject, however, may be properly underſtood, our author is of opinion, that we ſhould firſt accurately underſtand the nature of vegetable bodies: in order to do this, we ought firſt to conſider the operations of nature in the human frame, and from thence continue our reſearches through the various tribes of inferior animals, till, at laſt, we arrive at the vegetable creation. In like manner, to illuſtrate the generation of plants, we muſt, likewiſe, take our firſt lights from the animal kingdom, and purſue the ſame chain till we come to vegetables. This ſubject, indeed, he owns to be ſo obſcure, that no naturaliſt has, hitherto, been able to ſay any thing ſatisfactory concerning it; he only mentions ſome remarkable facts concerning the production of mule animals from the copulation of two individuals of different ſpecies. In the horſe-kind we ſee two different kinds of mules produced. "From the mare and male aſs (ſays he) proceeds the mule properly ſo called, which in its nature, that is, in its medullary ſubſtance and nervous ſyſtem, agrees with its mother; but in its cortical ſubſtance and outward form, in its mane and tail, reſembles the aſs. Between the female aſs and the horſe, the other kind of mule is engendered, whoſe nature, or medullary ſubſtance, reſembles that of the aſs; but its cortical ſtructure that of the horſe. If the he-goat of Angora copulates with the common ſhe-goat, the kid, by that means procured, inherits the external ſtructure and valuable coat of its father; while, on the other hand, if the common he-goat impregnates the goat of Angora, the kid produced has the ſame external form, and bears the ſame worthleſs hair with his father. Hence, it ſeems probable, that the medullary ſubſtance, with what Malpighi calls the keel (*carina*), and the nervous ſyſtem, are latent in the egg of the mother; the cortical ſubſtance, or vaſcular ſyſtem, being derived from the father.

Theſe cortical and medullary ſubſtances are previouſly explained by our author to be thoſe of which both animal and vegetable bodies are compoſed. By the medullary ſubſtance in animal bodies, he means the ſpinal marrow ariſing from the organized brain, and ſending off the nerves; by the cortical ſubſtance the veſſels with the heart attached to them, by which the medullary part is nouriſhed. In vegetables, the cortical part nouriſhes the plant, not only by its root but with its whole ſurface. For, a ſmall branch torn from the parent ſtem, and placed in water, imbibes nouriſhment at its pores. Thus, the *Fuci*, and other marine vegetables, are nouriſhed without a root, ſolely by the pores diſperſed through their whole ſubſtance. The bark of trees every year depoſites its gelatinous internal layer, which is added to the wood, and aſſimilates itſelf to it. The medullary, which is the other eſſential part of vegetables, is multiplied, and extended, without end; and whenever it is entirely loſt, the death of the plant neceſſarily follows. In examining this ſubſtance, we muſt be careful, in two caſes, that we be not miſled; firſt, by the ſtraws of graſſes, and by other hollow ſtems, where the medulla lines the inſide of the bark; and ſecondly, by large trees, whoſe trunks become perfectly ſolid throughout, except in the very ſummits of the branches. The wood performs the office of bones, when there is no longer any occaſion for the medulla in that part; and trees, although become hollow, continue, nevertheleſs, to grow ſo long as this ſubſtance remains in the extreme branches. It is by no means neceſſary that the medulla ſhould have any connection with the root, as it is only nouriſhed by the cortical ſubſtance of the plant, and is, therefore, increaſed at its upper extremity without end if it meets with no reſiſtance. In thoſe animals whoſe ſpinal marrow is ſurrounded by a bony covering, as in the larger and more perfect kinds, this ſubſtance never comes out of its confinement; and the harder its caſe, the more abſolutely is its increaſe prevented: but, in the ſmaller tribes of worms, where this covering is leſs rigid, a perpetual and unlimited increaſe of the animal takes place.

"The moſt important parts of the flower, and which are abſolutely eſſential to it, (our author proceeds to obſerve†), are the ſtamina, and piſtilla. So eſſential are they, that among the many thouſands of flowers with which we are acquainted, no one can be found not furniſhed with both theſe organs. The ſtamina derive their origin from the ſubſtance of the wood, which was originally formed from the inner bark, and they may, therefore, be ſaid to ſpring from the cortical ſubſtance of the vegetable. This is perfectly evident in the Aſarum (Aſarabacca), whoſe twelve ſtamina proceed from twelve fibres in the inner bark. Double flowers illuſtrate the ſame fact: in them, the ſtamina being weakened and diſſolved by exceſs of nouriſhment, the woody ſubſtance reaſſumes the ſoftneſs of the inner bark, of which it was originally formed. All ſtamina conſiſt of veſſels containing the pollen, or impregnating powder, which they diſcharge in due time, not without the ſtricteſt obſervance of certain natural laws. The form of theſe veſſels, like that of the capſules of the fruit, is accurately defined, as well as their cells, their particular manner of burſting, and the pollen which they contain; this pollen, likewiſe, is no leſs certain and uniform in its figure, ſize, and colour, than the ſeeds themſelves.

"The piſtillum is the only part which originates from the medullary ſubſtance, and is therefore invariably ſituated in the centre of the flower. It always contains the rudiments of the ſeed, which, in proceſs of time, ripen into fruit. The rudiments of the fruit are called the *germen*, or ſeed-bud; this has conſtantly another organ connected with it, named the *ſtigma*, which is in its higheſt degree of vigour and perfection during the time of flowering.

"Another circumſtance worthy of attention is, that the root, which the firſt year of its growth is large and filled with medullary pulp, the following ſeaſon becomes hollow, in producing the ſtem, flowers, and ſeed; all this pulp being conveyed to the flower, and ſeeming to be only deſtined to the formation of ſeed, ſo many new and diſtinct animations being formed from it as there are rudiments of new plants. This is particularly obſervable in the turnip.

"Thus vegetables, like inſects, are ſubject to a metamorphoſis; with this difference only, that their flowers are fixed to one ſpot, inſtead of being able, like inſects, to fly from place to place; and that their nouriſhment is not given them by means of peculiar organs for the formation of chyle. We have ſeen, that the outer bark becomes calyx, the internal bark corolla, the wood ſtamina, and the medulla piſtillum; the fructification exhibiting the internal parts of a plant naked, and unfolded. We have, likewiſe, ſeen, that the fructification puts an end to vegetation in the part from whence it ariſes, ſtopping the progreſs of the medulla, which would otherwiſe have extended itſelf without end by the branches, and occaſioning the diviſion of that medulla into a number of ſeeds, each endowed with a ſeparate living principle. But, as the medulla exiſts naked in the germen, it cannot ſupport itſelf, or make any further progreſs, without the aſſiſtance of the cortical ſubſtance which it has left; it muſt, therefore, receive this aſſiſtance by ſome means or

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† *Diſſert. on the Sexes of Plants*, Smith's tranſlation, *p.* 20. *et ſeq.*

other, and in fact does receive it from the ſtamina and their pollen, which owe their origin to the woody matter derived from the inner bark, and originally generated by the outer bark. But if it happens that the cortical ſubſtance is able to inveſt the medullary rudiments of the ſeed in the flower itſelf, the plant becomes viviparous, as in *feſtuca*, *aira*, and *poa vivipara*, in which nearly the ſame thing takes place as in the medulla of other plants, which remain in the branches, and is variouſly diſtributed, being at once both clothed and nouriſhed by the bark, and enabled to form new branches, juſt as it happens in the compound animals, or *ſertulariæ*.

“ The organs common in general to all plants are, 1. The root, with its capillary veſſels, extracting nouriſhment from the ground. 2. The leaves, which may be called the *limbs*, and which, like the feet and wings of animals, are organs of motion; for being themſelves ſhaken by the external air, they ſhake and exerciſe the plant. 3. The trunk, containing the medullary ſubſtance, which is nouriſhed by the bark, and, for the moſt part, multiplied into ſeveral compound plants. 4. The fructification, which is the true body of the plant, ſet at liberty by a metamorphoſis, and conſiſts only of the organs of generation; it is often defended by a calyx, and furniſhed with petals, by means of which it in a manner flutters in the air.

“ Many flowers have no calyx, as ſeveral of the lily tribe, the *hippuris*, &c.; many want the corolla, as graſſes, and the plants called *apetalous*; but there are none deſtitute of ſtamina, and piſtilla, thoſe important organs deſtined to the formation of fruit. We, therefore, infer from experience, than the ſtamina are the male organs of generation, and the piſtilla the female; and as many flowers are furniſhed with both at once, it follows that ſuch flowers are hermaphrodites. Nor is this ſo wonderful, as that there ſhould be any plants in which the different ſexes are in diſtinct individuals; for plants being immoveably fixed to one ſpot, cannot, like animals, travel in ſearch of a mate. There exiſts, however, in ſome plants, a real difference of ſex. From ſeeds of the ſame mother, ſome individuals ſhall be produced, whoſe flowers exhibit ſtamina without piſtilla, and may therefore be properly called *males*; while the reſt, being furniſhed with piſtilla without ſtamina, are, therefore, denominated *females*: and ſo uniformly does this take place, that no vegetable was ever found to produce female flowers, without flowers furniſhed with ſtamina being produced, either on the ſame individual, or on another plant of the ſame ſpecies, and *viſa verſa*.

“ As all ſeed-veſſels are deſtined to produce ſeeds, ſo are the ſtamina to bear the *pollen*, or fecundating powder. All ſeeds contain within their membranes a certain medullary ſubſtance, which ſwells when dipped into warm water. All pollen, likewiſe, contains in its membrane an elaſtic ſubſtance, which, although very ſubtile and almoſt inviſible, by means of warm water often explodes, with great vehemence. While plants are in flower, the pollen falls from their antheræ, and is diſperſed abroad, as ſeeds are diſlodged from their ſituation when the fruit is ripe. At the ſame time that the pollen is ſcattered, the piſtillum preſents its ſtigma, which is then in its higheſt vigour, and, for a portion of the day at leaſt, is moiſtened with a fine dew. The ſtamina either ſurround this ſtigma, or, if the flowers are of the drooping kind, they are bent towards one ſide, ſo that the pollen can eaſily find acceſs to the ſtigma; where it not only adheres by means of the dew of that part, but the moiſture occaſions its burſting, by which means its contents are diſcharged. What iſſued from it, being mixed with the fluid of the ſtigma, is conveyed to the rudiments of the ſeed. Many evident inſtances of this preſent themſelves to our notice; But I have no where ſeen it more manifeſt than in the jacobean lily (*amaryllis formoſiſſima*), the piſtillum of which, when ſufficient heat is given the plant to make it flower in perfection, is bent downwards, and from its ſtigma iſſues a drop of limpid fluid, ſo large that one would think it in danger of falling to the ground. It is, however, gradually re-abſorbed into the ſtyle about three or four o'clock, and becomes inviſible till about ten the next morning, when it appears again; by noon it attains its largeſt dimenſions; and in the afternoon, by a gentle and ſcarcely perceptible decreaſe, it returns to its ſource. If we ſhake the antheræ over the ſtigma, ſo that the pollen may fall on this limpid drop, we ſee the fluid ſoon after become turbid, and aſſume a yellow colour; and we perceive little rivulets, or opake ſtreaks, running from the ſtigma towards the rudiments of the ſeed. Some time afterwards, when the drop has totally diſappeared, the pollen may be obſerved adhering to the ſtigma, but of an irregular figure, having loſt its original form. No one, therefore, can aſſent to what Moreland and others have aſſerted, that the pollen paſſes into the ſtigma, pervades the ſtyle, and enters the tender rudiments of the ſeed, as Lewenhoek ſuppoſed his worms to enter the ova. A moſt evident proof of the falſehood of this opinion may be obtained from any ſpecies of *mirabilis* (marvel of Peru), whoſe pollen is ſo very large, that it almoſt exceeds the ſtyle itſelf in thickneſs, and, falling on the ſtigma, adheres firmly to it; that organ ſucking and exhauſting the pollen, as a cuttle-fiſh devours every thing that comes within its graſp. One evening, in the month of Auguſt, I removed all the ſtamina from three flowers of the *mirabilis longiflora*, at the ſame time deſtroying all the reſt of the flowers which were expanded; I ſprinkled theſe three flowers with the pollen of *mirabilis jalappa*; the ſeed-buds ſwelled, but did not ripen. Another evening, I performed a ſimilar experiment, only ſprinkling the flowers with the pollen of the ſame ſpecies; all theſe flowers produced ripe ſeeds.

“ Some writers have believed, that the ſtamina are parts of the fructification which ſerve only to diſcharge an impure or excrementitious matter, and by no means formed for ſo important a work as generation. But, it is very evident, that theſe authors have not ſufficiently examined the ſubject; for as, in many vegetables, ſome flowers are furniſhed with ſtamina only, and others only with piſtilla, it is altogether impoſſible, that ſtamina ſituated at ſo very great a diſtance from the fruit as on a different branch, or, perhaps, on a ſeparate plant, ſhould ſerve to convey any impurities from the embryo.

“ No phyſiologiſt could demonſtrate, *à priori*, the neceſſity of the maſculine fluid to the rendering the eggs of animals prolific; but experience has eſtabliſhed it beyond a doubt. We, therefore, judge, *à poſteriori*, principally of the ſame effect in plants.

"In the month of January 1760, the *antholyza cunonia* flowered in a pot in my parlour, but produced no fruit, the air of the room not being ſufficiently agitated to waft the pollen to the ſtigma. One day, about noon, ſeeing the ſtigma very moiſt, I plucked off one of the antheræ, by means of a fine pair of forceps, and gently rubbed it on one of the expanded ſtigmata. The ſpike of flowers remained eight or ten days longer; when I obſerved, in gathering the branch for my herbarium, that the fruit of that flower only on which the experiment had been made had ſwelled to the ſize of a bean. I then diſſected this fruit, and diſcovered that one of the three cells contained ſeeds in conſiderable number, the other two being entirely withered.

"In the month of April, I ſowed the ſeeds of hemp (*cannabis*) in two different pots. The young plants came up ſo plentifully, that each pot contained 30 or 40. I placed each by the light of a window, but in different and remote apartments. The hemp grew extremely well in both pots. In one of them I permitted the male and female plants to remain together, to flower and bear fruit, which ripened in July; and being macerated in water and committed to the earth, ſprung up in twelve days. From the other, however, I removed all the male plants as ſoon as they were old enough for me to diſtinguiſh them from the females. The remaining females grew very well, and preſented their long piſtilla in great abundance, theſe flowers continuing a very long time, as if in expectation of their mates; while the plants in the other pot had already ripened their fruit, their piſtilla having quite in a different manner, faded as ſoon as the males had diſcharged all their pollen. It was certainly a beautiful and truly admirable ſpectacle, to ſee the unimpregnated females preſerve their piſtilla ſo long green and flouriſhing, not permitting them to begin to fade till they had been for a conſiderable time expoſed, in vain, to the acceſs of the male pollen. Afterwards, when theſe virgin plants began to decay through age, I examined all their calyces in the preſence of ſeveral botaniſts, and found them large and flouriſhing, although every one of the ſeed-buds was brown, compreſſed, membranaceous, and dry; not exhibiting any appearance of cotyledon, or pulp. Hence, I am perfectly convinced, that the circumſtance which authors have recorded, of the female hemp having produced ſeeds, although deprived of the male, could only have happened by means of pollen brought by the wind from ſome diſtant place. No experiment can be more eaſily performed than the above; none more ſatisfactory in demonſtrating the generation of plants.

"The *Clutia tenella* was in like manner kept growing in my window, through the months of June and July. The male plant was in one pot, the female in another. The latter abounded with fruit, not one of its flowers proving abortive. I removed the two pots into different windows of the ſame apartment: ſtill all the female flowers continued to become fruitful. At length, I took away the male entirely, leaving the female alone, and cutting off all the flowers which it had already born. Every day new ones appeared from the axilla of every leaf; each remained eight or ten days; after which their footſtalks turning yellow, they fell barren to the ground. A botanical friend, who had amuſed himſelf with obſerving this phenomenon with me, perſuaded me to bring from the ſtove in the garden a ſingle male flower, which he placed over one of the female ones, then in perfection, tying a piece of red ſilk round its piſtillum. The next day the male flower was taken away, and this ſingle ſeed-bud remained and bore fruit. Afterwards I took another male flower out of the ſame ſtove, and with a pair of ſlender forceps pinched off one of its antheræ, which I afterwards gently ſcratched with a feather, ſo that a very ſmall portion of its pollen was diſcharged upon one of the three ſtigmata of a female flower, the two other ſtigmata being covered with paper. This fruit likewiſe attained its due ſize; and on being cut tranſverſely, exhibited one cell filled with a large ſeed, and the other two empty. The reſt of the flowers, being unimpregnated, faded, and fell off. This experiment may be performed with as little trouble as the former.

"The *Datiſca cannabina* came up in my garden from ſeed, ten years ago, and has every year been plentifully increaſed by means of its perennial root. Flowers in great number have been produced by it; but being all female, they proved abortive. Being deſirous of procuring male plants, I obtained more ſeeds from Paris. Some more plants, were raiſed; but theſe likewiſe, to my great mortification, all proved females, and bore flowers, but no fruit. In the year 1757, I received another parcel of ſeeds. From theſe I obtained a few male plants, which flowered in 1758. Theſe were planted at a great diſtance from the females; and when their flowers were juſt ready to emit their pollen, holding a paper under them, I gently ſhook the ſpike, or panicle, with my finger, till the paper was almoſt covered with the yellow powder. I carried this to the females, which were flowering in another part of the garden, and placed it over them. The cold nights of the year, in which this experiment was made, deſtroyed theſe datiſcas, with many other plants, much earlier than uſual. Nevertheleſs, when I examined the flowers of thoſe plants which I had ſprinkled with the fertilizing powder, I found the ſeeds of their due magnitude; while in the more remote datiſcas, which had not been impregnated with pollen, no traces of ſeeds were viſible.

"Several ſpecies of *Momordica*, cultivated with us, like other Indian vegetables, in cloſe ſtoves, have frequently born female flowers; which, although at firſt very vigorous, after a ſhort time have conſtantly faded, and turned yellow, without perfecting any ſeed, till I inſtructed the gardener, as ſoon as he obſerved a female flower, to gather a male one and place it above the female. By this contrivance we are ſo certain of obtaining fruit, that we dare pledge ourſelves to make any female flowers fertile that ſhall be fixed on.

"The *Jatropha urens* has flowered every year in my hot-houſe; but the female flowers coming before the males, in a week's time dropped their petals, and faded before the latter were opened; from which cauſe no fruit has been produced, but the germina themſelves have fallen off. We have, therefore, never had any fruit of the jatropha till the year 1752, when the male flowers were in vigour on a tall tree at the ſame time that the females began to appear on a ſmall jatropha which was growing in a garden-pot. I placed this pot under the other tree, by which means the female flowers bore ſeeds, which grew on being ſown. I have frequently ſince amuſed myſelf with taking the male flowers from one plant, and ſcattering them over the female flowers of another, and have always found the ſeeds of the latter impregnated by it.

“ Two years ago, I placed a piece of paper under ſome of theſe male flowers, and afterwards folded up the pollen which had fallen upon it, preſerving it ſo folded up, if I remember right, four or ſix weeks, at the end of which time another branch of the ſame jatropha was in flower. I then took the pollen, which I had ſo long preſerved in paper, and ſtrewed it over three female flowers, the only ones at that time expanded. Theſe three females proved fruitful, while all the reſt which grew in the ſame bunch fell off abortive.

“ The interior petals of the *Ornithogalum*, commonly, but improperly, called *Canadenſe*, cohere ſo cloſely together, that they only juſt admit the air to the germen, and will ſcarcely permit the pollen of another flower to paſs: this plant produced every day new flowers and fruit, the fructification never failing, in any inſtance; I, therefore, with the utmoſt care, extracted the antheræ from one of the flowers with a hooked needle; and, as I hoped, this ſingle flower proved barren. This experiment was repeated about a week after, with the ſame ſucceſs.

“ I removed all the antheræ out of a flower of the *Chelidonium corniculatum* (ſcarlet horned poppy), which was growing in a remote part of the garden, upon the firſt opening of its petals, and ſtripped off all the reſt of the flowers; another day, I treated another flower of the ſame plant in a ſimilar manner, but ſprinkled the piſtillum of this with the pollen borrowed from another plant of the ſame ſpecies: the reſult was, that the firſt flower produced no fruit, but the ſecond afforded very perfect ſeed. My deſign in this experiment was to prove, that the mere removal of the antheræ from a flower is not in itſelf ſufficient to render the germen abortive.

“ Having the *Nicotiana fruticoſa* growing in a garden-pot, and producing plenty of flowers and ſeed, I extracted the antheræ from a newly-expanded flower before they had burſt, at the ſame time cutting away all the other flowers; this germen produced no fruit, nor did it even ſwell.

“ I removed an urn, in which the *Aſphodelus fiſtuloſus* was growing, to one corner of the garden, and from one of the flowers, which had lately opened, I extracted its antheræ; this cauſed the impregnation to fail. Another day I treated another flower in the ſame manner: but bringing a flower from a plant in a different part of the garden, with which I ſprinkled the piſtillum of the mutilated one, its germen became by that means fruitful.

“ *Ixia chinenſis*, flowering in my ſtove, the windows of which were ſhut, all its flowers proved abortive. I, therefore, took ſome of its antheræ in a pair of pincers, and with them ſprinkled the ſtigmata of two flowers, and the next day one ſtigma only of a third flower; the ſeed-buds of theſe flowers remained, grew to a large ſize, and bore ſeed; the fruit of the third, however, contained ripe ſeed only in one of its cells.

“ To relate more experiments would only be to fatigue the reader unneceſſarily. All nature proclaims the truth I have endeavoured to inculcate, and every flower bears witneſs to it. Any perſon may make the experiment for himſelf, with any plant he pleaſes, only taking care to place the pot in which it is growing in the window of a room ſufficiently out of the reach of other flowers; and I will venture to promiſe him, that he will obtain no perfect fruit, unleſs the pollen has acceſs to the piſtillum.”

Sect. VI. *Of the Natural Method of Claſſification.*

Besides all the abovementioned methods of claſſing and diſtributing plants into their different orders, genera, &c. which are deduced from the fructification, and are, therefore, called *artificial*, Linnæus and moſt other botaniſts are of opinion that there is a natural method, or nature's ſyſtem, which we ſhould diligently endeavour to find out. That this ſyſtem, ſay they, is no chimera, as ſome imagine, will appear particularly from hence, That all plants, of what order ſoever, ſhow an affinity to ſome others; and, thus, as formerly obſerved, not only the virtues of a great number of ſpecies may be aſcertained, but we may know with certainty how to find a proper ſuccedaneum for plants which cannot eaſily be had.—Linnæus divides vegetables into the following 58 natural methods.

1. *Palmæ*. Theſe are perennial, and moſtly of the ſhrub and tree kind. The ſtem is in height from 2 to 100 feet and upwards. The roots form a maſs of fibres which are commonly ſimple and without any ramifications. The ſtem is generally ſimple, without branches, cylindrical, and compoſed of ſtrong longitudinal fibres. The leaves, which are a compoſition of a leaf and a branch, by Linnæus called *frondes*, are of different forms; being ſometimes ſhaped like an umbrella, or fan; ſometimes ſingly or doubly winged; the ſmall or partial leaves, which are often three feet in length, being ranged alternately. The branches, or principal leaves, are ſix, eight, ten, or twelve feet long; the length varying according to the age and ſize of the plant. They are covered at firſt with a thick brown duſt, like thoſe of the ferns. The baſe of the leaves frequently embraces the greater part of the ſtem. The flowers are male and female upon the ſame or different roots; except in ſtratiotes, which bears hermaphrodite flowers only; and palmetto, in which the flowers are hermaphrodite and male upon diſtinct roots. The flowers are all diſpoſed in a panicle, or diffuſed ſpike, except in the hydrocharis, ſtratiotes, and valliſneria; in which they proceed ſingly from the wings or angles of the leaves. The common calyx, in this order, is that termed a *ſpatha*, or *ſheath*, and has either one or two valves. The ſpadix, or head of flowers protruded from the ſheath, is generally branched. Each flower is generally furniſhed with a perianthium, or proper flower-cup, conſiſting of three leaves or diviſions that are ſmall and permanent. The petals are three in number, of a ſubſtance like leather, and permanent like the leaves of the calyx. The flowers of zamia have no petals. The ſtamina are from 2 to 20, and upwards, cohering ſlightly at their baſe. The ſeed buds are from one to three in number, placed in the middle of the flower, and ſupporting a like number of ſtyles which are very ſhort. The ſeed-veſſel is generally a pulpy fruit of the berry or cherry kind, containing one cell filled with fibrous fleſh, and covered with a ſkin which is of a ſubſtance

like leather. The ſeeds are in number from one to three in each pulpy fruit, of a hard bony ſubſtance, round or oval, and attached by their baſe to the bottom of the fruit.—Theſe plants, particularly the ſeeds, are aſtringent, and of efficacy in dyſenteries.

2. *Piperitæ.* Theſe plants are moſtly herbaceous, and perennial. The ſtalks of pothos creep along rocks and trees, into which they ſtrike root at certain diſtances. The greateſt height which any of them is known to attain is 15 feet, the greater part do not exceed three or four. The fleſhy roots of many of theſe plants are extremely acrid when freſh. They loſe this pungent quality, however, by being dried, and become of a ſoapy nature. The ſmell of many of them is extremely fetid, frequently reſembling that of human excrements. The flowers, however, of an Ethiopian dracunculus or arum, and the cover in which they are involved, are ſaid to emit a very fragrant odour. With regard to their virtues, theſe plants are commonly aſtringent.

3. *Calamariæ.* In this claſs the baſe of the leaf, which embraces the ſtalk, like a glove, has no longitudinal aperture, but is perfectly entire. The ſtalk is generally triangular, and without knots, or joints. The roots of ſome are long and knotty; in others they are compoſed of fleſhy fibres which pierce deep into the ground; and in others, of a bulb. The flowers are either hermaphrodite, or male and female upon the ſame root. The mode of infloreſcence in this order is generally a ſpike; ſometimes a capitulum or head. The calyx is either a gluma or an amentum. The corolla is wanting. The filaments of the ſtamina are three in number, ſhort, ſlender like a hair, and ſometimes briſtly. The antheræ are generally long, ſlender, and erect. The ſeed-bud is very ſmall, blunt, and ſometimes three cornered. The ſtyle is thread-ſhaped, and of the length of the ſcaly calyx. The ſtigmata are generally three in number; ſlender, hairy, and ſometimes permanent. The virtues, uſes, and ſenſible qualities, of this order of plants are the ſame with thoſe of the following.

4. *Gramina.* Moſt of theſe plants are annual or perennial herbs; ſome of them creep upon the ground, others are erect. The roots, in the greateſt number, are creeping, and emit fibres from each knot or joint; in others they are ſimply branching and fibrous. The ſtems and branches are round. The leaves are ſimple, alternate, entire, very long, and commonly narrow. They form below a ſort of ſheath, which embraces or ſurrounds the ſtem, and is generally cleft or divided on one ſide through its whole length. The flowers are either hermaphrodite, male and female on the ſame root, or hermaphrodite and male on the ſame root. They proceed either ſingly from the ſheath of the leaves, or are formed into a panicle or looſe ſpike. The calyx and corolla in this order are not ſufficiently aſcertained; in ſome a ſingle ſcale or huſk, in others two, ſupply the place of both covers; ſome graſſes have four huſky ſcales, two of which ſerve for the calyx, and the other two for the corolla; ſome have five; others ſix, four of which conſtitute the calyx, and the other two are termed improperly enough the *huſky petals.* The corolla is ſometimes compoſed of one petal with two diviſions; and in general the huſks of the calyx are always placed oppoſite to thoſe of the corolla. The ſtamina are generally three in number, and placed irregularly with regard to the ſituation of the calyx and corolla. The antheræ are long, furniſhed with two cells, and ſlightly attached to the filaments. The ſeed-bud is placed upon the ſame receptacle as the calyx, corolla, and ſtamina. The ſtyle is generally double, and crowned with a hairy ſtigma or ſummit. The ſeed-veſſel is wanting. The ſeeds are ſingle, oval, and attached below to the bottom of the flower.—The roots of the graſſes are opening; ſuch as have an aromatic ſmell are ſtomachic; their ſeeds are mealy, mucilaginous, and nouriſhing. All the parts of theſe plants are wholeſome.

5. *Tripetaloideæ* (from *tres*, three; and *petalum*, a petal). Theſe plants have no very ſtriking characters, and are nearly allied to the graſſes. All the genera of this order have not the circumſtance expreſſed in the title.

6. *Enſatæ.* This order, which is very nearly allied to the graſſes and liliaceous plants, furniſhes a very beautiful collection of perennial herbs, which are of different heights, from one inch to 15 feet. The roots are tuberous or fleſhy, and garniſhed with fibres; the ſtalks are ſimple, and commonly flat or compreſſed on the ſides. The leaves are ſimple, alternate, entire ſword ſhaped, and, like the liliaceous plants, form at their origin a ſheath or glove, which in the greateſt number is cleft or divided through the whole length, except at the baſe, where it is entire, and embraces the ſtalk like a ring. The flowers are hermaphrodite, and generally proceed from the ſummit of the ſtalks either ſingly, in an umbel, a ſpike, or in a panicle. In pontederia they proceed from the wings or angles of the leaves either ſingly or in an umbel. Moſt of theſe plants want the perianthium or flower-cup; the flowers burſt from a common cover or ſheath, termed by Linnæus *ſpatha*, which in this order is frequently permanent. The petals are in number from one to ſix. The ſtamina are generally three. The ſeed-bud is placed ſometimes above the flower, ſometimes below it. The ſtyle is generally ſingle, and crowned with a triple ſtigma. The ſeed-veſſel is a dry capſule, generally of an oblong ſhape, and opens at three valves, diſcovering the ſame number of cells, each incloſing a quantity of roundiſh ſeeds.—Theſe plants reſemble the liliaceous in their powers, and ſenſible qualities; very few of them, however, are uſed in medicine.

7. *Orchideæ.* The roots of many of theſe plants are compoſed of one or more fleſhy tubercles or knobs, attached to the lower part of the ſtem, and ſending forth fibres from the top. Thoſe of orchis bear an obvious reſemblance to the ſcrotum in animals: from which circumſtance the genus has derived its name. The leaves are of a moderate ſize, inſcribed with a number of longitudinal nerves or ribs, and without any foot-ſtalk. At their origin they form round the ſtalk a kind of ſheath, which is long, entire, cylindrical, but not furniſhed, like the graſſes and ſome other plants, with a crown at top. The flowers are hermaphrodite, and placed at the ſummit of the ſtalk either in a ſpike or in a panicle. The calyx is that ſor ttermed by Linnæus a *ſpatha*, or *ſheath*, that burſting open protrudes a head or cluſter of flowers, termed the *ſpadix*, which have no perianthium or flower-cup. The petals are five in number, and very irregular. The nectarium in this order is remarkably conſpicuous; yet ſo different in the different genera, that Linnæus has employed it for his principal character or mark of

diſtinction, inſtead of the root, which had chiefly negaged the attention of former botaniſts. It has the appearance of a ſixth petal. The filaments are always two in number, and placed upon the piſtillum or female organ. The antheræ are erect, and generally covered by the upper lip of the nectarium. The ſeed-bud is either oblong or pillar-ſhaped, twiſted like a ſcrew, and univerſally placed below the receptacle of the flower. The ſtyle is ſingle, very ſhort, and forms one ſubſtance with the inner margin of the nectarium. The ſeed-veſſel is generally a capſule with one cavity or cell, and three valves or openings, which are keel-ſhaped, and open on the angular ſides, being jointed both at the bottom and top. The ſeeds are numerous; very ſmall, like ſaw-duſt; and attached, without foot-ſtalks, to a ſlender receptacle or rib, which extends itſelf lengthwiſe in the middle of each incloſure or valve. The plants of this order are reckoned ſtrong aphrodiſiacs.

8. *Scitamineæ*. This claſs conſiſts of beautiful exotic plants, all natives of very warm countries. Some of them furniſh exquiſite fruits; but though the plants riſe very high, they are perennial only by their roots. Thoſe which have only one filament, have in all their parts an aromatic odour, and an acrid or poignant taſte; qualities, however, poſſeſſed in a much greater degree by the roots, which are hot, and reſinous.

9. *Spathaceæ*, ſo called becauſe their flowers are protruded from a *ſpatha*, or ſheath. They are nearly allied in habit and ſtructure to the liliaceous plants, from which they are chiefly diſtinguiſhed by the ſpatha out of which their flowers are protruded.

10. *Coronariæ*. Theſe plants are herbaceous, perennial, and from one inch to 15 feet high. The roots are either bulbous, fibrous, or compoſed of ſmall fleſhy knots, which are jointed at top. The bulbs either conſiſt of ſcales laid over each other like tiles, or are ſolid. The ſtem of the liliaceous bulbous plants is properly wanting; what ſupplies its place being nothing elſe than the baſe of the leaves, which, wrapping or enfolding each other, form at bottom a roundiſh fleſhy bulb hitherto diſtinguiſhed, though perhaps improperly, by the name of *root*. In the others the ſtem is ſimple, that is, has few branches, and is either furniſhed with leaves, or riſes naked. The branches are alternate and cylindrical. The leaves are ſimple, alternate, and entire. Thoſe next the root, termed *radical leaves*, generally form at their origin a ſheath, which in a great number is entire; that is, goes all round; whilſt in others, it is cleft or divided longitudinally on one ſide. The flowers are univerſally hermaphrodite, except in white hellebore, which has both male and hermaphrodite flowers mixed together on the ſame root. The flowers are ſometimes ſingle, and terminate the ſtem; ſometimes they form an umbel, ſometimes a ſpike, and ſometimes a panicle. The calyx or flower-cup, in this order, according to Linnæus, is generally wanting. In ſtrict propriety, however, the ſingle cover that is preſent in moſt of theſe plants, though beautifully coloured, ought to be denominated a *calyx;* as its diviſions, generally ſix in number, are placed oppoſite to the ſtamina. The petals, or, to ſpeak more properly, the coloured leaves of the flower, are in number from one to ſix. Plants which have a ſingle petal, have the limb or upper part ſplit into ſix diviſions or ſegments. The petals in ſome ſpecies are rolled or turned back. The nectarium is various; in the lily it is a longitudinal line which runs through each petal, and reaches from the baſe to the middle. In crown imperial, it is a ſmall hollow, or pore, formed at the baſe of each petal; in aſphodel it conſiſts of ſix very ſmall valves, which, approaching form a globe, and are inſerted into the baſe of the petal; in hyacinth, it is compoſed of three melliferous pores, ſituated on the top of the ſeed-bud; in pine-apple, it is a ſmall ſcale lying within the ſubſtance of each petal above the baſe; and in albuca, or baſtard ſtar of Bethlehem, it conſiſts of two ſharp-pointed bodies proceeding from the furrows of the ſeed-bud, and covered by the broader baſe of three fertile filaments. In ſome ſpecies of lily the nectarium is hairy; in others it is naked. The ſtamina are ſix in number; erect, and inſerted into the common receptacle, if the flower conſiſts of many petals; into the tube, or diviſions of the corolla, if it conſiſts of one. The antheræ are long, commonly divided below, and ſlightly attached by their ſides to the filaments on which they turn like a vane or the needle of a compaſs. The ſeed-bud is ſingle, and placed either within the flower-cup or below it. The ſtyle is ſingle, thread-ſhaped, and generally of the length of the petals. The ſtigma is generally ſingle, of a conic form, and ſhaggy or hairy at the extremity. The ſeed-veſſel is generally a capſule, divided externally into three valves, internally into three cells.—With reſpect to the powers of the plants of this order, it may be affirmed in general, that ſuch as have little taſte or ſmell, as the roots of tulip, and ſtar of Bethlehem, are perfectly innocent; whilſt thoſe which have a heavy nauſeous ſmell, as ſquill, hyacinth, crown imperial, and ſpider-wort, are at leaſt ſuſpicious, and frequently prove noxious.

11. *Sarmentaceæ*, (from *ſarmentum*, a long ſhoot, like that of a vine.) This order conſiſts of plants which have climbing ſtems and branches, that, like the vine, attach themſelves to the bodies in their neighbourhood for the purpoſe of ſupport. Theſe plants are far from being a true natural aſſemblage; in fact they ſcarce agree in a ſingle circumſtance, except that expreſſed in the title, which is far from being peculiar to this order.

12. *Holoraceæ*. This order conſiſts of plants which are uſed for the table, and enter into the œconomy of domeſtic affairs: it contains trees, ſhrubs, perennial, and annual herbs. Some of the woody vegetables retain their green leaves during the winter. The roots are very long, and frequently ſpindle ſhaped; from the knots on the ſtems and branches of ſuch plants as creep on the ground, or float on the water, proceed fibrous and branching roots. The ſtems and young branches are cylindric; and in the greateſt part of the aquatic plants of this order, the ſtalks are hollow within. The buds are of a conic form, and naked: that is, not accompanied with ſcales. The leaves are generally ſimple, entire, alternate, and attached to the branches by a cylindric foot-ſtalk, which is ſometimes very long, but commonly very ſhort. Some plants of this kind have two ſtipulæ, or ſcales, which are attached to the branches near the origin of the foot-ſtalk of each leaf. In many others, inſtead of ſtipulæ, each leaf bears on its foot-ſtalk a membranaceous ſheath, which is cylindric, frequently fringed in the margin, and pierced or pene-

trated by the ſtem. The flowers are either hermaphrodite; male and female upon the ſame root; male and female upon different roots; hermaphrodite and male on the ſame root; hermaphrodite and female on the ſame root; or hermaphrodite and male on different roots.

13. *Succulentæ.* This order conſiſts of flat, fleſhy, and juicy plants, moſt of them ever-greens. They are aſtringent, refreſhing, and very wholeſome.

14. *Gruinales* (from *grus*, a crane). Theſe conſiſt of *geranium*, vulgarly called *cranes-bill*, and a few other genera, which Linnæus conſiders as allied to it in their habit, and external ſtructure. This order furniſhes both herbaceous and woody plants. The roots are ſometimes fibrous, ſometimes tuberous. In ſome ſpecies of wood-ſorrel they are jointed. The ſtems are cylindric; the young branches, in ſome, nearly ſquare. The buds are of a conic form, and covered with ſcales. The leaves are either ſimple or compound. The flowers are hermaphrodite; they proceed from the wings of the leaves either ſingly or in cluſters. The calyx, or flower-cup, conſiſts of five diſtinct leaves, or of one leaf divided almoſt to the bottom into five parts. It generally accompanies the ſeed-bud to its maturity. The petals are five in number, ſpreading, and frequently funnel-ſhaped. The ſtamina are generally ten in number, awl-ſhaped, erect, and of the length of the petals. The ſtamina are generally oblong; and frequently attached to the filaments by the middle, ſo as to lie, and ſometimes to veer about, upon them. The ſeed-bud is either oblong or five-cornered. The number of ſtyles is either one or five. In *tribulus* the ſtyle is wanting. The ſeed-veſſel is generally a five-cornered capſule, with one, three, five, or ten, cells. The ſeeds are generally equal in number to the internal diviſions or the cells of the ſeed-veſſel; one ſeed being placed in each cell.

15. *Inundatæ.* The plants of this order are equatic, of low ſtature, herbaceous, and moſtly perennial. The roots are fibrous. The ſtem is generally wanting. In its place are an aſſemblage of leaves which wrapping or enfolding each other mutually from a ſheath; and from the middle of this ſheath is produced the foot-ſtalk of the flower. The leaves are ſometimes alternate, ſometimes placed in whirls round the ſtem. In a great many genera the foot-ſtalk is extended at its origin into a membranaceous ſubſtance, which forms a ſheath that is cleft through the whole length, on the ſide oppoſite to the leaf. The flowers are hermaphrodite, or male and female on the ſame root. The flower-cup is either wanting, or conſiſts of three, four, or five diviſions, or leaves, which accompany the ſeed-bud to its maturity. The petals are generally wanting. The ſtamina are in number from 1 to 16, and upwards. The filaments in ſome genera are ſo ſhort that they ſeem wanting. The antheræ are ſhort, and generally marked with four longitudinal furrows. The ſeed-buds are in number from one to four, the ſtyle is frequently wanting. The ſeed-veſſel is univerſally wanting, except in Elatine, which has a dry capſule, with four external openings, and the ſame number of cells. The ſeeds are generally four in number.

16. *Calycifloræ*, (from *calyx*, the flower-cup, and *flos*, the flower), conſiſting of ſuch plants as have the ſtamina (the flower) inſerted into the calyx. All the plants of this order are of the ſhrub and tree kind. Some of them riſe to the height of 12 or 14 feet; others not above two or three. The roots are branching, fibrous, and woody. The ſtems are cylindric. The branches, when young, are cornered; the buds of a conic form, and without ſcales. The leaves are ſimple, alternate, and attached to the branches by a very ſhort foot-ſtalk. The flowers are either male or female upon diſtinct roots, or hermaphrodite and male on the ſame root. The calyx is a perianthium compoſed of one leaf divided into two, three, or four, ſegments. It is commonly placed upon the germen, or ſeed-bud, which accompanies it to maturity. The corolla is univerſally wanting, except in *trophis*, the male plants of which, according to Linnæus, have four obtuſe and ſpreading petals. The ſtamina are generally four in number, ſlender like a hair, ſhort, placed at a conſiderable diſtance from the ſtyle, and inſerted into the tube of the calyx. The piſtillum is compoſed of a roundiſh germen, crowned with the calyx; a ſingle thread-ſhaped ſtyle; and a cylindric ſtigma. The ſeed-veſſel is either an obtuſe oval fruit, of the cherry kind, or a globular berry with one cell, containing a roundiſh ſeed. The plants of this order are aſtringent.

17. *Calycanthemæ*, (from *calix*, the flower-cup, and *ανθος*, the *flower*); conſiſting of plants, which, among other characters, have the corolla and ſtamina inſerted into the calyx. This order furniſhes trees, ſhrubs, and annual, biennial, and perennial herbs. The herbaceous annuals are by much the moſt numerous. The roots are branching and fibrous; the ſtems and branches cylindric, ſquare, or four-cornered while young. The buds are of a conic form, and without ſcales. The leaves are generally either alternate, ſimple, and attached to the branches by a ſhort foot-ſtalk, or oppoſite at the bottom of the ſtem; and in ſome, alternate towards the top. They are univerſally ſeſſile; that is, attached to the branches, without any foot-ſtalk. The calyx is univerſally a perianthium, and generally monophyllous, or compoſed of one leaf. The corolla conſiſts of four, five, and ſix, petals, which are attached to the tube of the calyx, and are ſometimes placed alternate, ſometimes oppoſite, to the diviſions of the limb. The ſtamina, which are in number from 4 to 20 and upwards, are attached to the tube of the calyx either on its margin, or lower down. When the number of ſtamina is double the diviſions of the calyx, the ſtamina which ſtand oppoſite theſe diviſions are a little longer than the reſt. The antheræ are generally of a hemiſpherical figure; frequently cleft, or ſlit below; and by that aperture attached ſlightly to the filaments, on which they often veer about like a vane or needle. They are ſurrounded longitudinally, and open on the ſides into two loculi, or cells. The pollen, or male duſt, conſiſts of a number of minute particles, of an oval figure, yellow and tranſparent. The germen, or ſeed-bud, is placed either above or under the receptacle of the flower. The ſtyle is ſingle, thread-ſhaped, and of the length of the ſtamina. The ſtigma is generally ſingle and undivided. The ſeed-veſſel is a capſule, which is generally divided internally into four loculi, or cells. The ſeeds are numerous, minute, and frequently three cornered. The plants of this order are reckoned aſtringent.

18. *Bicornes*, (from *bis*, twice, and *cornu*, a horn), plants whoſe antheræ have the appearance of two horns.

This appearance, however, is not very conſpicuous, unleſs in a few genera. The plants of this order are all of the ſhrub and tree kind. The roots are branching, and fibrous. The ſtems and branches are cylindric. The buds conic, ſometimes covered with ſcales, and ſometimes naked. The leaves are generally alternate. In moſt plants of this order, they are either ſeſſile, or ſupported by a very ſhort foot-ſtalk, which is ſemi-cylindric, and flat above. The flowers are univerſally hermaphrodite, except in one genus, the Indian date-plumb, where hermaphrodite and male flowers are produced in the ſame ſpecies upon diſtinct roots. They proceed either ſolitary, or in a corymbus from the angles formed by the leaves and branches; or hang down in ſpikes and cluſters at the end of the branches; each flower having a ſmall ſcale, or floral leaf, placed under it. In moſt plants of this order the calyx is placed around or below the germen. The calyx is univerſally a perianthium, and generally monophyllous, or of one piece, deeply divided into four or five ſegments, which are permanent, that is, accompany the germen to its maturity. The ſegments are often acute, and ſometimes coloured. The corolla is generally monopetalous, and bell or funnel-ſhaped; the figure, however, is not very conſtant, even in plants of the ſame genus. The limb, or upper part of the petal, is generally divided into four or five ſegments, which are ſometimes rolled back, ſometimes bent inwards. The limb, too, is ſometimes ſlightly cut, ſometimes divided almoſt to the bottom. The tube, or lower part of the petal, is cylindric, and generally of the ſame length with the calyx. The number of ſtamina is from 4 to 20. Theſe are generally erect, and attached to the lower part of the tube of the corolla. The antheræ are bifid, or forked, below, and being ſlightly attached to the filaments, are frequently inverted in ſuch a manner as to exhibit the appearance of two horns at top. The germen, or ſeed-bud, is generally roundiſh, and ſeated above the receptacle. The ſtyle is ſingle, thread-ſhaped, of the ſame length with the corolla, and in a few genera permanent. The ſeed-veſſel is either a capſule with five cells, a roundiſh berry, or an oblong four-cornered nut with two cells.—The plants of this order are aſtringent.

19. *Heſperideæ*, (from the Heſperides, whoſe orchards are ſaid to have produced golden apples). The plants of this order are of the ſhrub and tree kind, and moſtly ever-green. The bark of the ſtalks is ſlender, and comes off in thin plates. The leaves are generally oppoſite, and covered with ſmall tranſparent points. In ſome, the leaves are placed oppoſite at the bottom of the ſtalks, and alternate above. The buds are of a conic form, the flowers generally hermaphrodite; they proceed from the wings of the leaves either ſingly, or in cluſters, like ivy-berries. The calyx is placed above the ſeed-bud, and accompanies it to its maturity. The petals are three, four, or five, in number, and ſtand upon the brims of the tube of the calyx. The ſeed-bud is large, oblong, and placed below the receptacle of the flower. The ſtyle is ſingle, awl-ſhaped, of the length of the ſtamina, and terminated with a ſingle ſtigma. The ſeed-veſſel in ſome genera is a berry furniſhed with one or three cells; a capſule with four cells, or of the nature of a cherry, containing a ſtone. The ſeeds are generally numerous, ſmall, and oblong. The leaves and fruits are aſtringent, the berries eſculent.

20. *Rotaceæ*, (from *rota*, a wheel), conſiſting of plants with one wheel-ſhaped petal without a tube. Theſe reſemble in quality thoſe of the order preciæ, to which they are in all reſpects very nearly allied; but very few of them can be ſaid in ſtrict propriety to poſſeſs the character ſpecified in the title.

21. *Preciæ*, (from *precius*, early). Theſe conſiſt of primroſe, an early flowering plant, and ſome others which agree with it in habit and ſtructure, though not always in the character or circumſtance expreſſed in the title. Theſe plants, which poſſeſs no ſtriking uniform characters, are, in general, innocent in their quality; yet the root of ſow-bread is dangerous, if taken internally.

22. *Caryophyllei.* All the plants of this order are herbaceous, and moſtly annual. Some of the creeping kinds do not riſe above an inch, and the talleſt exceed not ſeven or eight feet. The roots are branching, fibrous, and of a moderate length. The ſtems are cylindrical. The branches proceed from the wings or angles of the leaves, and are generally oppoſite, and as it were jointed at each knot. In ſome ſpecies of ceraſtium the branches are ſquare. The leaves are generally placed oppoſite in pairs, ſo as to reſemble a croſs; and are ſlightly united at the bottom by their foot-ſtalks, which form a ſort of glove round the ſtem. The hairs are ſimple, like ſilk. The flowers are hermaphrodite; but ſome have male and female flowers upon diſtinct roots. They either ſtand ſingle on their foot-ſtalks, and proceed from the wings or angles of the leaves and branches, or are diſpoſed in a ſpike, corymbus, umbel, or panicle. The calyx is permanent, and compoſed either of one piece with five indentments, or of four or five diſtinct leaves. The corolla generally conſiſts of five petals, which have claws of the length of the calyx; and a ſpreading limb, ſometimes entire, but oftener cleft, or divided in two. The ſtamina are in number from 3 to 15, and of a moderate length. When their number is double the diviſions of the calyx, they are attached alternately to the claws of the petals, thoſe ſo attached being ſhorter than the reſt; the remaining ſtamina are inſerted into the common receptacle, and ſtand oppoſite to the ſegments of the calyx. In ſome genera of this order the number of ſtamina is found to vary, even in the different flowers of the ſame plant. The antheræ are ſhort, hemiſpherical, marked with four longitudinal furrows, frequently divided or cleft below, moſt commonly erect; ſometimes, however, *incumbent*, that is, faſtened to the filaments by the ſides. The pointal is compoſed of a ſingle ſeed-bud, which is generally roundiſh, ſometimes cornered. The ſtyles are thread-ſhaped, of the length of the ſtamina, and crowned with a ſimple ſtigma, which is ſleek or ſmooth externally, and ſlightly hollowed or vaulted within. The ſeed-veſſel is a dry capſule, of an oval form of the length of the calyx, and conſiſts of one or three cells. The plants of this order are innocent in their quality; they abound in a watery ſort of phlegm, and have bitter ſeed. With reſpect to their virtues, they are reckoned aſtringent, attenuating, and deterſive.

23 *Trihilatæ*, (from *tres*, three, and *hilum*, an external mark on the ſeed); conſiſting of plants with three ſeeds, which are marked diſtinctly with an external cicatrix, or ſcar, where they were faſtened within to the fruit.

24. *Corydales*, (from κορυς, a helmet); conſiſting of plants which have irregular flowers, ſomewhat reſembling a helmet, or hood. Theſe plants are moſtly herbaceous and perennial. The roots are tuberous or knobby. The ſtems are generally branching. The leaves are alternate, ſometimes ſimple, but moſt commonly winged. The foot-ſtalk of the leaves is ſtrait or narrow, except in *epimedium*, where it is large, and has a membranous edge or border, The flowers are univerſally hermaphrodite. They proceed either ſingly from the wings or angles of the leaves, or are collected in cluſters at the end of the branches. The calyx conſiſts of two, four, five, or ſix leaves, which are frequently coloured, and commonly fall off immediately before, or very ſoon after, the expanſion of the petals. The corolla is generally irregular; of one, or many pieces; gaping; and furniſhed with a nectarium, which is very different in the different genera. The ſtamina are in number from two to ſix, and of a proportionate length, except in honey-flower, which has two ſhorter than the reſt. The filaments are diſtinct, except in two genera, fumitory, and *monnieria*, which have two ſets of ſtrings, or filaments, united in a cylinder. The antheræ are univerſally diſtinct, except in *impatiens*, where they are formed into a cylinder divided at the baſe. The ſeed-bud is generally roundiſh, but ſometimes angular or cornered. The ſtyle is commonly ſingle, extremely ſhort, ſlender, or thread-ſhaped, and crowned with a ſimple ſtigma. The ſeed-veſſel is either a hollow blown-up berry, a capſule of one cell, a longiſh or a roundiſh pod. The ſeeds are generally numerous, and round.

25. *Putamineæ*, (from *putamen*, a ſhell); conſiſting of a few genera of plants allied in habit, whoſe fleſhy ſeed-veſſel, or fruit, is frequently covered with a hard woody ſhell. Moſt of theſe plants are acrid and penetrating; and yield, by burning, a great quantity of fixed alkali. With reſpect to their virtues, they are powerful aperients. The Indians pretend that the fruit of a ſpecies of caper-buſh, which they call *baducca*, extinguiſhes the flames of love.

26. *Multiſiliquæ*, (from *multus*, many, and *ſiliqua*, a pod); conſiſting of plants which have more ſeed-veſſels than one. From the etymology of the term, one would naturally imagine that the ſeed-veſſels in queſtion were of that kind called by Linnæus *ſiliqua*, or pod: but the fact is, that not a ſingle plant of this order bears pods; the greater part having many dry capſules, and the remainder being furniſhed properly with no ſeed-veſſel, but bearing numerous diſtinct ſeeds. Plants of this order are moſtly perennial herbs; the ſtems of ſome are erect; others creep upon the ground, and produce roots near the origin of each leaf; laſtly, others climb, and attach themſelves to the bodies in their neighbourhood, either by the foot-ſtalk of the leaves, or by tendrils and claſpers which terminate the foot-ſtalk. The greateſt height of thoſe which riſe erect, ſeldom exceeds eight feet. Thoſe which climb rarely exceeed 15 or 20 feet. The roots are generally fleſhy. In ſome they are hand-ſhaped; in others finger-ſhaped, or cylindric. In ſome ſpecies of hellebore and ranunculus they are divided into ſpherical knobs. Laſtly, in ſome plants of this order, the roots are fibrous. The ſtems and young branches are cylindric. The leaves, which are of different forms, being ſometimes ſimple and entire, ſometimes hand-ſhaped, or winged, are generally alternate. The foot-ſtalk, which is ſometimes cylindric, ſometimes angular, is membranous, and very large at its origin, ſurrounding a great part of the ſtem from which it proceeds. The flowers are hermaphrodite. They proceed either ſingly from the wings of the leaves or termination of the branches, or terminate the branches in a ſpike, panicle, or head. The calyx in ſome is wanting; in others it is generally compoſed of five pieces which fall off with the petals. The petals are in number from 4 to 15; generally equal, and ſometimes diſpoſed in two or three ſeries; five is the prevailing number. The ſtamina are in number from 5 to 300, diſtinct, and attached generally in ſeveral rows or ſeries to the receptacle. The ſeed-buds are generally numerous; the ſtyle is frequently wanting. In ſome the ſeed-veſſel is wanting; in others it is compoſed of ſeveral dry capſules each containing a ſingle cell. The ſeeds are numerous, and frequently angular. Moſt of theſe plants are acrid, and many of them poiſonous. In general, plants that have a great number of ſtamina are noxious in their quality. When burnt, theſe plants furniſh a fixed alkali; by diſtillation there is drawn from them a kind of nitrous and aluminous ſubſtance. With reſpect to their virtues, they are cauſtic and purgative.

27. *Rhœadeæ*, conſiſting of poppy, and a few genera which reſemble it in habit and ſtructure. Theſe plants, upon being cut, emit plentifully a juice, which is white, in poppy, and yellow in the others. With reſpect to their virtues they ſeem to operate principally upon the nerves. Their juice is ſoporific and narcotic, their ſeeds leſs ſo, their roots aperient. Applied externally, they are ſlightly corroſive.

28. *Luridæ*, conſiſting of plants whoſe pale and ominous appearance ſeems to indicate ſomething baleful and noxious in their natural quality. Moſt of theſe plants are herbaceous and perennial. Many of them are of the maſqued tribe of flowers; others reſemble theſe in their general appearance, but differ from them eſſentially in the quality of their ſtamina. The roots are generally branched, ſometimes tuberous. The ſtems and branches are cylindric. The leaves are generally ſimple, and placed alternate. The flowers are hermaphrodite. They proceed either ſingly or in cluſters, from the angle formed by the leaves and branches. In ſome ſpecies of lycium, they terminate the branches. The calyx is generally of one piece deeply divided into five parts. The corolla conſiſts of one petal, which is either bell, funnel, or wheel-ſhaped. The ſtamina are four or five in number; and thoſe either of equal lengths, as in the greater or unequal. The ſeed-bud is placed above the receptacle of the flower. The ſtyle is ſingle; and is terminated by a ſummit which is hemiſpherical, and frequently channelled or furrowed. The ſeed-veſſel, in ſuch as have equal ſtamina, is a berry; in the reſt it is generally a capſule. The ſeeds are numerous, and frequently kidney-ſhaped.—Theſe plants, in general, are poiſonous. They have an inſipid taſte, and a nauſeous diſagreeable ſmell.

29. *Campanaceæ*, (from *campana*, a bell); plants with bell-ſhaped flowers. The plants of this order are herbaceous, and perennial. The roots are either ſpindle-

ſhaped, or branching and fibrous. The ſtems are round. The branches are generally alternate. The leaves are ſimple, alternate, and commonly attached to the branches by a ſemi-cylindric foot-ſtalk, which is furrowed above. The indentments are terminated by a ſmall white tubercle or knob, which renders them conſpicuous. The flowers are hermophrodite; and proceed either ſolitary from the wings of the leaves, or are collected into a ſpike and head at the end of the flower-ſtalk. The calyx is univerſally a perianthium ſituated upon or round the germen, and generally compoſed of one leaf deeply divided into five ſegments. The corolla is monopetalous, and of the bell, funnel, or wheel ſhape. The tube, in flowers of the bell and wheel-ſhape, is very ſhort; in thoſe of the funnel-ſhape, very long. In Greek valerian, the tube is ſhut with five valves, which are placed on its apex, or top. The limb or upper part of the corolla is deeply divided into five ſegments, which ſpread, and are alternate with the diviſions of the calyx. The corolla is generally permanent. The ſtamina are five in number, attached to the baſe of the tube of the corolla, alternate with its diviſions, and oppoſite to thoſe of the calyx. The filaments are diſtinct; very large at their origin; and frequently approach ſo as to form a ſort of vault, which covers the ſummit of the germen. They are ſlender and awl-ſhaped above. The antheræ are very long; oval; marked with four longitudinal furrows, either diſtinct, or united in a cylinder. The pollen is compoſed of very ſmall, ſpherical, white, ſhining, and tranſparent particles. The germen is roundiſh, and ſituated either wholly or in part under the flower. The ſtyle is generally ſingle, and of the length of the ſtamina, or corolla. The ſtigma is commonly ſingle, but deeply divided. The ſeed-veſſel is a roundiſh capſule, generally divided into three cells, and furniſhed externally with the ſame number of valves. The ſeeds are ſmall, numerous, attached to a receptacle in the centre of the fruit, generally rounded, and ſometimes cornered.—This order furniſhes many excellent medicines. The plants abound with a white milky juice, which, upon the ſtalk being cut, flows out in great quantities.

30. *Contortæ*, (from *con*, together, and *torqueo*, to twiſt); conſiſting of plants which have a ſingle petal that is twiſted, or bent towards one ſide. This order furniſhes trees, ſhrubs, and fat ſucculent plants, ſome of which retain their leaves during the winter. The herbaceous vegetables in this order are generally perennial. The roots are ſometimes branching, but commonly fleſhy, ſucculent, and garniſhed with fibres, or ſtrings, like thoſe of turnip. The ſtems are round, and in ſome genera pulpy, and ſucculent. The branches are ſometimes placed alternate, and ſometimes oppoſite. The buds are of a conic form, and naked or without ſcales. The leaves are ſometimes alternate, ſometimes placed oppoſite in pairs, and not ſeldom ſurround the ſtem in whirls. They are attached to the branches by a cylindrical foot-ſtalk; which is ſhort, and frequently united to the foot-ſtalk of the oppoſite leaf. The defenſive and offenſive weapons in this order are a downy ſort of pubeſcence, and ſimple, or forked prickles, which, in ſome genera, iſſue from the wings of the leaves. The flowers are hermaphrodite; and ſtand either ſingly upon their foot-ſtalks, or are collected into umbels, and cluſters. Theſe bunches or collections of flowers ſometimes terminate the branches, ſometimes proceed from the angles of the branches, and ſometimes ſtand at the ſide of the wings without iſſuing from them. The flower-cup is compoſed of one leaf divided almoſt to the baſe in five unequal ſegments, which embrace each other, and are permanent, or accompany the ſeed-bud to its maturity. The corolla conſiſts of one petal, which in the different genera is bell, ſalver, funnel, or wheel-ſhaped. The limb, or upper ſpreading part of the petal, is generally divided into five equal parts, which are ſlightly bent or twiſted to the left, and embrace or unfold each other like the petals of the mallow tribe. The tube is generally long and cylindrical; ſometimes club-ſhaped, and often wanting. In ſeveral flowers of this order the petal is accompanied with that ſpecies of ſuperfluity termed a *nectarium*. In the different genera, however, it aſſumes very different appearances. The ſtamina are five in number, ſhort, equal, attached at the ſame height to the tube of the petal, alternate with its diviſion, and oppoſite to thoſe of the calyx. The antheræ are generally erect, and frequently approach ſo as to form a compact body in the middle of the flower. The ſeed-bud is either ſingle or double. In ſome the ſtyle is wanting. The ſtigma is frequently double. The ſeed veſſel in ſome genera is a pulpy fruit, of the berry and cherry kind; but moſt frequently that ſpecies termed by Linnæus *conceptaculum*, and *folliculus*, which has one valve, or external incloſure, opens lengthwiſe on one ſide, and has not the ſeeds faſtened to it. Two of theſe dry fruits, with a ſingle cell, compoſe the ſeed-veſſel of moſt plants of this order. The ſeeds are generally numerous, and in ſeveral genera crowned with a long pappus or downy wing like that of the compound flowers, by means of which they eaſily diſperſe and ſow themſelves.—The plants of this order being cut, emit a juice which is generally milky, and ſometimes of a greeniſh white. From the circumſtance of their abounding in this milky juice, the greater part are deemed poiſonous; repeated obſervations having eſtabliſhed this aphoriſm, That milky plants, except thoſe of the plain compound flowers, are generally of a baneful deſtructive nature, and ought at leaſt to be adminiſtered with caution. With reſpect to their ſenſible qualities, they are bitter; particularly the ſeed, roots, and bark, in which reſides their principal virtue.

31. *Veprecula*, (from *vepres* a briar, or bramble), conſiſting of plants reſembling the daphne, dirca, gnidia, &c. but which, however, do not conſtitute a true natural aſſemblage.

32. *Papilionaceæ*, plants that have papilionaceous flowers, *i. e.* ſomewhat reſembling a butterfly in ſhape; of which number are all the leguminous plants. The plants of this order are of very different duration; ſome of them being herbaceous, and thoſe either annual or perennial; others woody vegetables of the ſhrub and tree kind, a few of which riſe to the height of 70 feet and upwards. The herbaceous plants of this order generally climb; for, being weak and as it were helpleſs of themſelves, they are provided by nature with tendrils, and even ſharp-pointed hooks, at their extremities, to faſten upon the neighbouring trees or rocks; or the ſtalks are endowed with a faculty of twiſting themſelves, for the purpoſe of ſupport, around the bodies in their neighbourhood. The pea, vetch, and kid-

ney-bean, afford familiar examples of this appearance. The ſhrubs and trees of this order are moſtly armed with ſtrong ſpines. The roots are very long, and furniſhed with fibres; but ſome genera have fleſhy knobs or tubercles placed at proper intervals along the fibres. The ſtems are cylindric, as likewiſe the young branches, which are placed alternately: thoſe which climb, twiſt themſelves from right to left, in a direction oppoſite to the apparent motion of the ſun. The bark of the large trees is extremely thick and wrinkled, ſo as to reſemble a net with long meſhes; the wood is very hard in the middle, and commonly coloured or veined. The buds are hemiſperical, without ſcales, and proceed from the branches horizontally a little above the angle which they form with the leaves. The leaves are alternate, and of different forms, being either ſimple, finger-ſhaped, or winged. This laſt form is very common; the lobes or leſſer leaves are entire, and ſometimes placed in pairs, but moſt commonly the winged leaf is terminated by an odd lobe. The winged or pinnated leaves of this order have a daily or periodical motion, depending upon the progreſs of the ſun in his diurnal courſe. The common foot-ſtalk of the winged and compound leaves is marked on the upper ſurface with a cavity or furrow which runs through its whole length. The flowers are hermaphrodite; and proceed either from the wings of the leaves, or from the extremity of the branches. The calyx is a perianthium of one leaf, bell-ſhaped, bunching out at the bottom, and cut on its brim, or margin, into five irregular diviſions, or teeth; the lowermoſt of which, being the odd one, is longer than the reſt: the other four ſtand in pairs, of which the uppermoſt is ſhorteſt, and ſtands fartheſt aſunder. The bottom of the calyx is moiſtened with a ſweet liquor like honey, ſo may be deemed the nectarium of theſe plants. The petals are four or five in number, very irregular, and from their figure and poſition bear an obvious reſemblance to a butterfly expanding its wings for flight. Theſe petals have been characterized by diſtinct names: the upper one, which is commonly the largeſt, is termed the *ſtandard*, (*vexillum*); the two ſide petals, the wings, (*alæ*); and the lowermoſt, which is generally united at top, and divided at bottom, the *keel*, (*carina*). The ſtamina are generally ten: theſe are either totally diſtinct, or united by the filaments into one or two bundles involving the ſeed-bud. In the latter caſe, where there are two ſets of united filaments, one of the ſets is compoſed of 9 ſtamina, which are united into a crooked cylinder, that is cleft on one ſide thro' its whole length: along this cleft lies the tenth filament or ſtamen, which conſtitutes the ſecond ſet, and is often ſo cloſely attached to the ſecond bundle, that it cannot be ſeparated without ſome difficulty. The antheræ are ſmall, round, marked with four logitudinal furrows, and ſlightly attached to the filaments. In lupine the antheræ are alternately round and oblong. The ſeed-bud is ſingle, placed upon the receptacle of the flower, oblong, cylindrical, ſlightly compreſſed, of the length of the cylinder of the united ſtamina by which it is involved, and ſometimes elevated by a ſlender foot-ſtalk which iſſues from the centre of the calyx. The ſtyle is ſingle, ſlender, and generally crooked or bent. The ſtigma is commonly covered with a beautiful down, and placed immediately under the antheræ. The ſeed-veſſel is that ſort of pod termed a *legumen*, which is of an oblong figure, more or leſs compreſſed, with two valves, and one, two, or more cavities. Theſe cavities are often ſeparated, when ripe, by a ſort of joints. The ſeeds are generally few in number, round, ſmooth, and fleſhy. Jointed pods have generally a ſingle ſeed in each articulation. The ſeeds are all faſtened along one ſuture, and not alternately to both, as in the other ſpecies of pod termed *ſiliqua*.—The plants of this family are, in general, mucilaginous. From the inner bark of moſt of them flows, either naturally or by inciſion, a clammy liquor, which dries and hardens like gum; the juice of others is ſweet like ſugar; ſome taſte bitter, and are purgative, emetic, or even mortal. A ſpecies of eaſtern aſtragulus, with goats-rue leaves, are ſaid to be remarkable cauſtic, and to burn the tonge exceſſively when chewed. In general, however, theſe plants are ſoft and clammy. With reſpect to their virtues, the plants of this order are highly emollient; ſome of them are vulnerary, and aſtringent; and the root of ononis, or reſt-harrow, is diuretic.

33. *Lomentaceæ*, (from *lomentum*, a colour uſed by painters). Many of theſe plants furniſh beautiful tinctures, and ſome of them are much uſed in dyeing. They very much reſemble the laſt order, differing only in the following particulars. 1. In all plants of this order, except milk-wort, the ſtamina are diſtinct. The flower is not ſhaped like a butterfly, but is leſs irregular, and frequently conſiſts but of one petal. The leaves are ſometimes ſimple, but moſt commonly winged. The ſeeds are commonly marked with a circular furrow on both ſides. Like thoſe of the leguminous tribe, the plants of this order are generally mucilaginous. From the inner bark of the greater number exſudes, either naturally or by inciſion, a mucilaginous liquor, which ſometimes dries upon the plant, and becomes a gummy ſubſtance.

34. *Cucurbitaceæ*, (from *cucurbita*, a gourd); conſiſting of plants which reſemble the gourd in external figure, habit, virtues, and ſenſible qualities.—The plants of this order, which generally climb, and have long diffuſed branches, are moſtly herbaceous, and perennial. The roots in the perennial plants of this order are ſhaped like thoſe of the turnip; in the annuals they are branching, and fibrous. The ſtems are cylindric, and ſucculent. The young branches have generally five corners. In ſome ſpecies of paſſion-flower they are ſquare. The leaves are alternate, angular, and ſometimes hand-ſhaped. They are attached to the branches by a foot-ſtalk, which is pretty long, and cylindrical, without any furrow. From the wing, or angle of each of the upper leaves proceeds a tendril, which is either ſimple, or branching, and twiſts itſelf ſpirally round the different bodies in its neighbourhood, for the purpoſe of ſupporting and training of the branches. The lower leaves have no tendril. The flowers are either hermaphrodite or male and female. In this laſt, the male flowers are generally ſeparated from the female upon the ſame root; and that either in the ſame wing or angle of the leaves, or in different angles. The flower-cup, in the female flowers, is placed upon the ſeed-bud; and generally conſiſt of one bell-ſhaped leaf, that is deeply divided into five unequal ſegments, and, unlike the other plants which have the calyx ſeated upon the fruit, falls off with the petals and the other parts of the flower. The corolla conſiſts of one petal,

with five equal diviſions, which adhere to the tube of the calyx, as if glued to it. A ſpecies of paſſion-flower, termed by Linnæus *paſſiflora ſuberoſa*, wants the petals. The ſtamina are in number from one to five, ſhort, and generally inſerted into the calyx. The filaments are diſtinct; the antheræ of many genera are united in a cylinder. In the paſſion-flower they are ſlightly attached to the filaments, on which they turn like a vane, or the needle of a compaſs. The ſeed-bud is ſingle, and placed below the receptacle of the flower. The ſtyle is generally ſingle, cylindrical, of the length of the calyx, and crowned with a triple ſtigma. The ſeed-veſſel is generally pulpy, of the apple or berry kind, and conſiſts of one, two, or three, cells. The ſeeds are numerous, generally flat, or compreſſed, and ſometimes covered with that kind of proper coat called by Linnæus *arillus*.—The fruit of theſe plants is generally purgative, and refreſhing; and ſome of them prove a very violent emitic when uſed too freely.

35. *Senticoſæ*, (from *ſentis*, a briar, or bramble); conſiſting of the roſe, bramble, and other plants which reſemble them in port, and external ſtructure. Theſe plants are ſo nearly allied in form, habit, and ſtructure, to thoſe of the natural order *Pomaceæ*, that they ought never to have been ſeparated from it. The leaves have a ſtyptic taſte; the fruits are acid, and cooling. With reſpect to their virtues, the leaves are vulnerary and aſtringent, the roots are diuretic. The acid fruits, as ſtrawberry and raſpberry, are uſed with ſucceſs in putrid and bilious fevers, as likewiſe in contagious and epidemic dyſenteries, which prevail in ſummer and autumn, and are occaſioned by a ſudden tranſition from a hot to a cold air, or by the acrid humour which flows into the inteſtines.

36. *Pomaceæ*, (from *pomum*, an apple); conſiſting of thoſe which have a pulpy eſculent fruit, of the apple, berry, or cherry kind. The plants of this order, which furniſh many of our moſt eſteemed fruits, are moſtly of the ſhrub and tree kind. The roots are branched, fibrous, and in the greater part very long. The ſtems and branches are cylindric. Theſe laſt are placed alternate; and, when young, are, in ſome genera, angular. The bark is thick and wrinkled. The buds are of a conic form, placed in the angles of the leaves, and covered with ſcales which lie over each other, like tiles. The leaves, which differ in form, being in ſome genera ſimple, in others winged, are, in the greater number, placed alternate. The foot-ſtalk of the leaves is furrowed above, and frequently accompanied by a number of knobs, like glands. Moſt of theſe plants are furniſhed with two ſtipulæ at the origin of the young footſtalks of the leaves. Theſe, in ſome genera, are pretty large; in others, they are ſo ſmall as ſcarce to be perceived; and in cocoa-plumb, in particular, they by their minuteneſs reſemble hairs. The flowers are univerſally hermaphrodite, except in *ſpiræa aruncus*, in which male and female flowers are produced on diſtinct plants. In the greater number of genera they are produced in cluſters or heads at the end of the branches. The calyx is of one piece, with five ſegments, or diviſions, which are permanent, and placed above the ſeed-bud in ſome; in the reſt, they either fall off with the flower, or wither upon the ſtalk. The petals are five in number, and are inſerted into the tube of the calyx. The ſtamina are generally 20 and upwards, and attached, like the petals, to the margin of the tube of the calyx. The antheræ are ſhort, and ſlightly attached to the filaments. The ſeed-bud is ſingle; and in thoſe genera which have the calyx permanent, it is placed below the receptacle of the flower. The ſeed-veſſel is a pulpy fruit of the apple, berry, or cherry kind. Thoſe of the apple kind are divided internally into a number of cavities, or cells. The ſeeds are numerous.—The pulpy fruits of this order are acid, eſculent, and of great efficacy in putrid and bilious fevers.

37. *Columniferæ*, (from *columna*, a pillar, and *fero*, to bear); conſiſting of plants whoſe ſtamina and piſtil have the appearance of a column or pillar in the centre of the flower. This order furniſhes a choice collection of herbs both annual and perennial, ſhrubs, and trees. Theſe are very different in ſize and height, from the creeping mallows, and low ſhrubby tea-tree, to the fleſhy limes, and the more lofty ſilk cotton-trees, which by ſome modern writers are affirmed to be ſo large as not to be fathomed by 16 men, and ſo tall that an arrow cannot reach their top. The ſhrubs and trees of this order are deciduous, pretty thick, of a beautiful appearance, with an erect ſtem, which is formed by its branches and foliage into a round head. The roots are extremely long, branch but little, and either run perpendicularly downwards, or extend themſelves horizontally below the ſurface. The ſtems are cylindric. The young branches, though commonly of the ſame figure, are ſometimes angular. This bark is thick and pliant. The wood, in general, very ſoft, and light. The buds are of a conic form, naked, or without ſcales; and ſituated either at the extremity of the branches, or in the angle formed by the branch and leaf. The leaves are alternate, ſimple, divided into ſeveral lobes, and frequently hand or finger ſhaped. The ribs or nerves on the back of the leaf, in ſome genera of this order, are provided near their origin with a number of hollow furrows, or glands, which, being filled with a clammy honey-like liquor, have been conſidered as ſo many veſſels of ſecretion. The foot-ſtalk of the leaves is cylindric, ſwelled at its origin, and appears jointed at its junction with the branch. The flowers are univerſally hermaphrodite, except in *kiggelaria*, and a ſpecies of Virginian marſhmallow, called by Linnæus *napæa dioica*; the former of which bears male and female, the latter male and hermaphrodite, flowers on different roots. In many plants of this order, the flowers generally open about nine in the morning, and remain expanded till one in the afternoon. The flowers either terminate the branches, proceed from the angles of the leaves, or are diſpoſed either ſingly or in a corymbus along the branches, or ſtem. In moſt of theſe genera the calyx is ſingle, but in others frequently double. In theſe laſt the inner calyx is always of one piece, generally divided into five ſegments; the outer conſiſts either of one leaf, of three diſtinct leaves, or of many. The calyx, when ſingle, is ſometimes compoſed of one leaf which is permanent, or of ſeveral diſtinct leaves which are generally coloured, and fall off with the petals. In plants that have a double calyx, both flower-cups are generally permanent. The petals in this order are from four to nine; five is the prevailing number. The ſtamina, which are in number from 5 to 20 and upwards, are generally inſerted into the common receptacle of the calyx, or into the piſtillum, or ſeed-bud. The filaments are either di-

ſtinct, or united in a cylinder, which, proceeding from the receptacle of the calyx, ſurrounds the ſeed-bud, and attaches itſelf to the baſe of the petals, with which it ſlightly unites. The antheræ are frequently roundiſh, and placed erect on the filament; moſt commonly, however, they are oblong or kidney-ſhaped, and ſlightly attached by the middle, or ſides, to the filaments, on which they turn like a vane or needle. This laſt is particularly the characteriſtic of all the mallow tribe. The ſeed-bud is generally roundiſh or conic; and ſometimes, as in the tea-tree, angular. The ſeed-veſſel is generally a capſule; ſometimes a pulpy fruit of the berry or cherry kind. In ſome, it is a woody or membranous capſule, divided into as many cells internally as there were partitions in the ſeed-bud. The ſeeds are generally ſolitary, ſometimes angular, and ſometimes kidney-ſhaped.—Theſe plants are mucilaginous, and lubricating.

38. *Tricoccæ* (from τρεις, *three*, and κοκκος, a *grain*); conſiſting of plants with a ſingle three-cornered capſule, having three cells, or internal diviſions, each containing a ſingle ſeed. The ſingle ſeed-veſſel of theſe plants is of a ſingular form, and reſembles three capſules, which adhere to one common foot-ſtalk as a centre, but are divided externally into three pretty deep partitions. This family is not completely natural. It muſt be obſerved, however, that the character expreſſed in the title is a ſtriking one; and that though the plants which poſſeſs it are not connected by ſuch numerous relations as to form a true natural aſſemblage, yet they are by that circumſtance diſtinguiſhed from all other plants with as great, nay greater facility, than by any artificial character yet known. But all the genera of this order have not the ſtriking character juſt mentioned.

39. *Siliquoſæ*, (from *ſiliqua*, a pod); conſiſting of plants which have a pod for their ſeed-veſſel. This order chiefly furniſhes biennial and perennial herbs of an irregular figure. The roots are long, branched, crooked, and fibrous. In ſome they are ſucculent and fleſhy, in others jointed. The ſtems and young branches are cylindric. The leaves, which differ in point of form, being ſometimes ſimple, ſometimes winged, are generally placed alternate. The flowers are hermaphrodite, and in the greater number diſpoſed in a ſpike at the extremity of the branches. The flower-cup is compoſed of four leaves, which are oblong, hollow, blunt, bunched at the baſe, and fall with the flower. Theſe leaves are ſometimes erect, and ſometimes ſpread horizontally. The petals, which are four in number, ſpread at top, and are diſpoſed like a croſs: the claws or lower part of the petals are erect, flat, awl-ſhaped, and ſomewhat longer than the calyx. The upper part widens outwards. The ſtamina are ſix in number; two of which are of the length of the calyx, and the remaining four ſomewhat longer, but ſhorter than the petals. The antheræ are of an oblong figure, pointed, thicker at the baſe, and erect. Betwixt the ſtamina, in plants of this order, are generally lodged one, two, or four, round greeniſh knots, which in ſome genera are ſo ſmall as to elude the ſight. Theſe glands, called by Linnæus *glandulæ nectariferæ*, and uſed very improperly by that author as an eſſential character in diſcriminating the genera, ſeem to be prominences of the receptacle of the flower, occaſioned by the ſtamina being deeply lodged in its ſubſtance. The ſeed-bud is ſingle, and ſtands upon the receptacle of the flower. The ſtyle, which is either cylindric or flat like a ſcale, is of the length of the four longer ſtamina in ſome genera; in others it is very ſhort, or even wanting. It accompanies the ſeed-bud to its maturity. The ſtigma is blunt, and ſometimes deeply divided into two parts. The ſeed-veſſel is either a long pod, or a ſhort and round one. Either ſort has two valves or external openings, and in a great many genera the ſame number of internal cavities, or cells, the partition of which projects at the top beyond the valves. The ſeeds are roundiſh, ſmall, and attached alternately by a ſlender thread to both ſutures, or joinings, of the valves. Theſe plants have a watery, ſharp, lixivial taſte; and are charged with a fixed alkaline ſalt, which is drawn from them by burning, and being diſtilled without any addition produces a volatile alkali. Moſt of them have a ſtinking ſmell. With reſpect to their virtues, they are diuretic, attenuating, deterſive, and antiſcorbutic. Theſe qualities, however, are moſt eminently poſſeſſed by the live plants; when dried, they either entirely diſappear, or are greatly diminiſhed. Applied externally, theſe plants are uſeful in diſeaſes of the ſkin, as the itch, leproſy, &c.

40. *Perſonatæ*, (from *perſona*, a maſque); conſiſting of a number of plants whoſe flowers are furniſhed with an irregular, gaping, or grinning petal, in figure ſomewhat reſembling the ſnout of an animal. This order furniſhes both herbaceous and woody vegetables of the ſhrub and tree kind. The roots are generally fibrous, and branched. The ſtems and branches are cylindric when young, except in ſome ſpecies of figwort, in which they are ſquare. The leaves are ſimple, generally placed oppoſite in pairs at the bottom of the branches, but in many genera ſtand alternate towards the top. The flowers are univerſally hermaphrodite; they proceed either ſingly, or in cluſters from the wings of the leaves, or terminate the branches in a ſpike, panicle, or head. The calyx is of one leaf, which is cut into two, three, four, or five ſegments, or diviſions, that are permanent. The corolla is compoſed of one irregular petal, with two lips, reſembling, as was already obſerved, the head or ſnout of an animal. In ſome plants the ſtamina are two or four in number, and of an equal length; in others they are univerſally four in number, two of which are long and two ſhort. The ſeed-bud is ſingle, and placed above the receptacle of the flower. The ſtyle is ſingle; thread-ſhaped; bent in the direction of the ſtamina; and crowned with a ſtigma, which is generally blunt, and ſometimes divided into two. The ſeed-veſſel is a capſule, generally divided internally into two cavities or cells, and externally into the ſame number of valves or incloſures. The ſeeds are numerous, and affixed to a receptacle in the middle of the capſule.—Theſe plants poſſeſs nearly the ſame qualities with the lip-flowers, though in a leſs degree. With reſpect to their virtues, many of them are aperient, anodyne, purgative, and even emetic. The internal uſe of many of them is extremely pernicious; applied externally, they are anodyne, and powerful reſolvents.

41. *Aſperifoliæ*, rough-leafed plants. The greateſt part of theſe are herbaceous and perennial. The roots are branching, and fibrous; the ſtems and branches

rounded; the buds of a conic form, naked or without ſcales. The leaves are ſimple, alternate, commonly very rough to the touch, and in moſt of the herbaceous plants ſeſſile, or attached to the ſtem and branches without any foot-ſtalk. In the few trees, however, of this order, the leaves have a foot-ſtalk, the lower part of which, after the fall of the leaves, remains like a ſpine, or thorn. The hairs are ſimple, and generally very rough to the touch. The flowers are in ſome genera ſolitary; but commonly collected into a ſpike, or corymbus. They do not proceed from the angle formed by the ſtem or branch with the leaf, as in many plants; but from the ſide of the leaf, or from that part of the ſtem which is oppoſite to the leaf. They are almoſt univerſally hermaphrodite: in a few ſpecies of *cordia*, male and female flowers are produced upon different roots. The calyx is compoſed of one leaf, which is divided from three to ten equal or unequal parts. Thoſe with four naked ſeeds have the calyx deeply divided into five parts, which are permanent. The corolla is monopetalous, or compoſed of one petal, which in different plants is bell, funnel, ſalver, and wheel-ſhaped. The diviſions of the limb, or upper part of the petal, are generally five, alternate with thoſe of the calyx; equal and regular, except in *echium*. The ſtamina are five in number, alternate with the diviſions of the corolla. They are equal, attached to the tube of the corolla a little above its origin, and of the ſame height. The antheræ are in ſome genera *connivent*; that is, approach, and form a compact body above the filaments. The piſtillum is generally compoſed of a ſlender ſtyle of the ſame length with the ſtamina, and crowned with a ſimple ſtigma. It proceeds from a germen, or ſeed-bud, which in ſome plants is undivided, but generally ſplit into four. The ſeeds are generally four in number, and lodged in the bottom of the calyx.—Moſt of the rough-leafed plants are uſed in medicine: the flowers are eſteemed cordial, the leaves and roots vulnerary, and aſtringent; and the hard bony ſeeds are reckoned powerful promoters of urine. Externally, theſe plants are uſed for burnings, and poiſonous bites; they extirpate warts, and relieve diſorders of the loins.

42. *Verticillatæ*, conſiſting of herbaceous vegetables, having four naked ſeeds, and the flowers placed in whorls round the ſtalk. The roots are branched, and fibrous. The ſtems are round when old, but ſquare when young; as are likewiſe the young branches, which ſtand oppoſite. The leaves are oppoſite, and in the greater number covered with tranſparent points. Thoſe which are placed next the flower generally differ from the ſtem-leaves. In the greater number of plants of this kind, the leaves are ſupported upon a long cylindrical foot-ſtalk, that is furrowed above. The flowers are univerſally hermaphrodite, except in a ſpecies of thyme mentioned by Mr Adanſon, which appears to have male, or barren flowers on one root, and female, or fertile flowers on the other. They are diſpoſed round the ſtem in whorls or ſmall heads with ſhort foot-ſtalks. The calyx is of one piece, that is generally cut into five unequal diviſions, whoſe diſpoſition ſometimes repreſents two lips; the uppermoſt of which has commonly a leſs number of diviſions: it accompanies the ſeeds, which it nouriſhes in its boſom, to their maturity. The petal is of the gaping, or lip kind, and in the different genera is more or leſs irregular or unequal, either in its tube, or in the diviſions of the lips; the number of which varies from two to five. Theſe diviſions frequently form two lips; of which the uppermoſt, termed the *creſt* and the *helmet*, is ſometimes entire, ſometimes more or leſs deeply cut into two; the lowermoſt, termed the *beard*, generally into three. The ſtamina are two or four in number. In the greater part there are four ſtamina of unequal length, two of them being long and two ſhort. The four unequal ſtamina are frequently diſſimilar, and approach by pairs: they are inclined towards the back of the petal, and parallel; the two innermoſt being ſhorteſt, and attached ſomewhat lower than the two others to the tube of the flower. The ſeed-bud, which conſiſts of four diſtinct ovaries, is placed upon the ſeat of the flower, and elevates from their centre a common ſtyle, which is ſlender, bent in the ſame manner as the filaments, which it ſomewhat exceeds in length, and terminated by a double ſtigma or ſummit, the diviſions of which are unequal, and turned backwards. The ſeed-veſſel in this order is wanting. The ſeeds are four in number, and lodged in the bottom of the calyx, as in a matrix, or ſeed-veſſel. Each ſeed has two covers: the one external, of a cartilaginous or leathery ſubſtance; the other internal, membranaceous, of a very fine texture, and placed immediately above the radicle, or embryo-plant.—The plants of this order are fragrant, warm, penetrating, and accounted cordial, and cephalic. Their chief virtue reſides in the leaves.

43. *Dumoſæ*, (from *dumus*, a buſh); conſiſting of a number of ſhrubby plants, which are thick ſet with irregular branches, and buſhy. The plants of this order are all of the ſhrub and tree kind, thick and buſhy, riſing from 6 to 25, 30, and even 40 feet high. Many of them too, as baſtard alaternus, holly, iron-wood, New-Jerſey-tea, ſtar-apple, viburnum, winter-berry, and ſome others, retain their beautiful leaves during the whole year. The roots are branched and fibrous. The ſtems are cylindric; the young branches ſometimes angular. The buds are naked, that is, without ſcales, in the ever-green ſhrubs of this order; covered with ſcales in moſt of the others. The leaves, which, in ſome genera are ſimple, in others compound, are placed alternate in ſome, and oppoſite in others. The flowers are moſtly hermaphrodite. They proceed from the wings of the leaves either ſingly or in cluſters; or they terminate the ſtem in that ſort of flowering head called a *corymbus*. The calyx is generally very ſmall, placed below or around the ſeed-bud; and conſiſts of one leaf, with four, five, or ſix, diviſions, which are permanent. The rhamnus has no calyx. The petals are in number from one to five. The ſtamina are either four, five, ſix, or ten. The ſeed-bud is generally roundiſh, and placed within the flower. The ſtyle is commonly ſingle, and ſometimes wanting. The ſtigma is either ſingle or triple. The ſeed-veſſel is generally a berry, ſometimes a dry capſule; the ſeeds are generally ſingle and egg-ſhaped. The berries, bark, and flowers of many of theſe plants are purgative, and act particularly on the lymph and bile.

44. *Sepiariæ*, (from *ſepes*, a hedge); conſiſting of a beautiful collection of woody plants, ſome of which, from their ſize, elegance, and other circumſtances, are very proper furniture for hedges. This order furniſhes

woody plants both of the ſhrub and tree kind, moſt of which do not drop their leaves till nearly the time when the new leaves begin to appear.

45. *Umbellatæ*, (from *umbella*, an umbel) ; conſiſting of plants whoſe flowers grow in umbels, with five petals that are often unequal, and two naked ſeeds that are jointed at top, and ſeparated below. Theſe plants are herbaceous, and chiefly perennial. The roots are either tuberous or ſpindle-ſhaped, and ſometimes forked. The ſtems are cylindric, full of pitch, and frequently hollow. The branches are alternate. The leaves, which, like the branches, are put on alternately, are very different in point of form ; being ſimple and entire in ſome ; target-ſhaped, in a ſpecies of navel-wort ; finger, or hand ſhaped, in ſome others ; and winged, or pinnated with numerous minute diviſions, as in the greater number. They are ſupported by a foot-ſtalk, which is very broad and membranous at its origin, and commonly embraces the whole contour of the ſtem and branches. The flowers are in general hermaphrodite. There are, however, ſome that have male or barren flowers in the ſame umbel. This is particularly the caſe with thoſe umbelliferous plants which have the petals in the flowers of the circumference large, and unequal. In theſe plants the flowers in the circumference only prove fertile ; thoſe in the centre, or diſk, proving abortive. Oenanthe and imperatoria, on the contrary, have the flowers in the circumference abortive. In ginſeng, hermaphrodite and male flowers are produced upon diſtinct plants. The flowers are diſpoſed in an umbel, which is either ſimple or compound. The common calyx in this order is that ſort termed, very improperly, by Linnæus *involucrum*, or the flower-cover ; which in the greater number conſiſts of one or more leaves placed under the partial, or univerſal umbel, or both, for the purpoſe of ſupport. The preſence or abſence of one or both of theſe covers affords excellent marks in diſcriminating the genera of this very ſimilar order of plants. The proper calyx of each flower, in the aggregate, conſiſts of five minute indentments placed upon the ſeed-bud, which it envelopes, and accompanies to its maturity. The petals are five in number, and diſpoſed upon the ſides of the flower-cup, in form of a roſe. In the florets of the centre, the petals are generally pretty equal and ſmall ; in thoſe of the circumference, they are frequently unequal and larger ; in the greater number, they are heart-ſhaped, and cut almoſt to the middle in two. The ſtamina are five in number, placed oppoſite to the diviſions of the flower-cup, and alternate with the petals. The ſeed-bud is univerſally placed under the ſeat of the flower, and ſupports two ſtyles which are turned backwards, and crowned with ſimple ſummits which do not differ in appearance from the ſtyles. The ſeed-veſſel in this order is wanting. The ſeeds are two in number, which, when ripe, ſeparate below, but remain cloſely attached at top. The plants of this order which grow in dry places, are ſudorific, ſtomachic, and warming. Their virtue reſides chiefly in the ſeeds, and leaves. Thoſe which grow in marſhy places are generally poiſonous ; but, notwithſtanding the extremely warm and even cauſtic quality of moſt of theſe plants, many of them are employed in the kitchen, and in the œconomy of domeſtic affairs.

46. *Hederaceæ*, (from *hedera*, ivy) ; conſiſting of ivy, and a few other genera, which ſeem nearly allied to it. This order furniſhes both herbaceous and ſhrubby plants; moſt of which, particularly ivy and vine, have creeping branches, which attach themſelves by roots, or tendrils, to the bodies in their neighbourhood. The roots are long, with few branches. The ſtems and young branches are cylindric. In ſome ſpecies of vine they are ſquare. The leaves are alternate ; ſometimes ſimple, ſometimes winged, in which the ſurface of the leaves is covered with points. The foot-ſtalk of the leaves is cylindrical, and without any furrow. The buds are of a conic form, and without any ſcales. The flowers are either hermaphrodite, male and female upon different roots, or hermaphrodite and male upon different roots. In ſome, they terminate the branches in an umbel ; in others, they proceed in cluſters from the ſide oppoſite to the leaves ; and in ſome, they are produced along the branches. The calyx conſiſts of one leaf divided into five parts, which are ſmall and generally permanent. The petals in this order are generally five. The ſtamina are in number five ; awl-ſhaped, erect, and generally of the length of the petals. Ciſſus has only four ſtamina, which are inſerted into the nectarium, a ſort of border ſurrounding the ſeed-bud. The antheræ are roundiſh, and ſometimes, as in ivy, attached to the filaments by the ſides. The ſeed-bud is ſometimes round, ſometimes ſhaped like a top, or pear, and ends in one, two, or five, awl-ſhaped ſtyles, which are crowned with a ſimple ſtigma. The flowers of the vine have no ſtyle. The ſeed-veſſel is of the berry kind, with one, two, or five ſtyles. The ſeeds are from one to five in number ; placed either in diſtinct cells, or diſperſed through the pulp without any partition.

47. *Stellatæ*, (from *ſtella*, a ſtar); conſiſting of plants with two naked ſeeds, and leaves diſpoſed round the ſtem in form of a radiant ſtar. This order contains herbs, ſhrubs, and trees. The herbs, which are moſt numerous, are chiefly annual, and creep along the ſurface of the ground. The ſhrubs and trees are moſtly ever-greens, which riſe erect, and are of an agreeable conic form.—Theſe plants are opening ; ſome of their ſeeds, particularly thoſe of coffee, are bitter and cordial ; ſome of them are uſed in dyeing, and others in medicine.

48. *Aggregate*, (from *aggregare*, to aſſemble, or collect) ; comprehending thoſe plants, which have aggregate flowers, conſiſting of a number of florets, or ſmall flowers, each of which, have a proper and common calyx.

49. *Compoſitæ*, conſiſting of plants with compound flowers. In this order Linnæus has conſtructed his firſt or primary diviſions from the different ſexes of the florets, which he terms *polygamy* ; the ſubaltern diviſions are conſtructed from the figure of the petals, the diſpoſition of the flowers, the pappus, or crown of the ſeed, the common receptacle, and other circumſtances, which characterize the ſubaltern diviſions in other authors.

50. *Amentaceæ*, (from *amentum*, a catkin), plants bearing catkins ; as ſalix, populus, platanus, &c.

51. *Coniferæ*, (from *conus*, a cone, and *fero*, to bear); conſiſting of plants, whoſe female flowers, placed at a diſtance from the male, either on the ſame or diſtinct roots, are formed into a cone. In this character, the

only one expreſſed in the title, the plants in queſtion ſeem to be nearly allied to the family of moſſes: from which, however, they are eaſily diſtinguiſhed by their habit, as well as by the ſtructure of the ſmall flowers, in which the ſtamina are united below into a cylinder, and diſtinct at top. The plants of this order are moſtly of the ſhrub and tree kind, and retain their leaves all the year. The form of theſe plants is generally conic, and extremely beautiful, from the diſpoſition of the branches, which cover the ſtems, even to the roots, extending themſelves horizontally and circularly, like ſo many rays. The height of ſome genera of this order does not exceed half a foot, that of others approaches to a hundred. The roots are ſhort, branching, not very fibrous, and extend horizontally. The ſtems and branches are cylindric. The bark is thin, and ſplit into ſlender ſcales. The wood, except that of the yew-tree, poſſeſſes little hardneſs. The buds are of a conic form, and naked, or without ſcales. The leaves are entire, ſmall, and thick, frequently triangular, and generally pointed. Juniper has a prickly and thorny leaf. With reſpect to ſituation, they admit of great variety, being either alternate, oppoſite, placed in whorls, round the ſtem, or collected into ſmall bundles which proceed from a ſingle point. They are placed on the branches, without any ſenſible foot-ſtalk. The flowers in this order are univerſally male and female. In ſome genera, the male flowers are collected into a ſpike or cone at the end of the branches: in others, they proceed ſingly from the wings of the leaves, or termination of the branches. The female flowers are generally collected into a cone; but in yew-tree and ſhrubby horſe-tail they are ſingle and terminate the branches. The calyx of the male flowers is a catkin; of the female, a cone. The petals of this order are wanting; except in the female flowers of juniper, which have three ſharp, rigid, and permanent petals. The ſtamina are in number from 3 to 20 and upwards; united by their filaments into a cylinder, or pillar, which riſes out of the centre of the calyx. The antheræ are erect, diſtinct, of a roundiſh form, and divided into internal partitions, or cells, which, in the different genera, are in number from two to ten. The ſeed-buds are generally numerous, and placed betwixt the ſcales of the cone, which ſerve for a calyx. From each ſeed-bud ariſes a very ſhort cylindrical ſtyle, crowned with a ſimple ſtigma, of a conic form. Theſe plants have probably no ſeed-veſſel or fruit; the ſeeds being naked, and involved only by the ſcales of the calyx. In ſome genera, theſe ſcales are of a bony nature, and almoſt united; in others, they are of a ſubſtance like leather; in juniper, they are united, and become fleſhy and ſucculent like a berry. The ſeeds in this order, being nouriſhed, as in a ſeed-veſſel, by the ſcales of the cone, or common calyx, differ in nothing from the germina or ſeed-buds.—Moſt of the cone-bearing plants are reſinous or gummy; and the gums proceeding from them have a bitter taſte, but generally a very agreeable ſmell.

52. *Coadunatæ*, (from *coadunare*, to join, or gather together); ſo termed from the general appearance of the ſeed-veſſels, which are numerous, and being ſlightly attached below, form altogether a ſingle fruit in the ſhape of a ſphere or cone; the parts of which, however, are eaſily ſeparated from one another. This order, which conſiſts of exotic plants, furniſhes a beautiful and choice collection of ſhrubs and trees, both ever-green and deciduous. The trees are often 60 feet high, and garniſhed from the bottom to the top, with ſpreading branches and leaves of a bright green colour, which aſſume a very agreeable conic form The roots are branching and fibrous. The ſtems are cylindric, and the wood very hard. The buds are conic, flat, and generally without ſcales. The leaves are univerſally ſimple and alternate. The foot-ſtalk is cylindric, without furrows, frequently ſwelled at its origin, and appears jointed at its inſertion into the branch. The flowers are hermaphrodite, and are generally produced either along or at the end of the branches. The calyx generally conſiſts of three oblong plain leaves, like petals, which fall off with the flower. The petals are in number from 6 to 18, oblong, concave, and frequently diſpoſed in two or three ſeries or rows, the outermoſt of which are largeſt. The ſtamina are numerous, ſhort, and inſerted into the common receptacle in ſome, and into the ſeed-bud in others. The filaments are very ſhort and ſlender, ſome genera having ſcarce any at all. The antheræ are numerous, ſlender, and placed round the ſeed-bud. The piſtillum generally conſiſts of a number of ſeed-buds diſpoſed in the form of a cone, and ſeated upon a receptacle which riſes like a ſmall pillar above the receptacle of the calyx. From each ſeed-bud generally ariſes a cylindric ſtyle, which is very ſhort. The ſtigma is commonly blunt. The ſeed-veſſel is commonly a berry; but in magnolia, it is an oval cone, conſiſting of a number of roundiſh capſules laid over each other like tiles. The fruits or ſeed-veſſels, whether of the berry, capſule, or cherry kind, are equal in number to the ſeed-buds, and generally ſlightly attached below. The ſeeds are numerous, hard, roundiſh, and ſometimes cornered. The plants of this order have a ſtrong, agreeable, and aromatic ſmell; the fruits and ſeeds have a pungent taſte, like pepper; the bark and wood are bitter.

53. *Scabridæ*, (from *ſcaber*, rough, rugged, or briſtly); conſiſting of plants with rough leaves. There ſeems to be ſome impropriety in characterizing theſe plants by a name expreſſive of the roughneſs of their leaves, as that circumſtance had previouſly furniſhed the claſſic character of the *Aſperifoliæ*. The degree of roughneſs, however, is much greater in the plants which make the ſubject of the preſent article.—The plants of this order are in general of an aſtringent nature; their taſte is biter and ſtyptic.

54. *Miſcellaneæ*, miſcellaneous plants. This order conſiſts of ſuch genera as are not connected together by very numerous relations. They are, datiſca, poterium, reſeda, ſanguiſorba, lemna, piſtia, coriaria, empetrum, achyranthes, amaranthus, celoſia, gomphrena, ireſine, phytolacca, nymphæa, ſarracenia, cedrela, ſwietenia, corrigiola, limeum, telephium.

55. *Filices*, ferns; conſiſting of plants which bear their flower and fruit on the back of the leaf, or ſtalk. Theſe plants, in figure, approach the more perfect vegetables; being furniſhed, like them, with roots and leaves. The roots creep, and extend themſelves horizontally under the earth, throwing out a number of very ſlender fibres on all ſides. The ſtem is not to be diſtinguiſhed from the common foot-ſtalk, or rather middle rib of the leaves; ſo that in ſtrict propriety the greater number of ferns may be ſaid to be *acaules*; that

is, to want the ſtem altogether. In ſome of them, however, the middle rib, or a ſtalk proceeding from the root, overtops the leaves, and forms a ſtem upon which the flowers are ſupported. The leaves proceed either ſingly or in greater numbers from the extremities of the branches of the main root. They are winged or hand-ſhaped in all the genera except in adder's-tongue, pepper-graſs, and ſome ſpecies of ſpleen-wort. The flowers, whatever be their nature, are, in the greater number of genera, faſtened, and as it were glued, to the back of the leaves; in others, they are ſupported upon a ſtem which riſes above the leaves; but in ſome, are ſupported on a flower-ſtalk, as already mentioned. The ſtamina are placed apart from the ſeed-bud in a genus termed by Mr Adanſon *palma filix*; in the other ferns, where we have been able to diſcover the ſtamina, they are found within the ſame covers with the ſeed-bud. Moſt of the ferns have a heavy diſagreeable ſmell: as to their virtues, they are opening, and attenuating.

56. *Muſci*, moſſes. Theſe plants reſemble the pines, firs, and other ever-greens of that claſs, in the form and diſpoſition of their leaves, and manner of growth of the female flowers, which are generally formed into a cone. They frequently creep, and extend themſelves like a carpet upon the ground, trees, and ſtones, being generally collected into bunches and tufts: the ſmalleſt are only one-third of an inch in height, and the largeſt do not exceed five or ſix. Few of the moſſes are annual; ſmall as they are, the greater number are perennial, and ever-greens. Their growth is remarkably ſlow, as may be judged by the time that the antheræ take to ripen. This, reckoning from the firſt appearance of the antheræ to the diſperſion of its powder, or male duſt, is generally four or ſix months. Although preſerved dry for ſeveral years, theſe plants have the ſingular property of reſuming their original verdure, upon being moiſtened. It would be worth while to determine whether they do not alſo reſume their vegetative quality. The roots of the plants of this order are fibrous, ſlender, branched, and ſhort. The ſtems are cylindric, and weak, as are alſo the branches, they creep upon the ground, and ſtrike root on every ſide. The leaves are very ſmall, and undivided. They differ with reſpect to ſituation; being either alternate, oppoſite, or placed by fours round the ſtalk. They have no perceptible foot-ſtalk nor middle rib, and are ſeated immediately upon the ſtem. The flowers are univerſally male and female: in ſome, the male flowers are produced upon the ſame plants with the female, and ſtand before them; in others, they are produced ſometimes on the ſame, and ſometimes on diſtinct plants. The male flowers conſiſt entirely of antheræ, and their covering; proceed either ſingly, or in cluſters, from the extremity of the branches, or angles of the leaves; and are either ſeated immediately upon the branches, or ſupported by a long foot-ſtalk. The female flowers, which generally reſemble capſules, or cones, are all placed immediately upon the ſtem or branches, without any foot-ſtalk; and proceed ſingly either from the wings of the leaves, or ſummit of the branches; when produced upon the ſame plant with the male, they are always placed under them. The female cones of the moſſes greatly reſemble thoſe of the pines, and evergreen trees of that claſs; the ſcales which form them are true leaves, each containing in its wing or angle a ſingle ſeed. When the ſeeds are ripe, the cones probably open for their diſperſion. When ſhut, they reſemble buds, and have ſometimes been ignorantly miſtaken for ſuch. The calyx, in this order, if it can be called ſuch, is that appearance reſembling a veil, or monk's cawl, which in the male flowers covers or is ſuſpended over the tops of the ſtamina like an extinguiſher, and is termed by Linnæus *calyptra*. The petals are univerſally wanting. The moſſes in general are almoſt taſteleſs, have few juices, and being once dried do not readily imbibe moiſture from the air. Thoſe which grow in water, being thrown into the fire, grow red, and are reduced to aſhes without receiving or communicating any flame; on which account ſome ſuperſtitious people, the Siberians in particular, place water moſs in their chimnies, as a preſervative againſt fire. Moſt of the moſſes are purgative; ſome violently ſo, and even emetic. They are all of wonderful efficacy in preſerving dry ſuch bodies as are ſuſceptible of moiſture; and in retaining, for a long time, the humidity of young plants without expoſing them to putrefaction. For this reaſon, ſuch plants as are to be ſent to any conſiderable diſtance, are generally wrapped up in them.

57. *Algæ*, flags; conſiſting of plants whoſe root, leaf, and ſtem, are all one. Under this deſcription are comprehended all the ſea-weeds, and ſome other aquatic plants.

58. *Fungi*, muſhrooms. Theſe plants are rarely branched, ſometimes creeping, but moſt commonly erect. Such as are furniſhed with branches have them of a light ſpongy ſubſtance, like cork. Muſhrooms differ from the fuci, in that thoſe which, like the fuci, have their ſeeds contained in capſules are not branched as that numerous claſs of ſea-weeds are. The greateſt part of muſhrooms have no root; ſome, inſtead of roots, have a number of fibres, which, by their inoſculations, frequently form a net with unequal meſhes, ſome of which produce plants ſimilar to their parent vegetable. The ſtamina in theſe plants are ſtill undetermined. The ſeeds are ſpread over the ſurface of the plant, or placed in open holes or cavities, reſembling the open capſules of ſome of the fuci. In muſhrooms which are branched, the ſeeds are frequently viſible by the naked eye, and always to be diſtinctly obſerved by the aſſiſtance of a good microſcope. Theſe plants are very aſtringent, and ſome of them are uſed for ſtopping violent hæmorrhages. As a vegetable food, they are at beſt ſuſpicious: ſome of them are are rank poiſon.

Dubii ordinis. Under this name Linnæus claſſes all the other genera which cannot be reduced to any of the abovementioned orders, and which are near 120 in number.

Alphabetical Index *of* Botanical Terms.

N. B. *The abbreviation* No. *refers to the Arrangement p.* 440; *and* fig. *refers to the explanation of the plates, p.* 439.

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Wrapper, No. 299.

BOTANY-BAY. See NEW-HOLLAND.

BOTANICAL-GARDENS. See the article GARDENS.

BOTANOMANCY, (from βοτανη, *herb*, and μαντεια, *divination*), an ancient ſpecies of divination, by means of plants; eſpecially ſage and fig-leaves. The manner of performing it was thus: the perſons who conſulted wrote their own names and their queſtions on leaves, which they expoſed to the wind; and as many of the letters as remained in their places were taken up, and being joined together, contained an anſwer to the queſtion.

BOTARGO, a kind of ſauſage, made with the eggs and blood of the mullet, a large fiſh common in the Mediterranean. The beſt kind comes from Tunis in Barbary: It muſt be choſen dry and reddiſh. The people of Provence uſe a great deal of it, the common way of eating it being with olive oil and lemon juice. There is alſo a great conſumption of it throughout the Levant.

BOTE, (Sax.), ſignifies a recompence, ſatisfaction, or amends: hence comes *manbote*, compenſation, or amends for a man ſlain, &c. In king Ina's laws is declared what rate was ordained for expiation of this offence, according to the quality of the perſon ſlain. From hence likewiſe we have our common phraſe, *to-boot*, i. e. *compenſationis gratia*. There are *houſe-bote*, *plough-bote*, &c. privileges to tenants in cutting of wood, &c.

BOTELESS, (*ſine remedio*). In the charter of Hen. I. to Tho. archbiſhop of York, it is ſaid, "that no judgment, or ſum of money, ſhall acquit him that commits ſacrilege; but he is in Engliſh called *boteleſs*, viz. without emendation." We retain the word ſtill in common ſpeech: as, It is *bootleſs* to attempt ſuch a thing; that is, It is vain to attempt it.

BOTH (John and Andrew), Flemiſh painters, and pupils of Bloemart. The union of theſe brothers was very ſingular; they were inſeparable in their ſtudies, travels, and paintings. John painted the landſcape part of their pictures in the manner of Lorrain, and Andrew the figures and animals in the ſtyle of Bamboche. They both died in 1650. John's taſte in landſcape is elegant; his ideas are grand, his compoſition beautiful; and his execution rich and maſterly in the higheſt degree. His light is not always well diſtributed; but his figures are excellent. It is to be regretted that we have not more of his works; for they are certainly, upon the whole, among the beſt landſcapes we have.

BOTHNIA, a province of Sweden, at the end of the gulph of the ſame name. It is divided into two parts called *eaſt* and *weſt Bothnia*, the former of which belongs to Finland. Weſt Bothnia is full of mountains; the earth is ſandy, and yet a ſcarcity of proviſions is ſeldom known. Cattle and game are ſo common, ſalmon and a ſort of herrings ſo plenty, and the trade of ſkins is ſo gainful, that the inhabitants can command what they want from their neighbours. There are only two towns worth mentioning, *viz.* Tornea and Uma. The inhabitants of this province are Proteſtants; and are a civil well-behaved people.

BOTRYS, Botrus, or *Boſtra*, (anc. geog.) a town of Phoenicia, on the Mediterranean, built by Saturn, (a proof at leaſt of antiquity); twelve miles to the north of Byblus, and twenty to the ſouth of Tripolis. Now almoſt in ruins, and called *Boteron*, or *Boturn*, (Poſtellus). E. Long. 37. 30. N. Lat. 34. 6.

BOTT, among bone-lace weavers, a kind of round cuſhion of light matter placed on the knee, whereon they work or weave their lace with bobbins, &c.

Bott, in zoology. See Botts.

BOTTICELLI, (Sandro, or Aleſſandro), born at Florence in 1437, learned the rudiments of painting under Filippo Lippi. He executed ſeveral pictures for pope Sixtus IV. and others for the city of Florence: for theſe he received large ſums of money, all of which he expended, and died at laſt in great diſtreſs, aged 78. He was not only a painter, but a man of letters. Baldini, according to the general report, communicated to him the ſecret of engraving, then newly diſcovered by Finiguerra their townſman. The famous edition of Dante's Poem of Hell, printed at Florence by Nicholo Lorenzo della Magna, A. D. 1481, and to which, according to ſome authors, Botticelli undertook to write notes, was evidently intended to have been ornamented with prints, one for each canto; and theſe prints (as many of them as were finiſhed) were deſigned, if not engraved, by Botticelli. It is remarkable that the two firſt plates only were printed upon the leaves of the book, and for want of a blank ſpace at the head of the firſt canto, the plate belonging to it is placed at the bottom of the page. Blank ſpaces are left for all the reſt; that as many of them as were finiſhed might be paſted on. Mr Wilbraham poſſeſſes the fineſt copy of this book extant, in any private library; and the number of prints in it amounts to nineteen. The two firſt, as uſual, are printed on the leaves; and the other ſeventeen, which follow regularly, are paſted on the blank ſpaces. And theſe apparently were all that Botticelli ever executed. About the year 1460, it is ſaid that he engraved a ſet of plates, repreſenting the *Prophets and Sibyls*. Baſan tells us, that he marked theſe plates with a *monogram* compoſed of an A and a B joined together.

Srutt's Dict.

BOTTLE, a ſmall veſſel proper to contain liquors, made of leather, glaſs, or ſtone. The word is formed from *butellus*, or *botellus*, uſed in barbarous Latin writers, for a leſſer veſſel of wine; being a diminutive of *bota*, which denoted a butt or caſk of that liquor.

The ancient Jewiſh bottles were cags made of goats or other wild beaſts ſkins, with the hair on the inſide, well ſewed and pitched together; an aperture in one of the animal's paws ſerving for the mouth of the veſſel.

Glaſs bottles are better for cyder than thoſe of ſtone. Foul glaſs-bottles are cured by rolling ſand or ſmall ſhot in them; muſty bottles, by boiling them. See Glass.

Bottles are chiefly made of thick coarſe glaſs; though there are likewiſe bottles of boiled leather made and ſold by the caſe-makers. Fine glaſs-bottles covered with ſtraw or wicker, are called *flaſks* or *bettees*. The quality of the glaſs has been ſometimes found to affect the liquor in the bottle.

Dr Percival cautions againſt the practice of cleaning of wine-bottles with leaden ſhot. It frequently happens (he thinks), through inattention, that ſome of the little pellets are left behind; and when wine or beer is again poured into the bottles, this mineral poiſon will ſlowly diſſolve, and impregnate thoſe vinous liquors with its deleterious qualities. The ſweetneſs which is ſometimes perceived in red port wine may ariſe from this cauſe, when ſuch an adulteration is neither deſigned nor ſuſpected.—Potaſh is recommended for cleanſing bottles: a ſmall quantity in the water will clean two groſs.

BOTTLING, the operation of putting up liquors in bottles corked, to keep, ripen, and improve. The writers on good huſbandry give divers rules concerning the bottling of beer, cyder, and the like. The virtues of Spaw, Pyrmont, Scarborough, and other waters, depend on their being well bottled and corked, otherwiſe they loſe both their taſte and ſmell. To preſerve them, it is neceſſary the bottles be filled up to the mouth, that all the air may be excluded, which is the great enemy of bottled liquors. The cork is alſo further ſecured by a cement. Some improve their bottled beer, by putting cryſtals of tartar and wine, or malt ſpirits; and others, by putting ſugar boiled up with the eſſence of ſome herb, and cloves into each bottle.

Cyder requires ſpecial precautions in the bottling; being more apt to fly, and burſt the bottle, than other liquors. The beſt way to ſecure them, is to have the liquor thoroughly fine before it be bottled. For want of this, ſome leave the bottles open a while, or open them after two or three days bottling, to give them vent. If one bottle break, through fermentation, it is beſt to give them all vent, and cork them up again. Mean cyder is apter to break the bottles than rich. Some ſoak the corks in ſcalding water, to render them more pliant and ſerviceable. Another particular to be obſerved is, to lay the bottles ſo as that the liquor may always keep the cork wet and ſwelled. Something alſo depends on the place where the bottles are ſet, which ought to be ſuch as expoſes them as little as poſſible to the alterations and impreſſions of the air: the ground is better for this purpoſe than a frame; ſand better than the bare ground, and a running water, or a ſpring, often changed, beſt of all.

To haſten the ripening of bottled liquors, they are ſometimes ſet in a warm place, or even expoſed to the ſun, when a few days will bring them to maturity.

BOTTOM, in a general ſenſe, denotes the loweſt part of a thing, in contradiſtinction to the top or uppermoſt part.

Bottom, in navigation, is uſed to denote as well the channel of rivers and harbours, as the body or hull of a ſhip. Thus, in the former ſenſe, we ſay, a *gravelly bottom, clayey bottom, ſandy bottom*, &c. and in the latter ſenſe, a *Britiſh bottom, a Dutch bottom*, &c. —In ſome nations, certain commodities imported in foreign bottoms pay a duty, over and above what they are liable to if imported in their own bottoms.

Blackſt. Comment.

BOTTOMRY, in commerce, (a practice which originally aroſe from permitting the maſter of a ſhip in a foreign country to hypothecate the ſhip in order to raiſe money to refit), is in the nature of a mortgage of a ſhip; when the owner takes up money to enable him to carry on his voyage, and pledges the keel or bottom of the ſhip *(pars pro toto)* as a ſecurity for the repayment. In ſuch caſe it is underſtood, that if the ſhip be loſt, the lender loſes alſo his whole money; but if it return in ſafety, then he ſhall receive back his principal, and alſo the premium or intereſt agreed upon, however it may exceed the legal rate of intereſt. And this is allowed to be a valid contract in all trading nations for the benefit of commerce, and by reaſon of the extraordinary hazard run by the lender. And in this caſe, the ſhip and tackle, if brought home, are anſwerable (as well as the perſon of the borrower) for the money lent. But if the loan is not upon the veſſel, but upon the goods and merchandize, which muſt neceſſarily be ſold or exchanged in the courſe of the voyage, then only the borrower, perſonally, is bound to anſwer the contract; who therefore, in this caſe, is ſaid to take up the money at *reſpondentia.* Theſe terms are alſo applied to contracts for the repayment of money borrowed, not on the ſhip and goods only, but on the mere hazard of the voyage itſelf; when a man lends a merchant 1000*l.* to be employed in a beneficial trade, with condition to be repaid with extraordinary intereſt, in caſe ſuch a voyage be ſafely performed: which kind of agreement is ſometimes called *fœnus nauticum*, and ſometimes *uſura maritima.* But as this gave an opening for uſurious and gaming contracts, eſpecially upon long voyages, it was enacted by the ſtatute 19 Geo. II. c. 37, that all monies lent on bottomry, or at *reſpondentia*, on veſſels bound to or from the Eaſt Indies, ſhall be expreſsly lent only upon the ſhip, or upon the merchandize; that the lender ſhall have the benefit of ſalvage; and that if the borrower has not on board effects to the value of the ſum borrowed, he ſhall be reſponſible to the lender for ſo much of the principal as hath not been laid out, with legal intereſt and all other charges, though the ſhip and merchandize be totally loſt.

BOTTONY. A croſs bottony, in heraldry, terminates at each end in three buds, knots, or buttons, reſembling, in ſome meaſure, the three-leaved graſs; on which account, Segoing, in his *Treſor Heraldique*, terms it *croix trefflee*. It is the badge of the order of St Maurice. See Heraldry *Plates*.

BOTTRIGARO (Hercole), a perſon eminently ſkilled in the ſcience of muſic, though not a muſician by profeſſion. He was a man of rank in Bologna; and appears, from ſeveral letters to him that have been printed, to have had the title of *Count*. He publiſhed ſeveral controverſial pieces on the ſubject of muſic. It ſeems that he entertained ſtrong prejudices in favour of the ancient muſic; and that he attempted, as Vincentino and others had done, to introduce the chromatic genus into practice, but with no better ſucceſs than had attended the endeavours of others. He corrected Gogavino's Latin verſion of Ptolemy in numberleſs inſtances; and that to ſo good a purpoſe, that Dr Willis has in general conformed to it in that tranſlation of the ſame author which he gave to the world many years after. He alſo tranſlated into Italian *Boetius de Muſica*, and as much of Plutarch and Macrobius as relates to muſic: beſides this, he made annotations upon Ariſtoxenus, Franchinus, Spataro, Vicentino, Zarlino, and Galiſlei; and, in ſhort, on almoſt every muſical treatiſe he could lay his hands on, as appears by the copies which were once his own, and are now repoſited in many libraries in Italy. Of Bottrigaro's works it is ſaid that they contain greater proofs of his learning and ſkill in muſic, than of his abilities as a writer, his ſtyle being remarkably inelegant, nevertheleſs he affected the character of a poet; and there is extant a collection of poems by him in 8vo, printed in 1557. Walther † repreſents him as an able mathematician, and a collector of rarities; and ſays he was poſſeſſed of a cabinet, which the emperor Ferdinand II. had a great deſire to purchaſe He died in 1609.

BOTTS, in zoology, a ſpecies of worms which can be produced and nouriſhed only in the inteſtines of a horſe. It is there alone they can enjoy the proper temperature of heat, and receive the nouriſhment neceſſary for them. See Oestrus.

Beſides the long worms which have been obſerved in the bodies of horſes, there are alſo ſhort ones.—By theſe are to be underſtood what we call *botts.*

All authors, both ancient and modern, who have treated of the diſeaſes of horſes, have taken notice of theſe worms; but M. Valliſnieri is the firſt who has traced them to the laſt ſtage of their transformation, and has ſeen them change into a hairy kind of fly like the drone.

The flies from which theſe botts are produced inhabit the country, and do not come near houſes, at leaſt not near thoſe of great towns; and therefore horſes are never liable to have theſe worms *(i. e.* botts) in their bodies, if they have been kept in the houſe, eſpecially in a town, during the ſummer and autumn.

It is in the former of theſe ſeaſons, and perhaps too in the beginning of the latter, that the females of theſe flies apply themſelves to the anus of horſes, and endeavour to gain admittance, in order there to depoſit their eggs, or perhaps their worms.

The preciſe inſtant of their entrance will ſcarce admit of an eye-witneſs, but by the mereſt chance; yet M. Valliſnieri ſays, that Dr Gaſpari had attained this very uncommon ſight. The Doctor (he tells us) was

† *Muſical Lexicon.*

one day looking at his mares in the field; and from being very quiet, he obſerved, that on a ſudden they became very reſtleſs, and ran about in great agitation, prancing, plunging, and kicking, with violent motions of their tails. He concluded, that theſe extraordinary effects were produced by ſome fly buzzing about them, and endeavouring to ſettle upon the anus of one of them; but the fly not being able to ſucceed, he obſerved it to go off with leſs noiſe than before, towards a mare that was feeding at a diſtance from the reſt; and now the fly taking a more effectual method to obtain its deſign, paſſed under the tail of the mare, and ſo made its way to the anus. Here at firſt it occaſioned only an itching, by which the inteſtine was protruded with an increaſing aperture of the anus; the fly taking the advantage of this penetrated further, and ſecured itſelf in the fold of the inteſtine:—this effected, it was in a ſituation proper for laying its eggs. Soon after this, the mare became very violent, running about, prancing, and kicking, and throwing herſelf on the ground; in ſhort, was not quiet, nor returned to feeding, till after a quarter of an hour.

The fly then, we ſee, can find means of depoſiting its eggs, or perhaps its worms (*i. e.* botts), in the fundament of the horſe; which once effected, it has done all that is neceſſary for them. If theſe bott-worms are not hatched when firſt depoſited in the horſe, but are then only eggs, it will not be long before it happens, from the nutritive heat they there receive.

Theſe bott-worms ſoon make their way into the inteſtines of the horſe: they occupy ſuch parts of this region as are to them moſt convenient; and ſometimes (as we ſhall ſee preſently) they penetrate even to the ſtomach. All the hazard they appear to be expoſed to, is that of being carried away from the places they have fixed on by the excrement, which may ſeem likely to drive all before it. But nature has provided for all things; and when we ſhall have further deſcribed theſe bott-worms it will ſeem that they are able to maintain their ſituation, and to remain in the body of the horſe as long as they pleaſe.

There is a time when theſe bott-worms are of themſelves deſirous to leave this their habitation, it being no longer convenient for them after the purpoſes of their growth are anſwered. Their transformation to a fly muſt be performed out of the horſe's body: and accordingly, when the time of their transformation draws near, they approach towards the anus of the horſe; and then leave him of their own accord, or with the excrement, with which they then ſuffer themſelves to be carried along.

According to Mr de Reaumur's obſervations, the bott-worms have two unequal claws, by which they are enabled to remain in the inteſtines of the horſe in oppoſition to all the efforts of the excrement to force them out.—Theſe claws are of a ſort of anchor, differently diſpoſed from thoſe of common anchors, but contrived to produce the ſame effect. Beſides theſe two claws, nature has given them a very great number of triangular ſpines or briſtles, very ſufficient to arm them againſt the coats of the inteſtines, and to reſiſt the force employed to drive them towards the anus, provided the head be directed towards the ſtomach of the horſe.

It will be aſked, no doubt, if theſe bott-worms are not dangerous to horſes?—The mares which afforded Mr de Reaumur, for ſeveral years, thoſe on which he made his obſervations, did not appear to be leſs in health than thoſe which had none; but it may ſometimes happen, that they are in ſo great a quantity in the body of the horſe, as to prove fatal to him. M. Vallifnieri ſuppoſes theſe bott-worms to have been the cauſe of an epidemical diſeaſe that deſtroyed a great many horſes about Verona and Mantua in the year 1713.—The obſervations communicated to him by Dr Gaſpari ſufficiently confirm his ſuppoſition. This gentleman, upon diſſecting ſome horſes that died of this diſtemper, found in their ſtomachs a ſurpriſing quantity of ſhort worms; of which to give us ſome idea, he compares them to the kernels of a pomegranate opened: each of theſe, by gnawing on the coat of the ſtomach, has made for itſelf a kind of cellule therein, each of which would eaſily contain a grain of Indian wheat. It is eaſy to imagine by this means the ſtomach muſt be reduced to a wretched condition; the outer membranes were inflamed, and the inner ones ulcerated and corrupted; a very ſmall quantity of theſe worms were found in the ſmall inteſtines, and only a few in the larger, to which laſt they were found affixed, but had not corroded them. It is only perhaps when theſe bott-worms are in great numbers, and thereby incommode each other in ther inteſtines of the horſe, that they make their way towards the ſtomach: and indeed a very few flies muſt be enough to overſtock the inſide of a horſe, provided they would depoſit all their eggs, and ſuch ſhould all be animated, M. Vallifnieri having counted 700 and odd in the body of a ſingle fly.

When one of theſe botts has left the anus of the horſe, it falls on the ground; and immediately ſeeks out for ſome place of ſafety, where it may retire, to prepare for the laſt ſtage of its transformation by which it is to become a fly. And now by degrees the ſkin hardens and thickens; and at length forms a ſolid ſhell or cod, the form of which ſcarce differs from that of the worm. It is firſt of a pale red colour, which changes into cheſnut; and at length, by the addition of gradual and ſucceſſive ſhades of brown, the ſhell is rendered black. The worm, or bott, before it paſſes into a nymph, is of the form of an oblong ball; it remains in this form much longer than worms of the fleſhy-fly kind. M. de Reaumur met with worms that retained this figure five or ſix days; and as yet, one can perceive no traces of the legs, wings and head of the nymph. Hence he firſt learned, that thoſe bott-worms do not become nymphs immediately upon their firſt change; but that, in order to become flies, they muſt undergo one change more than caterpillars ordinarily do to become butterflies.—For the cure of horſes troubled with the botts, ſee Farriery, § xv.

BOTWAR, a town of Germany, in the circle of Suabia, and ſubject to the duke of Wirtemberg. E. Long. 9. 15. N. Lat. 49. 0.

BOTZENBURG, a town of Germany, in the duchy of Mecklenburg. It had a caſtle, which was deſtroyed by the Danes in 1202. It is ſeated on the Elbe, and the veſſels that paſs by are obliged to pay a conſiderable toll. E. Long. 10. 48. N. Lat. 53. 34.

BOVA, an epiſcopal town of Italy, in the kingdom of Naples, ſeated near the Apennine mountains. E. Long. 16. 15. N. Lat. 37. 15.

BOUCHAIN, a fortified town of the French Netherlands,

therlands, in the province of Hainault. It is divided into two parts by the river Scheld. It was taken by the French in 1676; and by the allies under the duke of Marlborough in 1711, which was the laſt military atchievment of that great general; but the following year it was retaken by the French. E. Long. 3. 15. N. Lat. 50. 17.

BOUCHE OF COURT, the privilege of having meat and drink at court ſcot-free. The word is alſo written *bowge*, *bouge*, and *budge*; it is mere French, where it ſignifies *mouth*.—The French ſtill uſe the phraſe, *Avoir bouche à la cour*; that is, *to have table or diet at court*. This privilege is ſometimes only extended to bread, beer, and wine: it was a cuſtom anciently in uſe, as well in the houſes of noblemen as in the king's court. Thomas earl of Lancaſter retained Sir John de Ewre, to ſerve him with ten men at arms in time of war, allowing them *bouge of court*, with livery of hay and oats, horſe-ſhoes and nails. Sir Hugh Merrill had the ſame privilege for life, on condition of ſerving king Edward II.

BOUCHET (John), a French poet and hiſtorian flouriſhed in the 16th century. The moſt conſiderable of his writings are the Annals of Aquitaine, and his *Chapelet des Princes*.

BOUDRY, a ſmall town of Swiſſerland, in the province of Neufchatel, and capital of a chatelainry of the ſame name. E. Long. 7. 5. N. Lat, 47. 11.

BOVEY-COAL, an inflammable foſſile found in England, France, Italy, Swiſſerland, Germany, Ireland, &c. Its colour is brown or browniſh black, and of a laminar ſtructure. It is compoſed of wood, penetrated by petrol or bitumen; and frequently contains pyrites, alum, and vitriol.

BOUFLERS (Lewis Francis, duke of), a peer and marſhal of France, was born in 1644. He diſtinguiſhed himſelf by his valour and conduct in ſeveral ſieges and battles, and had the command of the right wing when the French were defeated at the bloody battle of Malplaquet. He died at Fountainbleau in 1711.—Marſhal Bouflers, his ſon, died at Genoa, after having delivered that republic.

BOUGEANT (William Hyacinth), a famous Jeſuit, firſt taught humanity at Caen and Nevers, and afterwards ſettled at the college of Lewis the Great, where he employed himſelf in writing ſeveral works; the principal of which were, 1. A collection of phyſical obſervations, extracted from the beſt authors. 2. An hiſtory of the wars and negociations which preceded the treaty of Weſtphalia. 3. The female doctor, a philoſophical amuſement on the language of beaſts, &c. He died in 1743.

BOUGH, denotes much the ſame with BRANCH.—Green boughs anciently made part of the decoration of altars and temples, eſpecially on feſtival occaſions. Oaken boughs were offered to Jupiter; thoſe of laurel, to Apollo; of olive, to Minerva; myrtle, to Venus; ivy, to Bacchus; pine, to Pan; and cypreſs, to Pluto. Some make them the primitive food of mankind before acorns were introduced.

BOUGIE. In the French language it ſignifies a wax candle, and is applied to a machine which (as the wax candle formerly was) is introduced into the urethra for removing obſtructions there. Monſ. Daran, a French ſurgeon, lately boaſted of his introducing them as an improvement in his art, and acquired conſiderable profit by making and ſelling them. Scultetus, about the middle of the 17th century, uſed bougies in diſeaſes of the urethra, and Monſ. Daran probably took the hint from him. Different compoſitions have been uſed, and generally mercury was a part of them. Riverius made a plaſter as follows: ℞ ol. oliv. ℔ iv. ceræ citrin. ℔ ii. minii & ceruſſ. āā ℔ iſs tereb. venet. & rez. alb. āā ℥ iii m. Whether the bougies are made up of this or any other compoſition, they muſt be of different ſizes, from the bigneſs of a knitting needle to that of a gooſe quill. They are made of linen rags, ſpread with a proper matter, and then rolled up as follows. Having ſpread any quantity of the linen rag with the compoſition that is choſen for the purpoſe, cut it into ſlips from ſix to ten inches long, and from half an inch to an inch broad: then dexterouſly roll them on a glazed tile into the form of a wax candle; and as the end of the bougie that is to be entered firſt into the urethra ſhould be ſomewhat ſmaller than the reſt, it would be as well to cut the ſlips a little tapering. It ſhould alſo be obſerved, that when the bougies are rolled up, that ſide muſt be outward on which the plaſter is ſpread.

Monſ. Daran, and ſome others, attributed the action of their bougies to the compoſition they made uſe of in forming them. Mr Sharp apprehended, that as much of their efficacy was owing to the compreſſion they made on the affected part, as to any other principle; and Mr Aiken very juſtly ſays, As it is evident that bougies of very different compoſitions ſucceed equally well in curing the ſame diſorders in the urethra, it is plain that they do not act by means of any peculiar qualities in their compoſition, but by means of ſome property common to them all. This muſt be their mechanical form and texture, therefore their mode of action muſt be ſimple compreſſion. The efficacy of mere compreſſion in many caſes of conſtriction is well known, from the uſe of ſponge tents for widening parts that are ſtraitened by cicatrices; and admitting obſtruction in the urethra to be from a conſtriction formed by cicatrized ulcers, or a projection of the ſpongy ſubſtance of the urethra into the canal, we may eaſily conceive, that a gentle continued elaſtic compreſſion will in time overcome the diſeaſe. We may alſo readily account for the inferior efficacy of metallic and whalebone bougies, from their not having the property of ſwelling with moiſture, and therefore not making ſo equal a compreſſion. As to bougies procuring a diſcharge of matter, there is no doubt but the mechanical ſtimulus of a foreign body in ſuch a tender part, though free from diſeaſe, muſt produce it in ſome degree; and that this will be varied according the chemically irritating quality of the compoſition, and the irritable ſtate of the urethra: but it ſeems an abſurdity to apply a topic, made uniform throughout, to the whole length of a canal, with a view of producing extraordinary effects upon a particular part of it, by means of ſome powerful quality in the ingredients. As to that part of the bougie which was in contact with the diſeaſed part, being particularly covered with matter; this circumſtance is probably owing to the greater irritation of that part of the urethra where the diſorder is, than any other.

Motherby's Med. Dict.

BOUHOURS (Dominic), a celebrated French critic, was born at Paris in 1628; and has been by ſome conſidered as a proper perſon to ſucceed Malherbe, who died about that time. He was entered into the ſociety of Jeſuits at the age of 16; and was appointed to read lectures upon polite literature in the college of Clermont at Paris, where he had ſtudied: but he was ſo inceſſantly attacked with the headach, that he could not purſue the deſtined taſk. He afterwards undertook the education of two ſons of the duke of Longueville, which he diſcharged with great applauſe. The duke had ſuch a regard for Bouhours, that he would needs die in his arms; and the "Account of the pious and Chriſtian death" of this great perſonage was the firſt work which Bouhours gave the public. He was ſent to Dunkirk to the Popiſh refugees from England; and in the midſt of his miſſionary occupations, found means to compoſe and publiſh books. Among theſe were, *Entretiens d' Ariſte & d' Eugene*, or "Dialogues between Ariſtus and Eugenius;" a work of a critical nature, and concerning the French language. His book was printed no leſs than five times at Paris, twice at Grenoble, at Lyons, at Bruſſels, at Amſterdam, at Leyden, &c. and embroiled him in quarrels with a great number of cenſors, with Menage in particular, who, however, lived in friendſhip with our author before and after. The fame of this piece, and the pleaſure he took in reading it, recommended Bouhours ſo effectually to the celebrated miniſter Colbert, that he truſted him with the education of his ſon the marquis of Segnelai. He wrote afterwards ſeveral other works; the chief of which are. 1. Remarks and doubts upon the French language. 2. Dialogues upon the art of thinking well in works of genius. 3. The life of St Ignatius. 4. The art of pleaſing in converſation. 5. The life of St Francis Xavier, apoſtle of the Indies and of Japan. This laſt work was tranſlated from the French into Engliſh by Mr Dryden, and publiſhed at London in the year 1688, with a dedication prefixed to James II.'s queen.

BOUILLON, a town of France in the duchy of the ſame name, and in the county of Luxemburg, with a fortified caſtle. The French took it in 1676; upon which it was given to the duke of Bouillon; but the king keeps the caſtle to himſelf, which is ſeated on a rock that is almoſt inacceſſible. E. Long. 5. 20. N. Lat. 49. 45.

Bouillon, in the manege, a lump or excreſcence of fleſh that grows either upon or juſt by the fruſh, inſomuch that the fruſh ſhoots out, juſt like a lump of fleſh, and makes the horſe halt; and this is called the *fleſh blowing upon the fruſh*. Manege horſes, that never wet their feet, are ſubject to theſe excreſcences, which make them very lame. See Frush.

BOVINA affectio, a diſtemper of black cattle, cauſed by a worm lodged between the ſkin and the fleſh, and perforating the ſame. This diſtemper is not mentioned by the ancient Greeks, and is but little known in Europe.

BOVINES, a ſmall town of the Auſtrian Netherlands, in the province of Namur, ſeated on the river Maeſe or Meuſe, in E. Long. 4. 50. N. Lat. 49. 45.

BOVINO, an epiſcopal town of Italy, in the Capitanata, ſeated at the foot of the Apennine mountains, in E. Long. 16. 15. N. Lat. 41. 17.

BOVIUM, (Itinerary); a town of the Silures, in Britain, fifteen miles to the ſouth of Iſca Silurum, or Caer-leon, in Monmouthſhire: Now called *Cowbridge*; according to Baudrand, *Bangor* in Carnarvonſhire.

BOULAINVILLIERS (Henry de), Lord of St Saiſe, and an eminent French writer, was deſcended from a very ancient and noble family, and born at St Saiſe in 1658. His education was among the fathers of the oratory; where he diſcovered from his infancy thoſe uncommon abilities for which he was afterwards diſtinguiſhed. He applied himſelf principally to the ſtudy of hiſtory; and his performances in this way are numerous and conſiderable. He was the author of a hiſtory of the Arabians; Fourteen letters upon the ancient parliaments of France; a Hiſtory of France to the reign of Charles VIII; the State of France, with hiſtorical memoirs concerning the ancient government of that monarchy, to the time of Hugh Capet, "written (ſays Mr Monteſquieu) with a ſimplicity and honeſt freedom worthy of that ancient family from which their author was deſcended." Mr Boulainvilliers died at Paris in 1722; and after his death was publiſhed his Life of Mahomet.

BOULANGER (Nicholas-Anthony), a very ſingular Frenchman, was born at Paris in 1722, and died there in 1759, aged only 37. During his education, he is ſaid to have come out of the college of Beauvais almoſt as ignorant as he entered into it; but, ſtruggling hard againſt his unaptneſs to learn, he at length overcame it. At ſeventeen, he began to ſtudy mathematics and architecture; and in three or four years made ſuch a progreſs, as to be uſeful to the baron of Thiers, whom he accompanied to the army in quality of engineer. Afterwards he had the ſuperviſion of the highways and bridges; and he executed ſeveral public works in Champagne, Burgundy, and Lorrain. The author of his life, in the *Dictionnaire des Hommes celebres*, writes, that in this province a terrible ſpirit diſcovered itſelf in him, which he himſelf did not ſuſpect before; and this was, it ſeems, the ſpirit of "thinking philoſophically." In cutting through mountains, directing and changing the courſes of rivers, and in breaking up and turning over the ſtrata of the earth, he ſaw a multitude of different ſubſtances, which (he thought) evinced the great antiquity of it, and a long ſeries of revolutions which it muſt have undergone. From the revolutions in the globe, he paſſed to the changes that muſt have happened in the manners of men, in ſocieties, in governments, in religion; and he formed many conjectures upon all theſe. To be farther ſatisfied, he wanted to know what, in the hiſtory of ages, had been ſaid upon theſe particulars; and, that he might be informed from the fountain-head, he learned firſt Latin and then Greek. Not yet content, he plunged into Hebrew, Syriac, Chaldaic, and Arabic; and acquired ſo immenſe an erudition, that, if he had lived, he would have been one of the moſt learned men in Europe: but death, as we have obſerved, prematurely took him off. His works are, 1. *Traitè du Deſpotiſme Oriental*, 2 vols 12mo; a very bold work: but not ſo bold and licentious as, 2. *L'Antiquitè devoilee*, 3 vols 12mo. This was poſthumous. 3. He furniſhed to the *Encyclopediè* the articles *Deluge*, *Corvée*, and *Societé*. 4. He left behind him in MS. a Dictionary, which may be regarded as a concordance in ancient and modern language. As a man, he is ſaid to have been of a ſweet, calm, and engaging temper; which, however, it is very difficult to reconcile with the dark, impetuous, ardent ſpirit, that appears to have actuated him as a writer.

Strutt's Dict.

BOULANGER (John), an engraver, who flouriſhed towards the end of the laſt century, was a native of France. His firſt manner of engraving appears to have been copied, in ſome degree, from that of Francis de Poilly; but ſoon after he adopted one of his own, which, though not original, he however greatly improved: He finiſhed the faces, hands, and all the naked parts of his figures very neatly with dots inſtead of ſtrokes, or ſtrokes and dots. The effect is ſingular enough, and by no means unpleaſing; only, in ſome few inſtances, he has oppoſed the coarſe graving of his draperies, and back-ground, ſo violently to the neater work of the fleſh, that the outline of the latter is thereby rendered hard, and the general appearance of it flat and chalky. The ſtyle of engraving has been carried to its greateſt perfection in the preſent day, particularly in England. He did not draw the naked parts of his figures correctly, or with fine taſte. His draperies are apt to be heavy, and the folds not well marked. However, his beſt prints poſſeſs much merit, and are deſervedly held in great eſteem.

BOULAY (Cæſar Egaſſe du), in Latin *Bulæus*, was born at St Ellier, a village of Maine in France; and became profeſſor of humanity at the college of Navarre, regiſter, rector, and hiſtoriographer of the univerſity of Paris. He died in 1678, after having publiſhed ſeveral works. The principal of them are, *A Hiſtory of the Univerſity of Paris*, in Latin, 6 vols folio; and the *Treaſure of Roman Antiquities*, in 1 vol. folio.

BOULCOLACA, among the modern Greeks, denotes the ſpectre of ſome wicked perſon who died excommunicated by the patriarch, reanimated by the devil, and cauſing great diſturbance among the people; of which many ſtrange ſtories are told. The word is Greek, and is ſometimes written βρουκολακος, *broukolakos*; and ſuppoſed to be derived from βουρκος, or βουρκα, "mud", and λακκος, a "ditch", on account of the filthineſs of the ſight.

BOULDER-WALL, a kind of wall built of round flints or pebbles, laid in ſtrong mortar, and uſed where the ſea has a beach caſt up, or where there are plenty of flints.

BOULETTE, in the manege. A horſe is called *boulette*, when the fetlock, or paſtern-joint, bends forward, and out of its natural ſituation, whether through violent riding, or by reaſon of being too ſhort-jointed, in which caſe the leaſt fatigue will bring it.

BOULLOGNE (Bon de), a painter of ſome eminence, was born at Paris in 1649. From his father Louis de Boullogne he learned the firſt principles of the art; but went to Rome in order to perfect himſelf from the works of the beſt maſters. He abode in Italy five years. He excelled in hiſtory and portrait. His talents for copying the pictures of the great Italian painters were ſo very extraordinary, that he frequently deceived the greateſt judges. He died at Paris in 1717, aged 68.

BOULLOGNE (Louis de), born at Paris in 1654, was the younger brother of the preceding; and like him learned from his father the firſt principles of painting, and afterwards went to Rome to complete his ſtudies. His works, on his return, were ſo much eſteemed, that Louis XIV. honoured him with the order of St Michael, and, after the death of Antony Coypell, appointed him his principal painter. He chiefly excelled in hiſtorical and allegorical ſubjects. He died at Paris in 1734, aged 80 years.

BOULLONNE (Lewis), painter to the French king, and profeſſor of the academy of painting, diſtinguiſhed himſelf by his art; and died at Paris in 1674, aged 65. There are three of his pictures in the church of Notre Dame.—He left two ſons who were admired for their ſkill in painting. The elder, who is well known under the name of *Bon Boullonne*, was firſt inſtructed by his father; after which he went to perfect himſelf in Italy, and for that purpoſe the king allowed him a penſion: at his return, he was made profeſſor of the academy of painting. Lewis XIV. employed him in adorning ſeveral of his palaces; and there are a great number of his pictures at Paris. His talents for copying the pictures of the great Italian maſters were ſo very extraordinary, that he frequently deceived the greateſt judges. He died in 1717—*Lewis Boullonne* his brother, after being alſo inſtructed by his father, gained the prize of painting at 18 years of age; upon which he obtained the king's penſion. He ſet out for Italy at his brother's return, and acquired great ſkill in deſigning and colouring. At his return to Paris he was much employed; and at length became director of the academy of painting, knight of the order of St Michael, and firſt painter to the king. Louis XIV. allowed him ſeveral penſions, and raiſed him and his poſterity to the rank of nobility. He embelliſhed the church of the Invalids, the chapel of Verſailles, &c. and died at Paris in 1733.

Pilkington.

BOULOGNE, a large and handſome town of Picardy in France, and capital of the Boulognois, with a harbour, and a biſhop's ſee. It is divided into two towns; the higher, and the lower. The former is ſtrong both by nature and art; and the latter is only ſurrounded with a ſingle wall. The harbour has a mole for the ſafety of the ſhips, which at the ſame time prevents it from being choaked up. The lower town is inhabited by merchants, and has three large ſtreets, one of which leads to the high town, and the other two run in a line on the ſide of the river. Many of the Engliſh and Scots reſide here, who, from a rebellion, or any other cauſe, are obliged to fly from their native country. E. Long. 1. 42. N. Lat. 50. 42.

BOULOGNOIS, a territory of France, in the north part of Picardy, about 30 miles in length and 20 in breadth. The chief town is Boulogne, and the chief trade is in pit-coal and butter.

BOULTER (Dr Hugh), was born in or near London, of reputable and wealthy parents. He was educated at Merchant-taylor's ſchool: and, before the Revolution, was from thence admitted to a commoner of Chriſt-church in Oxford. Some time after, he was choſen a demy of Magdalen-college, at the ſame election with Mr Addiſon and Dr Wilcox. From the merit and learning of the perſons elected, this was commonly called by Dr Hough, preſident of the college, the *golden election*. He afterwards became fellow of the ſame college; in which ſtation he continued in the univerſity till he was invited to London by Sir Charles Hodges, principal ſecretary of ſtate, in the year 1700, who made him his chaplain, and recommended him to Dr

Teniſon archbiſhop of Canterbury; but his firſt preferments were owing to the earl of Sunderland, by whoſe intereſt and influence he was promoted to the perſonage of St Olave in Southwark, and the archdeaconry of Surry. Here he continued diſcharging very faithfully and diligently every part of his paſtoral office, till he was recommended to attend George I. as his chaplain, when he went to Hanover in 1719. He had the honour to teach prince Frederic the Engliſh language; and by his conduct he ſo won the king's favour, that he promoted him to the deanery of Chriſt-church, and the biſhopric of Briſtol, in the ſame year. As he was viſiting his dioceſe five years afterwards, he received a letter from the ſecretary of ſtate, acquainting him that his majeſty had nominated him to the archbiſhopric of Armagh and primacy of Ireland. This honour he would gladly have declined; and deſired the ſecretary to uſe his good offices with his majeſty to excuſe him from accepting it. Ireland happened to be at this juncture in a great flame, occaſioned by Wood's ruinous project; and the miniſtry thought that the biſhop would greatly contribute to quench it by his judgment, moderation, and addreſs. The king therefore laid his abſolute commands upon him: to which he ſubmitted, but with ſome reluctance. As ſoon as he had taken poſſeſſion of the primacy, he began to conſider that country, in which his lot was caſt for life, as his own; and to promote its true intereſt with the greateſt zeal and aſſiduity. Accordingly, in innumerable inſtances, he exerted himſelf in the nobleſt acts of beneficence and public ſpirit. In ſeaſons of the greateſt ſcarcity, he was more than once inſtrumental in preventing a famine which threatened that nation. On one of theſe occaſions he diſtributed vaſt quantities of corn throughout the kingdom, for which the Houſe of Commons paſſed a vote of public thanks; and at another time 2500 perſons were fed at the poor-houſe in Dublin, every morning, and as many every evening, for a conſiderable time together, moſtly at the primate's expence. When ſchemes were propoſed for the advantage of the country, he encouraged and promoted them not only with his counſel but his purſe. He had a great compaſſion for the poor clergy of his dioceſe, who were diſabled from giving their children a proper education; and he maintained ſeveral of the children of ſuch in the univerſity. He erected four houſes at Drogheda for the reception of clergymen's widows, and purchaſed an eſtate for the endowment of them. His charities for augmenting ſmall livings and buying glebes amounted to upwards of 30,000l, beſides what he deviſed by will for the like purpoſes in England. In ſhort, the inſtances he gave of his generoſity and benevolence of heart, his virtue, his piety, and his wiſdom, are almoſt innumerable, and the hiſtory of his life is his nobleſt panegyric. This excellent prelate died at London, on the 2d of June 1742, and was interred in Weſtminſter-abbey, where a beautiful monument of finely poliſhed marble is erected to his memory.

BOULTINE, a term which workmen uſe for a moulding, the convexity of which is juſt one-fourth of a circle; being the member juſt below the plinth in Tuſcan and Doric capital.

BOULUKE, in the military order of the Turks, a body of the janizaries, with an officer in the place of a colonel at their head, ſent upon ſome particular enterprize; they are ſelected out of the body for this, and, as ſoon as the buſineſs is over, are received again into their former companies.

BOUM (anc. geog.), a town in Ethiopia beyond Egypt, on the weſt ſide of the Nile.

Boum solis stabula (anc. geog.), the territory of Mylæ, ſo called: A peninſula on the eaſt coaſt of Sicily, to the north of Syracuſe; remarkable for its fertility and rich paſtures (Theophraſtus): and hence aroſe the fable of the oxen of the ſun feeding there (Scholiaſt on Apollonius). Pliny and Seneca ſay, that ſomething like dung is thrown out on the coaſt of Mylæ and Meſſana, which gave riſe to the fable of the oxen of the ſun being ſtalled there; and at this day the inhabitants affirm the ſame thing (Cluverius).

BOUNCE, in ichthyology, the Engliſh name of a ſpecies of ſqualus. See Squalus.

BOUND, in dancing, a ſpring from one foot to the other; by which it differs from a hop, where the ſpring is from one foot to the ſame. It alſo differs from a half coupee, as in the latter the body always bears on the floor, either on one foot or the other; whereas, in the bound, it is thrown quite from the floor.

Bound-Bailiffs, are ſheriffs officers for executing of proceſs. The ſheriffs being anſwerable for their miſdemeanors, the bailiffs are uſually bound in a bond for the due execution of their office; and thence are called *bound-bailiffs*, which the common people have corrupted into a much more homely appellation.

BOUNDS of lands. See Abuttals.

BOUNTY, in commerce, in Britain, a premium paid by government to the exporters of certain Britiſh commodities, as ſail-cloth, gold and ſilver lace, ſilk-ſtockings, fiſh, corn, &c. The happy influence which bounties have on trade and manufactures is well known: nor can there be a more convincing proof of the good intentions of the government, than the great care that is taken to give all poſſible encouragement to thoſe who ſhall eſtabliſh or improve any hazardous branch of trade.

"All undertakings, in reſpect either to mercantile enterprizes, or in the eſtabliſhment of manufactures, are weak and feeble in their beginnings; and if unſucceſsful, either ſink entirely, or at leaſt are ſeldom revived in the ſame age. Accidents of this nature are not only deſtructive to private perſons, but exceedingly detrimental to the public intereſt. On this principle, more eſpecially ſince trade, for which Providence deſigned us, hath been attended to, ſuch attempts have been thought deſerving, and have been favoured with, public ſupport. This in former times uſually flowed from the crown, in the form of letters-patent, charters, or other grants of privileges, which, however requiſite they might be, were notwithſtanding very frequently objects of cenſure. If ſuch as obtained them failed in their endeavours, they were reputed *projectors*; if, on the other hand, they ſucceeded, they were conſidered as *monopolizers*. Corporations, which imply the uniting certain individuals into a body, that they may thereby become more uſeful to the community, are created by the crown. Many of theſe were formed for promoting trade; and, according to the old ſyſtem of our government, were neceſſary and uſeful. On the ſame principle, privileges were granted to private perſons,

Campbell's Political Survey of Britain.

ſons, on a ſuggeſtion, that what was immediately of uſe to them would terminate in public utility. Theſe alſo did good in bringing in many arts and manufactures; though, in ſome caſes, tending to private intereſt more than public emolument, they were liable to legal correction. In later times, and in concerns of moment, a much better method has been adopted, as often as it hath been found practicable, by rejecting private or particular intereſt, and propoſing the deſigned advantages to ſuch as ſhould perform the ſtipulations on which they are granted. Theſe bounties, as they are paid by the public, ſo they are ſolely calculated for the benefit of the public. They are ſometimes given to encourage induſtry and application in raiſing a neceſſary commodity; which was intended by the bounty on exporting corn. The intention of this bounty was to encourage agriculture; and the conſequence hath been, that we now grow more than twice as much as we did at the eſtabliſhment of the bounty; we even conſume twice as much bread as we then grew; yet in A. D. 1697, we exported a fifteenth part of what we grew, of late years a twenty-ninth part only. The bounty on this twenty-ninth part amounted to ſomewhat more than L.50,000, and the produce to more than L.400.000. It is evident that all this is ſo much clear gain to the nation. But this is far from being all that we have annually gained. For if our cultivation is doubted, as indeed it is, then the rent of lands, the ſubſiſtence of working hands, the profits of the tradeſmen ſupplying them with utenſils, clothes, the value of horſes employed, &c. muſt all be taken into the account. Beſides this we muſt add the freight (amounting to half the bounty), to make the idea of the advantages complete.

" Sometimes bounties are given with a view to promote manufactures, as in the caſe of thoſe made of ſilk. Many laws are to be found in our ſtatute-books in favour of the ſilk manufacture, made with great wiſdom and propriety, for the encouragement and ſupport of many thouſands of induſtrious perſons employed therein. By ſtatute 8 Geo. I. cap. 15. § 1. a bounty was given on the due exportation of ribbons and ſtuffs, of ſilk only, of three ſhillings upon a pound weight; ſilks, and ribbons of ſilk, mixed with gold and ſilver, four ſhillings a pound; on ſilk gloves, ſilk ſtockings, ſilk fringes, ſilk laces and ſewing ſilk, one ſhilling and three-pence a pound; on ſtuffs of ſilk and grogram yarn, eightpence a pound; on ſilks mixed with incle or cotton, one ſhilling; on ſtuffs of ſilk mixed with worſted, ſixpence a pound, for three years: and, from experience of their utility, theſe were continued by ſubſequent ſtatutes.

" Sometimes bounties are given to ſupport a new manufacture againſt foreigners already in poſſeſſion of it, as in making linen and ſail-cloth. The promoting of the manufacture of Britiſh ſail-cloth was undoubtedly a very important national object, as the conſumption was very large, and of conſequence the purchaſe of it from foreigners an heavy expence on the public. Many methods were therefore deviſed, and countenanced by law, both in Britain and in Ireland for introducing and encouraging their own in preference to that of ſtrangers, more eſpecially in the royal navy. By ſtat. 12 *Annæ*, cap. 16. § 2. a bounty was given of one penny per ell on all that was exported for a term, and continued by ſubſequent ſtatutes. By 4 Geo. II. cap. 27. § 4. an additional bounty of another penny an ell is granted. Theſe bounties were to be paid out of an additional duty on imported ſail-cloth. By the ſame ſtatute every ſhip built in Britain, or in the plantations, is, under the penalty of L.50, to be furniſhed with a complete ſuit of ſails of Britiſh manufacture. The amount of theſe bounties mark the progreſs of the manufacture, which is alſo aſſiſted by the fund on which the payment is aſſigned.

" Theſe aſſiſtances, however, are never beſtowed but on mature deliberation, in virtue of ſtrong proofs, and with a moral certainty of a national benefit. The great intention of bounties is to place the Britiſh trader on ſuch ground as to render his commerce beneficial to his country. In order to this, ſome profit muſt accrue to himſelf, otherwiſe he would not embark therein; but this, whatever it be, muſt prove inconſiderable in compariſon of what reſults to the public. For if, by the help of ſuch a bounty, one or many traders export to to the value of 1000, 10,000, or 100,000 pounds worth of commodities or manufactures, whatever his or their profit or leſs (for the latter, through avidity and overloading the market, ſometimes happens) may be, the nation gains the L.1000, L.10,000, or L.100,000; which was the object of the legiſlature in granting the bounty. Upon this conſideration, that the entire produce of what is exported accrues to the nation, the legiſlature, when an alteration of circumſtances required it, have made no ſcruple of augmenting a bounty; as in the caſe of refined ſugar exported, from three to nine ſhillings per hundred weight. In like manner, the original bounty of one pound per ton in favour of veſſels employed in the whale-fiſhing hath been doubled, and many new regulations made, in order to render this fiſhery more advantageous to the public. As a bounty is given on malt when allowed to be exported, ſo an equivalent of 30 ſhillings per ton hath been granted on all Britiſh made malt-ſpirits when exported, which is a common benefit to land, manufacture and commerce.

" It is indeed true, that on whatever account, or to whatever amount, this reward is given, the public ſeem to pay, and private perſons ſeem to receive. But theſe private perſons receive it as the hire from the public, for performing a ſervice which otherwiſe they would not perform, the benefit of which accrues to the public, and who can therefore very well afford to pay that reward in reality, which, as we have ſtated it, ſhe only ſeems to do. For, looking a little cloſer, we cannot help obſerving, that the bounty is paid to individuals, who, as ſuch, make a part of the public. But the commodities or manufactures exported are ſold to foreigners; and the whole produce of them, be it what it will, comes into the purſe of the public. By attending to this ſelf-evident doctrine, every reaſonable and public-ſpirited man will be eaſily reconciled to bounties; and the three following conſiderations will be ſufficient to obviate the moſt common objections that have been made to the practice of giving them. 1. That no bounty can be deſired but on the plea of national utility, which always deſerves notice, and cannot be miſtaken. It muſt likewiſe be alleged and proved, that this is the only means whereby the national benefit can be attained. 2. The ſums iſſued on this account not only ſhow the clear expence of the bounty, but alſo indicate the profit gained by the public; for as the one cannot exiſt without the other, that amount muſt be the inconteſtible index of both. 3. It muſt be remembered (and of this too ſome inſtances might be given), that if bounties ſhould be improperly beſtowed, they will of courſe prove ineffectual, and after a few fruitleſs trials will remain unclaimed, and conſequently produce no expence. There is indeed another objection which hath been made againſt the giving of bounties. This is grounded on the frauds to which they are ſuppoſed to be liable; and particularly the relanding of the goods on which the bounty hath been paid, and thereby deceiving and cheating the public. But whoever peruſes the laws made on this head, and attentively conſiders the numerous precautions taken to fix every circumſtance relative to the obtaining the bounty, the checks on the ſhipping of goods, the ſecurities taken for their due exportation, the certificates required to aſcertain their being actually delivered and ſold in a foreign market, muſt be convinced, that to diſcharge all thoſe ſecurities, in caſe of an intended fraud, is a thing very difficult, if not impoſſible.

"To theſe remarks we may add, that bounties are uſually granted only for a limited time, and then expire; are always liable to be ſuſpended; and of courſe can never be the cauſe of any great national loſs. There is no doubt that, excluſive of frauds, the immoderate thirſt of gain may tempt intereſted men to aim at converting what was calculated for public benefit to its detriment, for their own private advantage. Thus, on a proſpect of ſhort crops in other countries, men may take meaſures within the letter, but directly againſt the ſpirit, of the law, to ſend ſo much of our corn abroad as to endanger a famine at home. For this the wiſdom of parliament provides, not barely by ſuſpending the bounty, but by prohibiting exportation and opening the ports for foreign ſupplies. We cannot with any ſhadow of juſtice aſcribe ſcarcity to the bounty on the exportation. If this was the caſe, ſuſpenſions would be frequent, whereas there have been but five in a courſe of 70 years. If the bounty had any ſhare, the larger the exportation, the greater would be the ſcarcity. In A. D. 1750 we exported more than one fifth of our growth of wheat, which was notwithſtanding but at four ſhillings per buſhel; whereas a century before, A. D. 1650, when we had neither bounty nor exportation, wheat was at nine ſhillings and ſixpence per buſhel. The cauſes of ſcarcity are unkindly ſeaſons; which though human policy cannot prevent, yet their ſad effects have been evidently leſſened by our increaſed growth, ſince the taking place of bounty and exportation."

Queen Anne's BOUNTY, for augmenting poor livings under L. 50 *per annum*, conſiſts of the produce of the firſt-fruits and tenths, after the charges and penſions payable out of the ſame are defrayed. A corporation for management of the ſame was ſettled, &c. in 1704. See AUGMENTATION.

BOURBON, or MASCARENHAS, (iſle of), an iſland in the Indian ocean, lying to the eaſt of Madagaſcar, in E. Long. 58. 30. S. Lat. 21. 23. This iſland has no port, and is in ſome places inacceſſible. Its length and breadth have not been well determined; but the circumference, according to the account of a perſon who reſided there ſome time, is about 57 leagues. It is for the moſt part mountainous, but in ſome places there are very beautiful and fertile plains. In the ſouth part of the iſland there is a burning mountain, which has thrown out vaſt quantities of bitumen, ſulphur, and other combuſtible materials; neither does it ceaſe throwing them out ſtill, ſo that the country about it is uſeleſs, and is called by the inhabitants *pays brule*, that is, burnt land. The ſhore is high and rocky all round; but though on this account it hath no ports, there are ſeveral good roads, particularly one on the weſt, and another to the north-eaſt. As to its form, this iſland is irregular, ſo that it is difficult to judge from the maps whether it is round or long. The air is equally pleaſant and wholeſome, inſomuch that the people live to a great age without feeling either infirmities or diſeaſes. This is occaſioned by the hurricanes, of which they have one or two every year. Theſe purge and cleanſe the air, ſo as to render it highly ſalubrious; the certainty of which is thus diſtinguiſhed, that when they fail of making their annual viſits, as ſometimes they do, diſeaſes and death find an entrance into the iſland, which otherwiſe would ſoon be over-ſtocked with inhabitants. The climate is hot, but not to ſuch a degree as might be expected from its ſituation, the breezes from the mountains being conſtant and very refreſhing. The tops of theſe mountains are in winter covered with ſnow; which, melting in the ſummer, furniſhes abundance of rivers and rivulets, with which the country is plentifully watered: ſo that the ſoil, though not very deep, is wonderfully fruitful, producing Turkey corn and rice twice a year, and the latter in great abundance. Moſt ſorts of cattle are found here, good in their kind, and are very cheap; wild goats and wild hogs are found in the woods and on the tops of the mountains; here alſo are vaſt quantities of wild fowl of different kinds, fiſh, and land tortoiſes, affording at once the moſt delicate and wholeſome food. As to fruits, they have bananas, oranges, citrons, tamarinds, and other kinds; neither does it want valuable commodities, particularly ebony, cotton, white pepper, gum benzoin, aloes, and tobacco; all excellent in their kind, when compared with thoſe of other countries. This iſland is alſo happy in its deficiencies; for no animals that are venomous are to be found therein, and only two ſorts that are diſagreeable to the ſight, *viz.* ſpiders of the ſize of a pigeon's egg, which weave nets of a ſurpriſing ſtrength, reckoned by ſome capable of being treated ſo as to become as valuable as ſilk; and bats of a moſt enormous ſize, which are not only ſkinned and eaten, but eſteemed alſo the greateſt delicacy that they have.

The iſland of Bourbon was diſcovered by the Portugueſe in 1545, as appears by a date inſcribed by them upon a pillar when they firſt landed; but when the French ſettled in Madagaſcar, this iſland was totally deſolate. Three Frenchmen being baniſhed thither, and left there for three years, made ſuch a report of it at their return as ſurpriſed their countrymen. They lived moſt of that time upon pork; and though they were in a manner naked, yet they affirmed that they never had the leaſt pain or ſickneſs whatever. This tempted one Anthony Taureau to go over thither in 1654, accompanied by ſeven French and ſix negroes, who carried with them the cattle from which the iſland has been ſtocked ever ſince. The firſt thing they did was to erect the arms of France, by order of Mr

Falcourt who was governor of Madagaſcar, and beſtow upon the iſland a new name. Then they ſet up huts, and laid out gardens, in which they cultivated melons, different ſorts of roots and tobacco; but juſt as the laſt became ripe, the whole plantation was deſtroyed by a hurricane. The French, however, went to work again; and by having ſome acquaintance with the climate, ſucceeded better and added aloes to the reſt of their plantations: but receiving no ſuccour from Madagaſcar, and being tired of living by themſelves in the iſle of Bourbon, they very readily embraced the offer of an Engliſh captain, and in the year 1658 embarked for Madraſs. When the laſt great blow was given to the French at Madagaſcar by the natives, who ſurpriſed and cut them off in one night, there eſcaped as many men as with their wives, who were natives, filled two canoes; and theſe being driven by the wind on the iſle of Bourbon were the next ſet of people who inhabited it. This laſt colony, for want of an opportunity to remove, were conſtrained to cultivate this new country of theirs, and to remain in it. It was not long before a further ſtock of inhabitants arrived. A pirate that had been committing depredations in the Indies, returning to Europe, ran aſhore, and was ſplit to pieces upon the rocks, ſo that the crew were forced to join themſeves to the former inhabitants; and as they had on board their veſſel a great many Indian women whom they had made priſoners, they lived with them, and in proceſs of time had a numerous poſterity. As Eaſt India ſhips touched frequently here, when too late to double the Cape, many of the ſailors, for the ſake of the women, deſerted at the time of their departure, and ſtaying behind became planters in the iſle of Bourbon. As the place grew more populous, the people naturally became more civilized, and deſirous of living in a more commodious manner; which induced them to build ſmall veſſels, that in theſe they might ſometimes make a trip to Madagaſcar, in order to purchaſe ſlaves, whom they employed in their plantations to cultivate aloes, tobacco, and other things, with which they drove a ſmall trade, when ſhips of any nation anchored in their roads for the ſake of refreſhments. In this ſituation they were, when the French Eaſt India Company put in their claim; and aſſuming the property of the iſland, ſent thither five or ſix families and a governor. At firſt the inhabitants expected to reap ſome benefit from their new maſters; but finding very little, and thinking the governor took too much upon him, they revolted at the inſtigation of a prieſt, ſeized their governor and put him into a dungeon, where he died of hunger and grief. For this ſome of the ringleaders were puniſhed, a kind of fort was erected, ſome guns placed on it, and the French flag kept flying; but in other reſpects ſo little care was taken, that, till within theſe 40 years, the iſland was in no ſtate of defence.

The number of inhabitants, in the year 1717, was computed at 2000; *viz.* 900 free, and 1100 ſlaves. Amongſt theſe people the uſual diſtinction of whites and blacks entirely fails: for even the free are of different colours; and a French writer aſſures us, that he ſaw in a church one family, conſiſting of five generations, of all complexions. The eldeſt was a female, 108 years of age, of a brown black, like the Indians of Madagaſcar; her daughter, a mulatto, ; her grand-daughter a meſtizo; her great-grand-daughter of a duſky yellow; her daughter, again, of an olive colour; and the daughter of this laſt as fair as any Engliſh girl of the ſame age. Theſe people are generally ſpeaking, of a gentle quiet diſpoſition; very induſtrious; and ſubmiſſive enough to authority, provided it is exerciſed with a tolerable degree of equity and decency; for otherwiſe the whole of them are apt to riſe in rebellion at once; and the ſlaves have ſo little reaſon to complain of their maſters, that they are always on the ſame ſide. The iſland is divided into four quarters. The firſt is that of St Paul, which is the largeſt and beſt peopled: their houſes are built at the foot of a ſteep mountain, and on both ſides of a freſh water lake. As for the plantations, they are on the top of a mountain, which they aſcend by a very rough and troubleſome paſſage. On the ſummit there is a ſpacious plain, a great part of which is divided into plantations of rice, tobacco, corn, ſugar, and fruits. The quarter of St Dennis lies ſeven leagues from that of St Paul, towards the eaſt; and there the governor reſides. It is not ſo well peopled as the former; but the country is more pleaſant, and the ſituation better. At two leagues diſtance, proceeding along the ſea coaſt, is the quarter of St Mary's, which is but thinly peopled. The laſt and moſt fertile quarter is that of St Suſannah, which is at the diſtance of four leagues from St Dennis. The road between theſe two quarters is tolerable, though part of it has been cut with much difficulty through a wood: but the paſſage from St Dennis to St Paul is only by ſea.

When the preſent company of India became, by their perpetual eſtabliſhment, poſſeſſed of the iſland of Bourbon, they began to improve it exceedingly; raiſing new forts and batteries, ſo as to render it in a manner inacceſſible; and importing coffee-trees from Arabia, which have ſucceeded ſo well, that it is believed they produce an eighth, according to ſome a ſixth, part as much coffee as is raiſed in the kingdom of Yemen in Arabia, and it is likewiſe held next in goodneſs to that. —In 1763, the population amounted to 4627 white people, and 15149 blacks; the cattle conſiſted of 8702 beeves, 4084 ſheep, 7405 goats, and 7619 hogs. Upon an extent of 125,909 acres of cultivated land, they gathered as much caſſava as would feed their ſlaves, 1,135,000 pounds weight of corn, 844,100 pounds of rice, 2,879,100 pounds of maize, and 2,535,100 pounds of coffee; which laſt the company bought up at about 3d per pound.

In 1748, Admiral Boſcawen appeared before this iſland with a Britiſh fleet; but found it ſo well fortified both by nature and art, that he was obliged, after ſome cannonading to very little purpoſe, to purſue his voyage.

BOURBON (Nicholas), a famous Latin poet in the 16th century, was a native of Vandeure near Langres, and the ſon of a wealthy man who was maſter of ſeveral forges. Margaret de Valois appointed him preceptor to her daughter Jane d'Albret of Navarre, the mother of king Henry IV. At length he retired to Conde, where he had a benefice, and died about the year 1550. He wrote eight books of Epigrams; and a poem on the forge, which he has intitled *Ferraria*. He had great knowledge of antiquity and of the Greek language. Eraſmus praiſes his epigrams.

BOURBON (Nicholas), a celebrated Greek and Latin poet, was nephew to the preceding. He taught rhetoric in ſeveral colleges of Paris; and the cardinal de Perron cauſed him to be nominated profeſſor of eloquence in the Royal College: he was alſo canon of Langres, and one of the 40 of the French academy. At length he retired to the fathers of the oratory, where he died in 1644, aged 70. He is eſteemed one of the greateſt Latin poets France has produced. His poems were printed at Paris in 1630.

BOURBON-*Lancy*, a town of France, in the duchy of Burgundy, and in the Autunnois. It is remarkable for its caſtle and baths; and there is a large marble pavement, called the *great bath*, which is a work of the Romans. It is ſeated near the river Loire, in E. Long. 3. 46. N. Lat. 46. 37.

BOURBON L'Archambaud, a ſmall town of France, remarkable for its baths, which are exceedingly hot. E. Long. 3. 28. N. Lat. 46. 35.

Family of BOURBON are the reigning princes in the kingdom of France. Henry IV. in 1589, though of the 10th generation, was the neareſt heir; and ſucceeded Henry III. (the firſt of the Valois race), whoſe brother Francis II. married Mary Queen of Scots, and both died without iſſue. Louis XVIth. is the 5th king of this family in ſucceſſion. This family alſo mounted the throne of Spain in 1700, by Philip V. grandſon to Louis XIV. which was the occaſion of the long and bloody war that ended in the peace of Utrecht. A branch of the Spaniſh family likewiſe mounted the throne of the two Sicilies in 1734. Theſe three branches entered into a treaty offenſive and defenſive in 1761, which goes by the name of the *family compact*.

BOURBONE-LE-BAINS, a town of France in Champagne, and in the Baſſigni, famous for its hot baths. E. Long. 5. 45. N. Lat. 47. 54.

BOURBONNOIS, a province of France, with the title of a duchy; bounded on the north by Nivernois and Berry; on the weſt, by Berry and a ſmall part of upper Marche; on the ſouth by Auvergne; and on the eaſt, by Burgundy and Forez. It abounds in corn, fruits, paſtures, wood, game, and wine. Its principal town is Moulins; and the rivers are the Loire, the Allier, and the Chur.

BOURBOURG, a town in French Flanders, whoſe fortifications are demoliſhed. It is ſeated on a canal that goes to Dunkirk, in E. Long. 21. 15. N. Lat. 50. 55.

BOURCHIER (John), lord Bemars, grandſon and heir of a lord of the ſame name, who was deſcended from Thomas of Woodſtock, duke of Glouceſter, and had been knight of the Garter, and conſtable of Windſor-caſtle, under Edward IV. Our lord John was created a knight of the Bath at the marriage of the duke of York ſecond ſon of Edward IV. and was firſt known by quelling an inſurrection at Cornwall and Devonſhire, raiſed by Michael Joſeph, a blackſmith, in 1495, which recommended him to the favour of Henry VII. He was captain of the pioneers at the ſiege of Therounne, under Henry VIII. by whom he was made chancellor of the exchequer for life, lieutenant of Calais and the Marches, appointed to conduct the lady Mary the king's ſiſter into France on her marriage with Louis XII. and had the extraordinary happineſs of continuing in favour with Henry VIII. for the ſpace of 18 years. He died at Calais in 1532, aged 63. He tranſlated, by King Henry's command, Froiſſart's Chronicle; which was printed in 1523, by Richard Pinſon, the ſcholar of Caxton, and the fifth on the liſt of Engliſh printers. His other works were a whimſical medley of tranſlations from French, Spaniſh, and Italian novels, which ſeem to have been the mode then, as they were afterwards in the reign of Charles II. Theſe were, The life of Sir Arthur, an Armorican knight; The famous exploits of Sir Hugh Bourdeaux; Marcus Aurelius; and, the caſtle of love. He compoſed alſo a book, of the duties of the inhabitants of Calais; and a comedy entitled *Ite in Vineam*, which is mentioned in none of the catalogues of Engliſh plays. Anthony Wood ſays it was uſually acted at Calais after veſpers.

BOURDALOUE (Lewis), a celebrated preacher among the Jeſuits, and one of the greateſt orators France has produced, was born at Bourges, on the 20th of Auguſt 1632. After having preached at Provence, he, in 1699, went to Paris; and there met with ſuch applauſe, that the king reſolved to hear him; on which he was ſent for to court, and frequently preached before Louis XIV. He aſſiſted the ſick, viſited the priſoners and hoſpitals, and was very liberal in giving alms. He died at Paris on the 13th of May 1704. The beſt edition of his ſermons is in octavo.

BOURDEAUX, an ancient, large, handſome, and rich town of France, capital of Guienne, an archbiſhop's ſee; has an univerſity and an academy of arts and ſciences. It is built in the form of a bow, of which the river Garonne is the ſtring. The river is bordered by a large quay, and the water riſes four yards at full tide, for which reaſon the largeſt veſſels can come up to it very readily. The caſtle called the *Trumpet* is ſeated at the entrance of the quay, and the river runs round its walls. Moſt of the great ſtreets lead to the quay. The town has 12 gates; and near another caſtle are fine walks under ſeveral rows of trees. The ancient city of Bourdeaux, though conſiderable in point of ſize, was ill built, badly paved, dangerous, without police or any of thoſe municipal regulations indiſpenſably requiſite to render a city ſplendid or elegant. It has entirely changed its appearance within theſe laſt thirty years. The public edifices are very noble, and all the ſtreets newly built are regular and handſome. The quays are four miles in length, and the river itſelf is conſiderably broader than the Thames at London bridge. On the oppoſite, a range of hills, covered with woods, vineyards, churches, and villas, extends beyond the view. Almoſt in the centre of the town is a fine equeſtrian ſtatue in bronze erected to the late king in 1743, with the following inſcription:

Ludovico quindecimo,
Sæpe victori, ſemper pacificatori;
Suos omnes, quam latè regnum patet,
Paterno pectore gerenti;
Suorum in animis penitus habitanti.

The beauty of the river Garonne, and the fertility of the adjoining country, were probably the cauſes which induced the Romans to lay the foundations of this city. The ruins of a very large amphitheatre yet remain, conſtructed under the emperor Gallienus; it is of brick as are moſt of the edifices of that period, when the empire was verging to its fall, and the arts began rapidly to decline. During the irruptions of the barbarous nations, and particularly in thoſe which the Normans repeatedly made, Bourdeaux was ravaged, burnt, and almoſt

moſt entirely deſtroyed. It only began to recover again under Henry II. of England, who having united it to the crown by his marriage with Eleanor of Aquitaine, rebuilt it, and made it a principal object of his policy, to reſtore the city again to the luſtre from which it had fallen. The Black Prince received all Guienne, Gaſcony, and many inferior provinces in full ſovereignty from his father Edward III. he brought his royal captive, John king of France, to this city, after the battle of Poitiers in 1356; and held his court and reſidence here during eleven years. His exalted character, his uninterrupted ſeries of good fortune, his victories, his modeſty, his affability, and his munificence, drew ſtrangers to Bourdeaux from every part of Europe; but all this ſplendor ſoon diſappeared. He lived to experience the ingratitude of Pedro the Cruel, to whom he had reſtored the kingdom of Caſtile; he became a prey to diſtempers in the vigour of life; he ſaw his dominions reunited again in many of their branches to the crown of France, by Charles V.; he loſt his eldeſt ſon Edward, a prince of the higheſt expectations; and at length, overcome with ſorrow at this laſt affliction, he quitted Bourdeaux, and re-embarked for England, there to expire a memorable example of the haſty revolution of human greatneſs! In 1453, Charles VII. king of France, re-entered the city, and ſubjected the whole province of Guienne, which had been near three centuries under the Engliſh government. Conſcious of the importance of ſuch a conqueſt, he ordered the Cheteau Trompette to be built to defend the paſſage of the river; and Louis the XIV. afterwards employed the celebrated Vauban to erect a new fortreſs, in the modern ſtyle of military architecture, on the ſame ſpot.—Madame de Maintenon, whom fortune ſeemed to have choſen as the object of her extremeſt rigour and extremeſt bounty, was removed from the priſons of Niort in Poictou where ſhe was born, with her father the Baron d'Aubigné, to this caſtle, where ſhe uſed to play with the daughter of the turnkey, in the greateſt indigence. Bourdeaux preſents few remains of antiquity. The cathedral appears to be very old, and has ſuffered conſiderably from the effects of time. The unfortunate duke of Guienne, brother to Louis the XI. who was poiſoned in 1473, lies buried before the high altar. The adjacent country, more peculiarly the *Pays de Medoc*, which produces the fineſt clarets, is exceedingly pleaſant, and at the ſeaſon of the vintage, forms one of the moſt delicious landſcapes in the world. W. Long. 0. 39. N. Lat. 44. 50.

BOURDELOT (John), a learned French critic, who lived at the cloſe of the 16th and beginning of the 17th centuries. He diſtinguiſhed himſelf by writing notes on Lucian, Petronius, and Heliodorus; by an Univerſal Hiſtory; Commentaries on Juvenal; a Treatiſe on the Etymology of French words; and by ſome other works which were never publiſhed.—There was alſo an abbe Bourdelot, his ſiſter's ſon, who changed his name from Peter Michon to oblige his uncle. He was a celebrated phyſician at Paris, who gained great reputation by a Treatiſe on the Viper, and other works. He died in 1685.

BOURDINES, a town of the Auſtrian Netherlands, in the province of Namur. E. Long. 5. 0. N. Lat. 50. 35.

BOURDON (Sebaſtian), a famous painter, born at Montpelier, in 1619. He ſtudied ſeven years at Rome; and acquired ſuch reputation, that at his return to France he had the honour of being the firſt who was made rector of the academy of painting at Paris. He ſucceeded better in his landſcapes than in his hiſtory-painting. His pieces are ſeldom finiſhed; and thoſe that are ſo, are not always the fineſt. He once laid a wager with a friend, that he ſhould paint 12 heads after the life, and as big as the life, in one day. He won it; and theſe are ſaid not to be the worſt things he ever did. His moſt conſiderable pieces are, The gallery of M. de Bretonvilliers, in the iſle of Notre Dame; and, The ſeven works of Mercy, which he etched by himſelf. But the moſt eſteemed of all his performances is, The martyrdom of St Peter, drawn for the church of Notre Dame: It is kept as one of the choiceſt rarities of that cathedral. Bourdon was a Calviniſt; much valued and reſpected, however, in a Popiſh country, becauſe his life and manners were good. We have alſo by this maſter a great number of etchings; which are executed in a bold, maſterly ſtyle, and much more finiſhed than thoſe we generally meet with from the point of the painter. They are juſtly held in the higheſt eſtimation by the generality of collectors. He died in 1673, aged 54.

BOURDONE'E, in heraldry, the ſame with POMEE.

BOURG, the capital of the iſland of Cayenne, a French colony on the coaſt of Guiana, in South America; in W. Long. 52. 0. N. Lat. 5. 0.

Bourg-en-Breſſe, a town of France, and capital of Breſſe, in the province of Burgundy. It is ſeated on the river Reſouſſe, almoſt in the centre of Breſſe, in E. Long. 4. 19. N. Lat. 46. 13.

Bourg-ſur-Mer, a ſea-port town of France in Guienne, and in the Bourdelois, with a tolerable good harbour; ſeated at the confluence of the rivers Dordogne and Garonne, in W. Long. 3. 35. N. Lat. 45. 0.

BOURGES, an ancient and large town of France, the capital of Berry, an archbiſhop's ſee, and a famous univerſity. The archbiſhop aſſumes the title of *Patriarch of the Aquitains*, and enjoys the rights of primacy with regard to Albi. It is ſeated between two ſmall rivers, the Evry and the Orron, upon a hill that has a gentle deſcent down to theſe rivers, by which it is almoſt ſurrounded, for there is but one avenue to it by land, which is that of Port Bourbonnoux. It ſtands upon a great deal of ground; but one part of it is without houſes; and the reſt is but thinly peopled with gentlemen, ſtudents, and eccleſiaſtics, the whole number of ſouls amounting only to about 1800. They have no manner of trade but for their own neceſſaries. It is divided into the old and new town. The walls of the old are almoſt entire, and the new town is almoſt as large as the old. There are ſeveral churches, convents, and nunneries. The pariſh church, dedicated to St Stephen, is a fine old Gothic ſtructure: it is ſeated on the higheſt part of the city, and on each ſide of the front are two handſome high towers. The new one, which is built in the room of one which fell down, is almoſt 200 feet high. Bourbon ſquare is the largeſt in the city, where there was formerly an amphitheatre, and now a market. There is a fine walk from St Michael's-gate into the fields, and three alleys formed by four ranks of trees, the middlemoſt of which is ſpacious; beſides which, there is a very long mall. The univerſity is famous for the ſtudy of the law. This city ſtands almoſt in the centre of France. E. Long. 2. 30. N. Lat. 47. 10.

BOURGET (Dom. John), an ingenious French antiquary, was born at the village of Beaumains near Falaiſe, in the dioceſe of Seez, in 1724. He was educated at the grammar-ſchool at Caen, whence he was removed to that univerſity, and purſued his ſtudies with great diligence and ſucceſs till 1745, when he became a Benedictine monk of the abbey of St Martin de Seez. Some time after this, he was appointed prior clauſtral of the ſaid abbey, and continued ſix years in that office, when he was nominated prior of Tiron en Perche: whence being tranſlated to the abbey of St Stephen at Caen, in the capacity of ſub-prior, he managed the temporalities of that religious houſe during two years, as he did their ſpiritualities for one year longer; after which, according to the cuſtom of the houſe, he reſigned his office. His ſuperiors, ſenſible of his merit and learning, removed him thence to the abbey of Bec, where he reſided till 1764. He was elected an honorary member of the Society of Antiquaries of London, Jan. 10. 1765; in which year he returned to the abbey of St Stephen at Caen, where he continued to the time of his death. Theſe honourable offices, to which he was promoted on account of his great abilities, enabled him not only to purſue his favourite ſtudy of the hiſtory and antiquities of ſome of the principal Benedictine abbeys in Normandy, but likewiſe gave him acceſs to all their charters, deeds, regiſter-books, &c. &c. Theſe he examined with great care, and left behind him in MS. large and accurate accounts of the abbeys of St Peter de Jumieges, St Stephen, and the Holy Trinity at Caen (founded by William the Conqueror and his queen Matilda), and a very particular hiſtory of the abbey of Bec. Theſe were all written in French. The "Hiſtory of the Royal Abbey of Bec," (which he preſented to Dr Ducarel in 1764) is only an abſtract of his larger work. This ancient abbey (which hath produced ſeveral archbiſhops of Canterbury and other illuſtrious prelates of Britain) is frequently mentioned by old hiſtorians. The death of our worthy Benedictine (which happened on new-year's day 1776) was occaſioned by his unfortunate neglect of a hurt he got in his leg by falling down two or three ſteps in going from the hall to the cloiſter of the abbey of St Stephen at Caen, being deceived by the ambiguous light of a glimmering lamp that was placed in that paſſage. He lived univerſally eſteemed, and died ſincerely regretted by all thoſe who were acquainted with him; and was buried in the church of the ſaid abbey, Jan. 3. 1776.

BOURGET, a town of Savoy, ſubject to the king of Sardinia, ſeated at the ſouthern extremity of a lake of the ſame name. E. Long. 5. 55. N. Lat. 45. 45.

BOURGOGNE, or BURGUNDY, as we call it; a conſiderable province of France with the title of a duchy. It is 130 miles in length, and 75 in breadth. It is bounded on the eaſt, by the Franche Compte; on the weſt, by Bourbonnois and Nivernois; on the ſouth, by Lyonnois; and on the north by Champagne. It is very fertile in corn and fruit, and produces excellent wine. It is watered by the rivers Seine, Dehune, Brebince, Armançon, Ouche, Souzon, Tille, and Saone. There are four mineral ſprings at Apoigny, Primeau, Bourbon-Lancy, and St Reine. The firſt are obſcure, and the two laſt in high reputation. In the canton of Breſſe, there are two ſubterranean lakes which often overflow in times of the greateſt drought, and lay a large tract of ground under water: one of them has no apparent ſpring or opening; and yet in a dry ſeaſon, it throws out water enough to overflow the meadow-land near it. The grottos or caves of Arcy are ſeated about 18 miles from Auxere, and over them is ſoil about 10 feet deep. The entrance into theſe cavities is 200 paces long, but narrow. There are arches which form ſeveral vaults, from whence drop clear water, which turns into a brilliant hard ſtone. Twenty paces from the entrance is a lake, which ſeems to be formed by that part of the water that will not petrify. The higheſt of theſe vaults is not above eight feet. About 80 paces from the entrance there is a kind of hall, with a coffee-coloured ceiling, wherein there are a thouſand odd figures, which have a very agreeable effect. Dijon is the capital town.

BOURGUIGNONS, or BURGUNDIANS, one of the northern nations who over-ran the Roman empire, and ſettled in Gaul. They were of a great ſtature, and very warlike; for which reaſon the emperor Valentinian the Great engaged them in his ſervice againſt the Germans. They lived in tents which were cloſe to each other, that they might the more readily unite in arms on any unforeſeen attack. Theſe conjunctions of tents they called *burghs*; and they were to them what towns are to us. Sidonius Appollinaris tells us, that they wore long hair, took great pleaſure in ſinging, and were fond of praiſe for their vocal talents. He adds, that they ate great quantities; and anointed their hair with butter, deeming that unction very ornamental. Their crown was at firſt elective, and the authority of their kings expired with their ſucceſs. They were not only accountable for their own miſconduct, but likewiſe for the calamities of nature, and the caprice of fortune. They were depoſed if they had loſt a battle; if they ſucceeded ill in any enterprize; or if, in ſhort, any great event had not correſponded with the hopes of the public. They were not more favourably treated in caſe of a bad harveſt or vintage, or if any epidemical diſtemper had ravaged the ſtate. At firſt they were governed by many kings, and *hendin* was the title of the royal dignity. But in latter times they were ſubjected to one ſovereign; and they grew humane and civilized, eſpecially when Chriſtianity was propagated in their country. Before that epocha, their religion was much the ſame with that of the other northern nations. They had many prieſts, the chief of whom was diſtinguiſhed by the name of *ſiniſtrus*. He was perpetual, and they paid him great reſpect and veneration.

BOURIGNON (Antonietta), a famous enthuſiaſtic preacher and pretended propheteſs, was born at Liſle in 1616. At her birth ſhe was ſo deformed, that it was debated ſome days in the family whether it was not proper to ſtifle her as a monſter: but her deformity diminiſhing, ſhe was ſpared; and afterwards obtained ſuch a degree of beauty, that ſhe had her admirers. From her childhood to her old age ſhe had an extraordinary turn of mind. She ſet up for a reformer, and publiſhed a great number of books filled with very ſingular notions;

tions; the moſt remarkable of which are intitled *The light of The World*, and *The teſtimony of Truth*. She was an enemy to reaſon and common ſenſe, which ſhe maintained ought to give place to the illumination of divine faith; and aſſerted, that whenever any one was born again by embracing her doctrine, ſhe felt the pains and throes of a woman in labour. Of her pretended viſions and revelations we ſhall give one inſtance as a ſample. In one of her ecſtaſies ſhe ſaw Adam in the ſame form in which he appeared before his fall, and the manner in which he was capable of procreating other men, ſince he himſelf poſſeſſed in himſelf the principles of both ſexes.* Nay ſhe pretended it was told her that he had carried this procreating faculty ſo far as to produce the human nature of Jeſus Chriſt. "The firſt man (ſays ſhe), whom Adam brought forth without any concurrent aſſiſtance in his glorified ſtate, was choſen by God to be the throne of the Divinity; the organ and inſtrument by which God would communicate himſelf externally to men: This is Chriſt the firſt born united to human nature, both God and man." Beſides theſe and ſuch like extravagancies, ſhe had other forbidding qualities, her temper was moroſe and peeviſh, and ſhe was extremely avaricious and greedy of amaſſing riches. She dreſſed like an hermit, and travelled to France, Holland, England, and Scotland. In the laſt ſhe made a ſtrong party, and ſome thouſand ſectariſts, known by the name of *Bourignoiſts*. She died at Faneker in the province of Friſe, October 30th, 1680. Her works have been printed in 18 vols octavo.

BOURN, a town of Lincolnſhire in England, ſeated in E. Long. 1. 17. N. Lat. 52. 40. It is a pretty large place, has a good market for corn and proviſions, and is noted for the coronation of king Edmund.

BOURNE, or BURN, an appellation anciently given to all little brooks or rivulets, and ſtill uſed in the ſame ſenſe in Scotland and in the north of England.

BOURO, an iſland in the Eaſt Indian ocean, between the Moluccas and Celebes. It is well cultivated; and is now ſubject to the Dutch, who have built a fortreſs here. Some mountains in it are exceeding high, and the ſea on one ſide is uncommonly deep. It produces nutmegs and cloves, as well as cocoa and banana trees; beſides many vegetables introduced by the Dutch. It is about 50 miles in circumference. E. Long. 129. S. Lat. 4. 30.

BOUTANT, or ARCH-BOUTANT, in architecture, an arch, or part of an arch, abutting againſt the reins of a vault to prevent its giving way.

A pillar BOUTANT, is a large chain or pile of ſtone, made to ſupport a wall, terrace, or vault.

BOUTE', in the manege. A horſe is called *bouté*, when his legs are in a ſtraight line from the knee to the coronet: ſhort-jointed horſes are apt to be bouté, and on the other hand long-jointed horſes are not.

BOUTS-RIMES, a popular term in the French poetry; ſignifying certain rhymes, diſpoſed in order, and given to a poet together with a ſubject, to be filled up with verſes ending in the ſame words, and the ſame order. The invention of the bouts-rimes is owing to one Du Lot, a poet, in the year 1649. In fixing the bouts, it is uſual to chooſe ſuch as ſeem the remoteſt, and have the leaſt connection.

Some good authors fancy that theſe rhymes are of all others the eaſieſt, that they aſſiſt the invention, and furniſh the moſt new thoughts of all others. Sarraſin has a poem on the defeat of the bouts-rimes. The academy of Lanterniſts at Tholouſe have contributed towards keeping in countenance the bouts-rimes, by propoſing each year a ſet of fourteen, to be filled up on the glories of the grand monarque: the victorious ſonnet to be rewarded with a fine medal.—An inſtance hereof may be given in the following one, filled up by P. Commire.

Tout eſt grand dans le roi, l'aſpect ſeul de ſon buſte
Rend nos fiers ennemis plus froids que des glaçons.
Et Guillaume n'attend que le tems des moiſſons,
Pour ſe voir ſoccomber ſous un bras ſi robuſte.
Qu'on ne nous vante plus les miracles d' Auguſte;
Louis de bien regner lui feroit des leçons:
Horace en vain l'egale aux dieux dans ſes chanſons:
Moins que mon heros il etoit ſage et juſte, &c.

BOUTON, an iſland in the Eaſt Indian ocean, about 12 miles diſtant from the ſouth-eaſt part of the iſland of Macaſſar, or Celebes. The inhabitants are ſmall, but well ſhaped, and of a dark olive complexion. The principal town is Callaſujung, which is about a mile from the ſea, on the top of a ſmall hill, and round it a ſtone wall. The houſes are not built upon the ground, but on poſts. The religion of the inhabitants is Mahometaniſm. E. Long. 122. 30. S. Lat. 4. 30.

BOUVILLON, a city of Luxemburg in the Auſtrian Netherlands, ſituated in E. Long. 5. 0. N. Lat. 49. 55.

BOW (*Arcus*), a weapon of offence made of wood, horn, or other elaſtic matter, which, after being ſtrongly bent, by means of a ſtring faſtened to its two ends, in returning to its natural ſtate throws out an arrow with great force. It is alſo called the *long-bow*, by way of diſtinction from the croſs-bow or arbaleſt.

The bow is the moſt ancient, and the moſt univerſal of all weapons. It has been found to obtain among the moſt barbarous and remote people, and who had the leaſt communication with the reſt of mankind.

The uſe of the bow and arrow was firſt aboliſhed in France under Louis XI. in 1481, and in their place was introduced the Swiſs arms, that is, the halbard, pike, and broad-ſword. The long-bow was formerly in great vogue in England; moſt of their victories in France were acquired by it; and many laws were made to regulate and encourage its uſe. The parliament under Henry VIII. complain "of the diſuſe of the long-bow, heretofore the ſafe-guard and defence of this kingdom, and the dread and terror of its enemies." 33 Hen. VIII. cap. 6.

The art of uſing bows is called *archery*, and thoſe practiſed therein, *archers* or *bowmen*. See ARCHERY.

The ſtrength of a bow may be calculated on this principle, that its ſpring, *i. e.* the power whereby it reſtores itſelf to its natural poſition, is always proportionate to the diſtance or ſpace it is removed therefrom.

The moſt barbarous nations often excel in the fabric of the particular things which they have the greateſt neceſſity for in the common offices of life. The Laplanders, who ſupport themſelves almoſt entirely by hunting, have an art of making bows, which thoſe in improved parts of the world, have never arrived at.

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* See the article *Adam*.

Their bow is made of two pieces of tough and ſtrong wood, ſhaved down to the ſame ſize, and flatted on each ſide; the two flat ſides of the pieces are brought cloſely and evenly together, and then joined by means of a glue made of the ſkins of pearch, which they have in great plenty, and of which they make a glue ſuperior in ſtrength to any which we have. The two pieces, when once united in this manner, will never ſeparate, and the bow is of much more force to expel the arrow, than it could poſſibly have been under the ſame dimenſions if made of only one piece.

Among the ancients, the bow-ſtring, called τριχωσις, was made of horſes hair, and hence alſo called ιππεια; though Homer's bow-ſtrings are frequently made of hides cut into ſmall thongs; whence τοξα βοεια. The uppermoſt part of the bow, to which the ſtring was faſtened, was called κορωνη, being commonly made of gold, and the laſt thing towards finiſhing the bow. The Grecian bows were frequently beautified with gold or ſilver; whence we have mention of *aurei arcus*; and Apollo is called Αργυροτοξος. But the matter of which they were ordinarily compoſed, ſeems to have been wood; though they were anciently, Scythian-like, made of horn, as appears from that of Pandarus in Homer, Iliad. δ. v. 105.

The invention of the bow is uſually aſcribed to Apollo, and was communicated to the primitive inhabitants of Crete, who are ſaid to have been the firſt of mortals who underſtood the uſe of bows and arrows. And hence, even in latter ages, the Cretan bows were famous, and preferred by the Greeks to all others. Some, however, rather chooſe to honour Perſes, the ſon of Perſeus, with the invention of the bow; while others aſcribe it to Scythes, ſon of Jupiter, and progenitor to the Scythians, who were excellent at this art, and by many reputed the firſt maſters of it. From them it was derived to the Grecians, ſome of whoſe ancient nobility were inſtructed by the Scythians in the uſe of the bow, which in thoſe days paſſed for a moſt princely education. It was firſt introduced into the Roman army in the ſecond Punic war.

The Indians ſtill retain the bow. In the repoſitory of the Royal Society we ſee a Weſt Indian bow two yards long.

The Scythian bow was famous for its incurvation, which diſtinguiſhed it from the bows of Greece and other nations; being ſo great as to form an half-moon or ſemicircle: whence the ſhepherd in Athenæus, being to deſcribe the letters in Theſeus's name, and expreſſing each of them by ſome appoſite reſemblance, compares the third to the Scythian bow; meaning not the more modern character Σ, but the ancient C, which is ſemicircular, and bears the third place in Θ HCEVC.

Croſs-Bow, is alſo called *arbaleſt* or *arbalet*; which word is derived from *arbaliſta*, i. e. *arcubaliſta*, "a bow with a ſling." The arbalet conſiſts of a ſteel-bow, ſet in a ſhaft of wood, furniſhed with a ſtring and a trigger; and is bent with a piece of iron fitted for that purpoſe. It ſerves to throw bullets, large arrows, darts, &c. The ancients had large machines for throwing many arrows at once, called *arbalets* or *baliſtæ*.

Bow, is alſo an inſtrument uſed at ſea, for taking the ſun's altitude; conſiſting of a large arch of 90° graduated, a ſhank or ſtaff, a ſide vane, a ſight vane, and an horizon vane. It is now out of uſe.

Bow, among builders, a beam of wood or braſs, with three long ſcrews that direct a lathe of wood or ſteel to any arch; chiefly uſed in drawing draughts of ſhips and projections of the ſphere, or wherever it is requiſite to draw large arches.

Bow, in muſic, a ſmall machine, which, being drawn over the ſtrings of a muſical inſtrument, makes it reſound. It is compoſed of a ſmall ſtick, to which are faſtened 80 or 100 horſe-hairs, and a ſcrew which ſerves to give theſe hairs a proper tenſion. In order that the bow may touch the ſtrings briſkly, it is uſual to rub the hairs with roſin. The ancients do not appear to have been acquainted with bows of hair: in lieu hereof they touched their inſtruments with a plectrum; over which our bows have great advantage, for giving long and ſhort ſounds, and other modifications which a plectrum cannot produce.

Bow, among artificers, an inſtrument ſo called from its figure; in uſe among gunſmiths, lockſmiths, watchmakers, &c. for making a drill go. Among turners it is the name of that pole fixed to the ceiling, to which they faſten the cord that whirls round the piece to be turned.

Bow, a town of Devonſhire in Wales, ſituated in W. Long. 4. 0. N. Lat. 50. 45.

Bows of a Saddle, are two pieces of wood laid archwiſe to receive the upper part of a horſe's back, to give the ſaddle its due form, and to keep it tight.

The fore-bow which ſuſtains the pommel, is compoſed of the withers, the breaſts, the points or toes, and the corking.

The hind-bow bears the trouſequin or quilted roll. The bows are covered with ſinews, that is with bull's pizzles beaten, and ſo run all over the bows to make them ſtronger. Then they are ſtrengthened with bands of iron to keep them tight; and on the lower ſide are nailed on the ſaddle ſtraps, with which they make faſt the girths.

Bow, Epaule, in ſhip-building, the rounding part of a ſhip's ſide forward, beginning at the place where the planks arch inwards; and terminated where they cloſe, at the ſtem or prow. It is proved by a variety of experiments, that a ſhip with a narrow bow is much better calculated for ſailing ſwiftly, than one with a broad bow; but is not ſo well fitted for a high ſea, into which ſhe always *pitches* or plunges her fore-part very deep, for want of ſufficient breadth to repel the volume of water which ſhe ſo eaſily divides in her fall. The former of theſe is called by ſeamen a *lean*, and the other a *bluff* bow. "The bow which meets with the leaſt reſiſtance in a direct courſe, not only meets with the leaſt reſiſtance in oblique courſes, but alſo has the additional property of driving the leaſt to leeward; which is a double advantage gained by forming the bow ſo as to give it that figure which will be leaſt reſiſted in moving through any medium.*"

On the Bow, in navigation, an arch of the horizon comprehended between ſome diſtant object and that point of the compaſs which is right a-head, or to which the ſhip's ſtern is directed. This phraſe is equally applicable when the object is beheld from the ſhip, or diſcovered by trigonometrical calculations: As, we ſaw a fleet

* *Bougner's Traite de Navire.*

fleet at day-break bearing three points *on the ſtarboard-bow*: that is, three points from that part of the horizon which is right a-head, towards the right-hand. See the article BEARING.

Bow-dye, a kind of ſcarlet red, ſuperior to madder; but inferior to the true ſcarlet grain for fixedneſs and duration. It was brought into England, and firſt practiſed at the village of Bow, near London, by Kephler, a Dutchman, in the year 1643.

Bow-grace, in the ſea-language, a frame or compoſition of old ropes or junks of cables, uſed to be laid out at the bows, ſtems, and ſides of ſhips, to preſerve them from great flakes of ice, chiefly when they ſail in high north or ſouth latitudes.

Bow-net, or *Bow-wheel*, an engine for catching fiſh, chiefly lobſters and craw-fiſh, made of two round wicker baſkets, pointed at the end, one of which is thruſt into the other; at the mouth is a little rim, four or five inches broad, ſomewhat bent inwards. It is alſo uſed for catching ſparrows.

Bow-Legged, or *Bandy-legged*. Some children are bow-legged from their birth; others become ſo from ſetting them on their feet too early. The tibia of ſome is crooked; the knees of others are diſtorted; from a fault in the ankle, the feet of ſome are turned inwards. Theſe are called *vari*; and in others, who are called *valgi*, they are turned outwards. The beſt method of preventing theſe diſorders in weakly children is to exerciſe them duly, but not violently, by dancing or toſſing them about in one's arms; and not ſetting them much upon their feet, at leaſt not without properly ſupporting them: if the diſorder attends at the birth, or increaſes after it is begun, apply emollients, then apply boots of ſtrong leather, wood, &c. ſo as gradually to diſpoſe the crooked legs to a proper form; or other inſtruments may be uſed inſtead of boots, which, when not too coſtly, are uſually to be preferred. Slighter inſtances of theſe diſorders yield to careful nurſing, without inſtruments.

Bow-Line, or *Bowling*, a rope faſtened near the middle of the leech, or perpendicular edge of the ſquare ſails, by three or four ſubordinate parts called *bridles*. It is only uſed when the wind is ſo unfavourable that the ſails muſt be all braced ſideways, or cloſe-hauled to the wind: in this ſituation the bow-lines are employed to keep the weather or windward edges of the principal ſails tight, forward, and ſteady, without which they would always be ſhivering, and rendered incapable of ſervice. To *check* the bow-line is to ſlacken it, when the wind becomes large.

Bow-Pieces, are the pieces of ordnance at the bow of a ſhip.

Rain-Bow. See *RAIN-BOW*.

Bow-Bearer, an inferior officer of the foreſt, who is ſworn to make inquiſition of all treſpaſſes againſt vert or veniſon, and to attach offenders.

BOWELS, in anatomy, the ſame with inteſtines. See ANATOMY, nº 93.

BOWER, in gardening, a place under covert of trees, differing only from an arbour, as being round or ſquare, and made with a kind of dome or ceiling at top; whereas the arbour is always built long and arched.

BOWER, in the ſea-language, the name of an anchor carried at the bow of a ſhip. There are generally two bowers, called *firſt* and *ſecond*, *great* and *little*, or *beſt* and *ſmall* bower. See ANCHOR.

BOWESS, or BOWER, in falconry; a young hawk, when ſhe draws any thing out of her neſt, and covets to clamber on the boughs.

BOWL, denotes either a ball of wood, for the uſe of bowling; or a veſſel of capacity, wherein to hold liquors.

BOWLDER-STONES, ſmall ſtones, of a roundiſh figure, and no determinate ſize, found on the ſea-ſhore, and on banks or rather channels of rivers.

BOWLING, the art of playing at bowls.—This game is practiſed either in open places, as bares and bowling-greens, or in cloſe bowling-alleys.

The ſkill of bowling depends much on a knowledge of the ground, and the right choice of a bowl ſuitable to it: for cloſe alleys, the flat bowl; for green ſwards plain and level, the bowl as round as a ball is preferred.

The terms uſed in bowling are, to *bowl wide*, which is when the bias does not hold, or is not ſtrong enough; *narrow*, when it is too ſtrong, or holds too much; *finely bowled*, is when the ground is well choſen, and the bowl paſſes near the block, even though it goes much beyond it; *bowling through*, or a *yard over*, is done in order to move the block; an *over bowl*, that which goes beyond it; *bowl laid at hand*, is that put down within the gameſter's reach, to be in the way of the next bowler, and hinder his having the advantage of the beſt ground: *bowling at length*, neither bowling through nor ſhort; a *dead length*, a juſt or exact one; *throwing* or *flinging*, is diſcharging a bowl with a ſtrength purpoſely too great for a length, in order to carry off either the block or ſome near bowl; *bowl-room*, or *miſſing-wood*, is when a bowl has free paſſage, without ſtriking on any other; *get off*, is when a bowl being narrow, is wanted to be wider; *bowl beſt at block*, that neareſt the block: *drawing a caſt or bowl*, is to win it by bowling nearer, without ſtiring either the bowl or block; a bowl is ſaid to *rub*, when it meets with ſome obſtacle in the ground, which retards its motion, and weakens its force; *it is gone*, when far beyond the block. *Block* ſignifies a little bowl laid for a mark, alſo called a *jack*. *Mark*, is a proper bowling diſtance, not under ſo many yards; and being at leaſt a yard and a half from the edge of the green. *Ground*, a bag or hankerchief laid down to mark where a bowl is to go. *Lead*, the advantage of throwing the block, and bowling firſt. *Caſt*, is one beſt bowl at an end. *End*, a hit, or when all the bowls are out. The *game*, or *up*, is five caſts or beſt bowls.

BOWLING-Green, in gardening, a kind of parterre in a grove, laid with fine turf, requiring to be frequently mowed, laid out in compartments of divers figures, with dwarf-trees and other decorations. Bowling-greens are of Engliſh origin, but have been adopted by the French and Italians, who have them only for ornament; being unacquainted with or not fancying the exerciſe, on account of which they were firſt made in England.

BOWLING-Bridles, are the ropes by which the bow-line is faſtened to the leech of the ſail.

BOWSE, in the ſea-language, ſignifies as much as

Bowſprit, Bowyer.

to *hale* or *pull*. Thus *bowſing upon a tack*, is haling upon a tack. *Bowſe away*, that is, Pull away all together.

BOWSPRIT, or BOLTSPRIT, a kind of maſt, reſting ſlopewiſe on the head of the main ſtem, and having its lower end faſtened to the partners of the fore-maſt, and farther ſupported by the fore-ſtay. It carries the ſprit-ſail, ſprit-top-ſail, and jack-ſtaff; and its length is uſually the ſame with that of the fore-maſt.

BOWYER (William), the moſt learned printer of his age, was born at White Friars in London, December 17, 1699. His father, whoſe name alſo was William, had been eminent in the ſame profeſſion; and his maternal grandfather (Icabod Dawks) was employed in printing the celebrated Polyglott Bible of biſhop Walton. At a proper age, he was placed for grammatical education under the care of Mr Ambroſe Bonwicke, a nonjuring clergyman of known piety and learning, who then lived at Headly, near Leatherhead in Surry. Here Mr Bowyer made great advances in literature, and a firm attachment commenced betwixt him and his maſter. On the 30th of January 1713, the whole property of the elder Mr Bowyer was deſtroyed by fire; on which occaſion Mr Bonwicke generouſly undertook the education of his pupil for one year. In 1716, young Mr Bowyer was admitted a ſizar at St John's college, Cambridge, where Dr Robert Jenkin was at that time maſter. He continued at the college of Cambridge under the tuition of the reverend Dr John Newcome till June 1722, during which period he probably took his degree of Bachelor of Arts; and it appears that he was deſirous of obtaining a fellowſhip, though it is not certain that he ever ſtood a candidate for that honour. Soon after this he had an opportunity of repaying the kindneſs which Mr Bonwicke had ſhown him, by officiating ſome time after his death in the capacity of a ſchoolmaſter for the benefit of his family.

Mr Bowyer now entered into the printing-buſineſs along with his father. One of the firſt books which received the benefit of his correction was the complete edition of Selden in three volumes folio by Dr David Wilkins. This edition was begun in 1722, and finiſhed in 1726; and Mr Bowyer's great attention to it appeared in his drawing up an epitome of Selden *de Synedriis*, as he read the proof-ſheets. In 1727, he drew up an excellent ſketch of William Baxter's Gloſſary of the Roman Antiquities. This was called "A view of a book intitled *Reliquiæ Baxterianæ*. In a letter to a friend." A ſingle ſheet 8vo. By this firſt public proof of Mr Bowyer's abilities, Dr Wotton and Mr Clarke were highly pleaſed; but as it was never publiſhed, and very few copies printed, it is very ſeldom found with the gloſſary. In 1727 Mr Bowyer loſt his mother; on which occaſion he received a letter of conſolation from Mr Chiſhull the learned editor of the *Antiquitates Aſiaticæ*. In October 1728 he married Miſs Ann Prudom, his mother's niece, a very accompliſhed lady, by whom he had two ſons, William and Thomas; the former of whom died an infant, and the latter ſurvived his father. In 1729 Mr Bowyer publiſhed a curious treatiſe, intitled, "A Pattern for young Students in the Univerſity; ſet forth in the Life of Ambroſe Bonwicke, ſome time ſcholar of St John's College, Cambridge:" but though this treatiſe was generally aſcribed to Mr Bowyer, it was in reality the production of Mr Ambroſe Bonwicke the elder. About this time it appears, that Mr Bowyer had written a pamphlet againſt the Separatiſts, though neither the title nor the occaſion of it are now remembered. The ſame year, through the friendſhip of the Right Hon. Arthur Onſlow, he was appointed printer of the Votes of the Houſe of Commons; which office he held, under three ſucceſſive ſpeakers, for near fifty years. In 1731 Mr Bowyer publiſhed, and, it is believed, *tranſlated* Voltaire's Life of Charles XII. This year alſo his wife died; on which occaſion his friends Mr Clarke and Mr Chiſhull wrote him very affectionate and Chriſtian letters. He remained a widower till 1747, when he married a very benevolent and worthy woman, Mrs Elizabeth Bill, by whom he had no children. In 1733 he publiſhed a piece in two ſheets 4to, intitled, "The Beau and the Academic;" being a traſlation from a Latin poem recited that year at the Sheldonian theatre; and in 1736 he was admitted into the Society of Antiquarians, where he became an active and uſeful member. In 1737 Mr Bowyer loſt his father; and on this occaſion Mr Clarke again addreſſed to him a letter of conſolation. In 1742 our author publiſhed a tranſlation of Trapp's Latin Lectures on Poetry, in which he was aſſiſted by Mr Clarke, though the latter had a contemptible opinion of the performance.

Bowyer.

In 1749, Mr Bowyer, along with Dr Burton, was virulently attacked by Dr King in a piece intitled *Elogium famæ inſerviens Jacci Etonenſis ſive Gigantis*: or, "The praiſes of Jack Eaton, commonly called *Jack the Giant*."—This abuſe was probably occaſioned by Mr Bowyer's having hinted in converſation ſome doubts concerning the Doctor's ſkill in Latin. Our author drew up ſome ſtrictures in his own defence, which he intended to inſert at the concluſion of a preface to Monteſquieu's, Reflections; but by Dr Clarke's advice they were omitted. In 1750, a prefatory critical diſſertation and ſome notes were annexed by our author to Kuſter's Treatiſe *De uſu verborum mediorum*; a new edition of which, with farther improvements, appeared in 1773. He wrote likewiſe about the ſame time a Latin preface to Leedes's *Veteres poetæ citati*, &c.—Being ſoon after employed to print an edition of Col. Bladen's tranſlation of Cæſar's Commentaries, that work received conſiderable improvements from Mr Bowyer's hands, with the addition of ſuch notes in it as are ſigned TYPOGR. In the ſubſequent editions of this work, though printed by another perſon during our author's lifetime, the ſame ſignature, though contrary to decorum, and even to juſtice, was ſtill retained. In 1751, he wrote a long preface to Monteſquieu's "Reflexions on the riſe and fall of the Roman Empire;" tranſlated the dialogue between Sylla and Socrates; made ſeveral corrections to the work from the Baron's "Spitit of Laws;" and improved it with his own notes. A new edition, with many new notes, was printed in 1759. In 1751 he alſo publiſhed the firſt tranſlation that ever was made of Rouſſeau's paradoxical oration, which gained the prize at the academy of Dijon in 1750; and which firſt announced that ſingular genius to the attention and admiration of Europe. On the publication of the third edition of Lord Orrery's "Remarks on the Life and Writings of Dr Swift," in

1752, Mr Bowyer wrote and printed, but never publiſhed, “ Two Letters from Dr Bentley in the Shades below, to Lord Orrery in a Land of thick darkneſs.” The notes ſigned B, in the ninth quarto volume of Swift's works, are extracted from theſe Letters. In 1753, he endeavoured to allay the ferment occaſioned by the Jew bill; with which view he publiſhed, in quarto, “ Remarks on the ſpeech made in common-council, on the bill for permitting perſons profeſſing the Jewiſh religion to be naturalized, ſo far as prophecies are ſuppoſed to be affected by it.” This little tract was written with ſpirit, and well received by thoſe who were ſuperior to narrow prejudices. Its deſign was to ſhow, that whatever political reaſons might be alleged againſt the bill, Chriſtianity was in no danger of being prejudiced by the intended protection promiſed to the Jews. The ſame year ſome of Mr Bowyer's notes were annexed to Biſhop Claton's tranſlation of “ A Journal from grand Cairo to mount Sinai and back again.”—In 1754, Mr Bowyer, with a view of leſſening his fatigue, entered into partnerſhip with a relation; but ſome diſagreement ariſing, the connexion was diſſolved in three years. On the death of Mr Richardſon in 1761, Mr Bowyer ſucceeded him as printer to the Royal Society, through the favour of the late Earl of Macclesfield; and, under the friendſhip of five ſucceſſive preſidents, enjoyed that office till his death.

In 1763, Mr Bowyer publiſhed an excellent edition of the Greek Teſtament, in two vols 12mo. It appeared under the following title: *Novum Teſtamentum Græcum; ad fidem Græcorum ſolum Codicum MSS. nunc primum impreſſum, adſtipulante Joanne Jacobo Wetſtenio, juxta Sectiones Jo. Alberti Bengelii diviſum; et nova interpretatione ſæpius illuſtratum. Acceſſère in altero volumine, Emendationes conjecturales virorum doctorum undecunque collectæ.* This ſold with great rapidity: the Conjectural Emendations were well received by the learned, and are thought to be a valuable work. The preſident and fellows of Havard college in Cambridge expreſſed their approbation of this edition in very high terms. In a letter to Mr Bowyer, written in the year 1767, “ This work (ſay they), though ſmall in bulk, we eſteem as a rich treaſure of ſacred learning, and of more value than many large volumes of the commentators.” A ſecond edition of the Conjectures on the New Teſtament, with very conſiderable enlargements, was ſeparately publiſhed, in one vol. 8vo, in 1772. Biſhop Warburton, having cenſured a paſſage in the former edition, Mr Bowyer ſent him a copy of this book, with a conciliatory letter. Dr Warburton's Divine Legation had received very conſiderable advantage from Mr Bowyer's corrections; and this even in an edition which was neceſſarily given to another preſs. In 1761 he was employed to print his Lordſhip's Doctrine of Grace. A ſecond edition being ſoon wanted, and Mr Bowyer not having been intruſted with the care of it, he prepared a ſeries of letters to the biſhop in his own defence; of which, together with a few he had formerly received from that great writer, he afterwards printed *twelve copies*, of which *ten* have ſince been deſtroyed. However, there is the beſt authority for aſſerting, that notwithſtanding any little altercations which happened, Dr Warburton always retained a ſincere regard for our author. In 1765, at the requeſt of Thomas Hollis, Eſq; Mr Bowyer wrote a ſhort Latin preface to Dr Wallis's *Grammatica Linguæ Anglicanæ*. He wrote alſo a larger Engliſh preface for the ſame work, which, however, ſtill remains unprinted. In 1766 he entered into partnerſhip with Mr Nichols, who had been trained by him to the profeſſion, and had for ſeveral years aſſiſted him in the management of his buſineſs. The ſame year, Mr Bowyer wrote an excellent Latin preface to *Joannis Harduini, Jeſuitæ, ad Cenſuram Scriptorum veterum Prolegomena. Juxta Autographum.* In 1767 he was appointed to print the Journals of the Houſe of Lords and the Rolls of Parliament. This year he printed Mr Clarke's excellent and learned work on “ The Connection of the Roman, Saxon, and Engliſh Coins;” and wrote ſome notes upon it, which are interſperſed throughout the volume with thoſe of the author. Part of the Diſſertation on the Roman ſeſterce was likewiſe Mr Bowyer's production; and the index, which is an uncommonly good one, was drawn up by him entirely.

In January 1771 Mr Bowyer loſt his ſecond wife, and again received a letter of conſolation from his old friend Mr Clarke, who had ſent him one almoſt forty years before on a ſimilar occaſion. In the philoſophical Tranſactions for this year was printed a very ingenious “ Inquiry into the Value of the ancient Greek and Roman Money,” by the late Matthew Raper, Eſq. But his opinions not coinciding with thoſe of Mr Bowyer, he printed a ſmall pamphlet, intitled, “ Remarks, occaſioned by a late Diſſertation on the Greek and Roman money.” In 1773 three little tracts were publiſhed by him, under the title of “ Select Diſcourſes. 1. Of the correſpondence of the Hebrew months with the Julian, from the Latin of Profeſſor Michaelis. 2. Of the Sabbatical years, from the ſame. 3. Of the years of jubilee, from an anonymous writer in Maſſon's Hiſtoirt Critique de la Republique des Lettres.” In 1774 he corrected a new edition of Schrevelius's Greek Lexicon; to which he has added a number of words, diſtinguiſhed by an aſteriſk, which he himſelf had collected in the courſe of his ſtudies. Conſiderable additions, ſtill in manuſcript, were made by him to the lexicons of Hederic and Buxtorf, the Latin ones of Faber and Littleton, and the Engliſh Dictionary of Bailey; and he left behind him many other proofs of his critical ſkill in the learned languages. In 1774 was publiſhed, “ The Origin of printing, in two Eſſays. 1. The ſubſtance of Dr Middleton's Diſſertation on the Origin of Printing in England. 2. Mr Meerman's Account of the Invention of the Art at Haerlem, and its progreſs to Mentz, with occaſional Remarks, and an Appendix.” The original idea of this valuable tract was Mr Bowyer's, but it was completed by Mr Nichols.

Although our author, during the laſt ten years of his life, had been afflicted with the palſy and ſtone, he not only preſerved a remarkable cheerfulneſs of temper, but was enabled to ſupport the labour of almoſt inceſſant reading; and he regularly corrected the learned works, eſpecially the Greek books, which came from his preſs. This he continued to do till within a few weeks of his death, which happened in November 1777, when he had nearly completed his 78th year.

For more than half a century Mr Bowyer was unrivalled as a learned printer; and many of the moſt maſterly productions of this kingdom have come from his preſs. To his literary and profeſſional abilities he added an excellent moral character; and he was particularly diſtinguiſhed by his inflexible probity, and an uncommon alacrity in relieving the neceſſitous.

BOWYERS, artificers whoſe buſineſs is to make bows; in which ſenſe, bowyers ſtand diſtinguiſhed from fletchers, who made arrows.

The bowyers company in London was incorporated in 1620: and conſiſts of a maſter, two wardens, twelve aſſiſtants, and 30 on the livery. See ARCHERY.

BOX, in its moſt common acceptation, denotes a ſmall cheſt or coffer for holding things.

Dice-Box, a narrow deep cornet, channelled within, wherein the dice are ſhaken and thrown. This anſwers to what the Romans called *fritillus*; whence, *crepitantes fritilli*; and, in Seneca, *reſonante fritillo*. The ſame author uſes alſo *concutere fritillum*, figuratively, for playing.—Beſides the fritillus, the Romans, for greater ſecurity, had another kind of dice-box called *pyrgus*, πυργος and ſometimes *turricula*. It was placed immoveable in the middle of the table, being perforated or open at both ends, and likewiſe channelled within; over the top was placed a kind of funnel, into which the dice were caſt out upon the fritillus; whence deſcending, they fell through the bottom on the table; by which all practiſing on them with the fingers was effectually prevented. For want of ſome contrivance of this kind, our ſharpers have opportunities of playing divers tricks with the box, as palming, topping, ſlabbing, &c.

Box, is alſo uſed for an uncertain quantity or meaſure: thus a box of quickſilver contains from one to two hundred weight; a box of prunellas, only 14 pounds; a box of rings for keys, two groſs, &c.

Box-Tree, in botany. See BUXUS.

African-Box. See MYRSINE.

BOXERS, a kind of *athletæ*, who combat or contend for victory with their fiſts. Boxers amount to the ſame with what among the Romans were called *pugiles*. The ancient boxers battled with great force and fury, inſomuch as to daſh out each others teeth, break bones, and often kill each other. The ſtrange disfigurements theſe boxers underwent were ſuch that they frequently could not be known, and rendered them the ſubject of many railleries. In the Greek anthology there are four epigrams of the poet Lucilius, and one of Lucian, wherein their disfigurements are pleaſantly enough expoſed. See BOXING.

BOXHORNIUS (Marc Zuerius), a learned critic born at Bergen-op-Zoom in 1612, was profeſſor of eloquence at Leyden, and at length of politics and hiſtory in the room of Heinſius. He publiſhed, 1. *Theatrum urbium Hollandiæ*. 2. *Scriptores hiſtoriæ Auguſtæ, cum notis*. 3. *Poetæ ſatyrici minores, cum comment*. 4. Notes on Juſtin, Tacitus; and a great number of other works. He died in 1653, aged 41.

BOXING, the exerciſe of fighting with the fiſts, either naked or with a ſtone or leaden ball graſped in them: in which ſenſe, boxing coincides with the *pugillatus* of the Romans, and what on our amphitheatres is ſometimes called trial of manhood. When the champions had σφαιραι, or balls, whether of lead or ſtone, it was properly denominated σφαιρομαχια. The ancient boxing differed from the *pugna cæſtuum*, in which the combatants had leathern thongs on their hands, and balls to offend their antagoniſts; though this diſtinction is frequently overlooked, and fighting with the *cæſtus* ranked as a part of the buſineſs of *pugiles*. We may diſtinguiſh three ſpecies of boxing; *viz.* where both the head and hands were naked; where the hands were armed and the head naked; and where the head was covered with a kind of cap called amphotides, and the hands alſo furniſhed with the *cæſtus*.

Boxing is an ancient exerciſe, having been in uſe in the heroic ages. Thoſe who prepared themſelves for it, uſed all the means that could be contrived to render themſelves fat and fleſhy, that they might be better able to endure blows: whence corpulent men or women were uſually called *pugiles*, according to Terence: *Siqua eſt habitior paulo, pugilem eſſe aiunt*.

In modern times this art has been in a manner appropriated by the Engliſh. About half a century ago it formed as regular an exhibition as we now ſee at any of the places of public amuſement, the theatres alone excepted. It was encouraged by the firſt ranks of the nobility, patroniſed by the firſt ſubjects in the realm, and tolerated by the magiſtrates. Before the eſtabliſhment of Broughton's amphitheatre, a Booth was erected at Tottenham Court, in which the proprietor, Mr George Taylor, invited the profeſſors of the art to diſplay their ſkill, and the public to be preſent at its exhibition. The bruiſers then had the reward due to their proweſs, in a diviſion of the entrance-money, which ſometimes was 100, or 150 l. The general mode of ſharing was for two-thirds to go to the winning champion, while the remaining third was the right of the loſer; though ſometimes by an expreſs agreement of the parties, the conqueror and the vanquiſhed ſhared alike. The nobility and gentry having complained of the inconveniences ſuſtained at Taylor's Booth, prevailed on Mr Broughton, who was then riſing into note as the firſt bruiſer in London, to build a place better adapted for ſuch exhibitions. This was accordingly done in 1742, principally by ſubſcription, behind Oxford-road. The building was called Broughton's New Amphitheatre; and, beſides the ſtage for the combatants, had ſeats correſponding to the boxes, pit, and galleries, much in the ſame manner with thoſe at Aſtley's. After a courſe of years, however, theſe exhibitions became gradually leſs patroniſed and frequented, owing probably to the refinement of our manners. Lately, indeed, they ſeemed to be revived, and for ſome time conſiderably engaged the attention of the public; but a fatal iſſue which attended one of them, brought the practice again into diſrepute. One of the combatants was killed on the ſpot. His royal highneſs the Prince of Wales was preſent, and declared that he would have ſome ſettlement made on the neareſt relation of the deceaſed, but that on account of the dreadful example he had then witneſſed he would never more either ſee or patroniſe another ſtage-fight.

BOXING, among ſailors, is uſed to denote the rehearſing the ſeveral points of the compaſs in their proper order.

BOXING is alſo uſed for the tapping of a tree to make it yield its juice. The boxing of maple is performed by making an hole with an ax or chiſſel into the ſide of the tree about a foot from the ground; out of it flows a liquor of which ſugar is made.

BOXTEHUDE, a town of Germany, in the circle of Lower Saxony, ſubject to the Danes. It is ſeated on the rivulet Eſſe, which falls into the Elbe, in E. Long. 9. 35. N. Lat. 53. 40.

BOXTEL, a town in Dutch Brabant, with ſluices, ſeated on the river Bommel. E. Long. 5. 15. N. Lat. 51. 30.

BOYAR, a term uſed for a grandee of Ruſſia and Tranſylvania. Becman ſays, that the boyars are the upper nobility; and adds, that the Czar of Muſcovy, in his diplomas, names the boyars before the waywodes. See WAYWODE.

BOYAU, in fortification, a ditch covered with a parapet, which ſerves as a communication between two trenches. It runs parallel to the works of the body of the place; and ſerves as a line of contravallation, not only to hinder the ſallies of the beſieged, but alſo to ſecure the miners. But when it is a particular cut that runs from the trenches to cover ſome ſpot of ground, it is drawn ſo as not to be enfiladed or ſcoured by the ſhot from the town.

BOYD (Mark Alexander), an extraordinary genius, was ſon of Robert Boyd, who was eldeſt ſon of Adam Boyd of Pinkhill, brother to Lord Boyd. He was born in Galloway on the 13th of January 1562, and came into the world with teeth. He learned the rudiments of the Latin and Greek languages at Glaſgow under two grammarians; but was of ſo high and untractable a ſpirit, that they deſpaired of ever making him a ſcholar. Having quarrelled with his maſters, he beat them both, burnt his books, and forſwore learning. While he was yet a youth, he followed the court, and did his utmoſt to puſh his intereſt there; but the fervour of his temper ſoon precipitated him into quarrels, from which he came off with honour and ſafety, though frequently at the hazard of his life. He, with the approbation of his friends, went to ſerve in the French army, and carried his little patrimony with him, which he ſoon diſſipated at play. He was ſhortly after rouſed by that emulation which is natural to great minds, and applied himſelf to letters with unremitted ardour, till he became one of the moſt conſummate ſcholars of his age. He is ſaid to have tranſlated Cæſar's Commentaries into Greek in the ſtyle of Herodotus, and to have written many Latin poems which were little inferior to the firſt productions of the Auguſtan age. He alſo left ſeveral manuſcripts on philological, political, and hiſtorical ſubjects, in Latin and French, which languages were as familiar to him as his native tongue. He could with facility dictate to three amanuenſes at the ſame time, in different languages, and on different ſubjects. He was alſo one of the beſt Scottiſh poets of the age. To all this we muſt add, that his perſonal beauty and accompliſhments were equal to his mental ſuperiority. He died at Pinkhill in Scotland, in 1601. The following works, which are all that have been printed, were publiſhed in *Deliciæ Poetarum Scotorum*; Amſtel. 1637, 12mo. 1. *Epigrammata*, lib. ii. 2. *Heroidum Epiſtolæ* XIV. lib. i. 3. *Hymni* XIV.

BOYER (Abel), a well-known gloſſographer and hiſtoriographer, born at Caſtres in France, in 1664. Upon the revocation of the edict of Nantz, he went firſt to Geneva, then to Franeker, where he finiſhed his ſtudies: and came finally to England, where he applied himſelf ſo cloſely to the ſtudy of the Engliſh language, and made ſo great a proficiency therein, that he became an author of conſiderable note in it, being employed in the writing of ſeveral periodical and political works. He was for many years concerned in, and had the principal management of, a newſpaper called the *Poſt-boy*. He likewiſe publiſhed a monthly work, intitled, the *Political ſtate of Great Britain*. He wrote a life of queen Anne, in folio, which is eſteemed a very good chronicle of that period of the Engliſh hiſtory. But what has rendered him the moſt known, and eſtabliſhed his name to the lateſt poſterity, are the excellent Dictionary and Grammar of the French language, which he compiled, and which have been and ſtill are reckoned the beſt in their kind. He alſo wrote, or rather tranſlated from the French of M. de Racine, the tragedy of Iphigenia, which he publiſhed under the title of *The Victim*. It was performed with ſucceſs at the theatre of Drury-lane, and is far from being a bad play. Nor can there perhaps be a ſtronger inſtance of the abilities of its author, than ſucceſs in ſuch an attempt; ſince writing with any degree of correctneſs or elegance, even in proſe, in a language which we were not born to the ſpeaking of, is an excellence not very frequently attained; but to proceed ſo far in the perfection of it as to be even ſufferable in poetry, and more eſpecially in that of the Drama, in which the diction and manner of expreſſion require a peculiar dignity and force, and in a language ſo difficult to attain the perfect command of as the Engliſh, is what has been very ſeldom accompliſhed. He died in 1729.

BOYER, in navigation, a kind of Flemiſh ſloop, or ſmall veſſel of burden, having a boltſprit, a caſtle at each end, and a tall maſt; chiefly fit for the navigation of rivers, and in many of its parts reſembling a ſmack.

BOYES, idolatrous prieſts among the ſavages of Florida. Every prieſt attends a particular idol, and the natives addreſs themſelves to the prieſt of that idol to which they intend to pay their devotion. The idol is invoked in hymns, and his uſual offering is the ſmoke of tobacco.

BOYLE (Richard), one of the greateſt ſtateſmen of the laſt century, and generally ſtyled the *Great earl of Corke*, was the youngeſt ſon of Mr Robert Boyle, and was born at Canterbury, on the 3d of October, 1566. He ſtudied at Bennet college, Cambridge; afterwards became a ſtudent in the Middle Temple. Having loſt his father and mother, and being unable to ſupport himſelf in the proſecution of his ſtudies, he became clerk to Sir Richard Manhood, one of the chief barons of the exchequer; but finding that by his employment, he could not raiſe his fortune, he went to Ireland in 1588, with fewer pounds in his pocket than he afterwards acquired thouſands a-year. He was then about 22, had a graceful perſon, and many accompliſhments, which enabled him to render himſelf uſeful to ſeveral of the principal perſons employed in the government, by drawing up for them memorials, caſes, and anſwers. In 1595, he married Joan the daughter and coheireſs of William Anſley, who had fallen in love with him; and ſhe dying in labour of her firſt child, who was born dead, in 1599, left him an eſtate of 500*l.* a-year in land. In conſequence of various ſervices, and the great abilities he diſplayed, he gradually roſe to the higheſt offices, and even to the dignity of the peerage of Ireland; to which he was raiſed by king James I. on the 29th of September, 1616, by the ſtyle and title of *baron of Youghall*, in the county of Cork: four years after, he was created viſcount Dungarven and earl of Cork; and in 1631 was made lord treaſurer of Ireland, an honour that was made hereditary to his family. He particularly diſtinguiſhed himſelf by the noble ſtand he made, when the fatal rebellion broke out in that kingdom, in the reign of Charles I.; and in his old age acted with as much bravery and military ſkill, as if he had been trained from his infancy to the profeſſion of arms. He turned the caſtle of Liſmore, his capital ſeat, into a fortreſs capable of demanding reſpect from the Iriſh. He immediately armed and diſciplined his ſervants and Proteſtant tenants; and by their aſſiſtance, and a ſmall army raiſed and maintained at his own expence, which he put under the command of his four ſons, defended the province of Munſter, and in the ſpace of a year took ſeveral ſtrong caſtles, and killed upwards of 3000 of the enemy: during which time, he paid his forces regularly; and when all his money was gone, like a true patriot, converted his plate into coin. This great man died on the 15th of September, 1634.

BOYLE (Richard), earl of Burlington and Cork, ſon to the former, was a nobleman of unblemiſhed loyalty in rebellious times, and of untainted integrity in times of the greateſt corruption. He was born at Youghall, October 20th, 1612, while his father was in the beginning of his proſperity, and only Sir Richard Boyle. He diſtinguiſhed himſelf by his loyalty to king Charles I. He not only commanded troops, but raiſed and for a long time paid them, and continued to wait upon the king as long as any one place held out for him in England, and then was forced to compound for his eſtate. He contributed all in his power to the Reſtoration; on which king Charles II. raiſed him to the dignity of earl of Burlington, or Bridlington, in the county of York, in the year 1663. He died Jan. 15. 1697-8, in the 86th year of his age.

BOYLE (Roger), earl of Orrery, younger brother of the former, and the fifth ſon of Richard, ſtyled the *Great earl of Cork*, was born April 25, 1621; and by the credit of his father with the lord deputy Faulkland, raiſed to the digny and title of *baron Broghill*, when only ſeven years old. He was educated at the college of Dublin, where he ſoon diſtinguiſhed himſelf as an early and promiſing genius. He afterwards made the tour of France and Italy; and at his return aſſiſted his father in oppoſing the rebellious Iriſh, in which he behaved with all the ſpirit of a young, and all the diſcretion of an old, officer. Upon the murder of the king, he retired to Marſton in Somerſetſhire, and hid himſelf in the privacy of a cloſe retirement; but being at length aſhamed to ſit the tame ſpectator of all the miſchief that appeared round him, he reſolved to attempt ſomething in favour of the king; and under the pretence of going to the Spa for the recovery of his health, he determined to croſs the ſeas, and apply himſelf to king Charles II. for a commiſſion to raiſe what forces he could in Ireland, in order to reſtore his majeſty, and recover his own eſtate. To this purpoſe, he prevailed on the earl of Warwick to procure a licence for his going to the Spa; and having raiſed a conſiderable ſum of money, came up to London to proſecute his voyage: but he had not been long in town when he received a meſſage from Cromwell, who was then general of the parliament's forces, that he intended to wait upon him. The lord Broghill was ſurpriſed at this meſſage, having never had the leaſt acquaintance with Cromwell; and deſired the gentleman to let the general know, that he would wait upon his excellency. But while he was waiting the return of the meſſenger, Cromwell entered the room; and after mutual civilities had paſſed between them, told him in few words, that the committee of ſtate were appriſed of his deſign of going over and applying to Charles Stuart for a commiſſion to raiſe forces in Ireland; and that they were determined to make an example of him, if he himſelf had not diverted them from that reſolution. The lord Broghill interrupted him, by aſſuring him that the intelligence that the committee had received was falſe, and that he neither was in a capacity nor had any inclination to raiſe diſturbances in Ireland: but Cromwell, inſtead of making any reply, drew ſome papers out of his pocket, which were the copies of ſeveral letters which the lord Broghill had ſent to thoſe perſons in whom he moſt confided, and put them into his hands. The lord Broghill, upon the peruſal of theſe papers, finding it to no purpoſe to diſſemble any longer, aſked his excellency's pardon for what he had ſaid, returned him his humble thanks for his protection againſt the committee, and intreated his direction how to behave in ſuch a delicate conjuncture. Cromwell told him, that though till this time he had been a ſtranger to his perſon, he was not ſo to his merit and character: he had heard how gallantly his lordſhip had behaved in the Iriſh wars; and therefore, ſince he was named *lord lieutenant of Ireland*, and the reducing that kingdom was now become his province, he had obtained leave of the committee to offer his lordſhip the command of a general officer, if he would ſerve in that war; and he ſhould have no oaths or engagements impoſed upon him, nor be obliged to draw his ſword againſt any but the Iriſh rebels.

The lord Broghill was infinitely ſurpriſed at ſo generous and unexpected an offer. He ſaw himſelf at liberty, by all the rules of honour, to ſerve againſt the Iriſh, whoſe rebellion and barbarities were equally deteſted by the royal party and the parliament. He deſired, however, ſome time to conſider of what had been propoſed to him. But Cromwell briſkly told him, that he muſt come to ſome reſolution that very inſtant: that he himſelf was returning to the committee, who were ſtill ſitting; and if his lordſhip rejected their offer, they had determined to ſend him to the tower. Upon this, the lord Broghill, finding that his liberty and life were in the utmoſt danger, gave his word and honour that he would faithfully ſerve him againſt the Iriſh rebels: on which Cromwell once more aſſured him, that the conditions which he had made with him ſhould be punctually obſerved; and then ordered him to repair to Briſtol, adding, that he himſelf would ſoon follow him into Ireland. Lord Broghill, therefore, having ſettled the buſineſs of his command, went over into that country; where, by his conduct and intrepedity, he performed many important ſervices, and fully juſtified the opinion Cromwell had conceived of him. By his own intereſt he now raiſed a gallant troop of horſe, conſiſting chiefly of gentlemen attached to him by perſonal friendſhip; which corps was ſoon increaſed to a complete regiment of 1500 men. Theſe he led into the field againſt the Iriſh rebels; and was ſpeedily joined by Cromwell, who placed the higheſt confidence in his new ally, and found him of the greateſt conſequence to the intereſt of the commonwealth.

Among other conſiderable exploits performed by lord Broghill, the following deſerves to be particularly mentioned. While Cromwell laid ſiege to Clonmell, Broghill being detached to diſperſe a body of 5000 men who had aſſembled to relieve the place, he, with 2000 horſe and dragoons came up with the enemy at Maccrooms on the 10th of May 1650; and, without waiting for the arrival of his foot, immediately attacked and routed them, making their general priſoner. Then proceeding to the caſtle of Carrigdroghid, he ſent a ſummons to the garriſon to ſurrender, before the arrival of his battering cannon, otherwiſe they were to expect no quarter. His own army was ſurpriſed at this ſummons, as knowing he had not one piece of heavy cannon: but Broghill had ordered the trunks of ſeveral large trees to be drawn at a diſtance by his baggage horſes; which the beſieged perceiving, and judging from the ſlowneſs of the motion that the guns muſt be of a vaſt bore, immediately capitulated. He afterwards relieved Cromwell himſelf at Clonmell, where that great commander happened to be ſo dangerouſly ſituated, that he confeſſed, nothing but the ſeaſonable relief afforded him by lord Broghill could have ſaved him from deſtruction. When Ireton ſat down before Limeric, he gave Broghill 600 foot and 400 horſe, with orders to prevent lord Muſkerry's joining the pope's nuncio, who had got together a body of 8000 men, and was determined to attempt the relief of Limeric. Muſkerry was at the head of 1000 horſe and dragoons, and about 2000 foot: notwithſtanding which lord Broghill fell reſolutely upon him. The Iriſh, having the advantage of the ground and numbers, would have conquered, but for a ſtratagem of lord Broghill. In the heat of the action he deſired thoſe about him to repeat what he ſaid; and then cried out as loud as he could, "They run, they run. The firſt line of the Iriſh looked round to ſee if their rear broke; and the rear ſeeing the faces of their friends, and hearing the ſhouts of the enemy, imagined that the firſt line was routed, and fled. The taking of Limeric, which put an end to the war in Ireland, was the conſequence of this defeat.

When Cromwell became protector, he ſent for lord Broghill, merely to take his advice occaſionally. And we are told, that not long after his coming to England, he formed a project for engaging Cromwell to reſtore the old conſtitution. The baſis of the ſcheme was to be a match betweed the king (Charles II.) and the protector's daughter. As his lordſhip maintained a ſecret correſpondence with the exiled monarch and his friends, it was imagined that he was beforehand pretty ſure that Charles was not averſe to the ſcheme, or he would not have ventured to have propoſed it ſeriouſly to Cromwell, who at firſt ſeemed to think it not unfeaſible. He ſoon changed his mind, however, and told Broghill that he thought his project impracticable: "For (ſaid he) Charles can never forgive me the death of his father." In fine, the buſineſs came to nothing, although his lordſhip had engaged Cromwell's wife and daughter in the ſcheme; but he never durſt let the protector know that he had previouſly treated with Charles about it.

On the death of the protector lord Broghill continued attached to his ſon Richard, till, when he ſaw that the honeſty and good-nature of that worthy man would infallibly render him a prey to his many enemies, he did not think it adviſable to ſink with a man that he could not ſave. The dark clouds of anarchy ſeemed now to be hovering over the Britiſh iſland. Lord Broghill ſaw the ſtorm gathering, and he deemed it prudent to retire to his command in Ireland, where he ſhortly after had the ſatisfaction of ſeeing things take a turn extremely ſavourable to the deſign he had long been well-wiſher to, *viz.* that of the king's reſtoration. In this great event lord Broghill was not a little inſtrumental; and, in conſideration of his eminent ſervices in this reſpect, Charles created him earl of Orrery by letters-patent, bearing date September 5, 1660. He was ſoon after made one of the lords juſtices of Ireland; and his conduct, while at the head of affairs in that kingdom, was ſuch as greatly added to the general eſteem in which his character was held before.

His lordſhip's active and toilſome courſe of life at length brought upon him ſome diſeaſes and infirmities which gave him much pain and uneaſineſs; and a fever which fell into his feet, joined to the gout with which he was often afflicted, abated much of that vigour which he had ſhown in the early part of his life: but his induſtry and application were ſtill the ſame, and bent to the ſame purpoſes; as appears from his letters, which ſhow at once a capacity, and an attention to buſineſs, which do honour to that age, and may ſerve as an example to this.

Notwithſtanding his infirmities, on the king's deſiring to ſee his lordſhip in England, he went over in 1665. He found the court in ſome diſorder; where his majeſty was on the point of removing the great earl of Clarendon, lord high chancellor; and there was alſo a great miſunderſtanding between the two royal brothers. Lord Orrery undertook to reconcile the king with the duke of York; which he effected by prevailing on the latter to aſk his majeſty's pardon for ſome ſteps he had taken in ſupport of the lord chancellor.

On his return to Ireland, he found himſelf called to a new ſcene of action. The Dutch war was then at its height; and the French, in confederacy with the Hollanders, were endeavouring to ſtir up the aſhes of rebellion in Ireland. The duke de Beaufort, admiral of France, had formed a ſcheme for a deſcent upon Ireland; but this was rendered abortive by the extraordinary diligence, military ſkill, and prudent meaſures, of lord Orrery.

But in the midſt of all his labours a diſpute aroſe, founded on a mutual jealouſy of each other's greatneſs, betwixt him and his old friend the duke of Ormond, then lord lieutenant; the bad effects of which were ſoon felt by both diſputants, who reſorted to England to defend their reſpective intereſts and pretenſions, both having been attacked by ſecret enemies who ſuggeſted many things to their prejudice. This quarrel, though of a private beginning, became at laſt of a public nature; and producing firſt an attempt to frame an impeachment againſt the duke of Ormond, occaſioned in the end, by way of revenge, an actual impeachment againſt the earl of Orrery. He defended himſelf, however, ſo well againſt a charge of high crimes, and even of treaſon itſelf, that the proſecution came to nothing. He nevertheleſs loſt his public employments; but not the king's favour: he ſtill came frequently to court, and ſometimes to council. After this revolution in his affairs, he made ſeveral voyages to and from Ireland; was often conſulted by his majeſty on affairs of the utmoſt conſequence; and on all occaſions gave his opinion and advice with the freedom of an honeſt plain-dealing man and a ſincere friend; which the king always found him, and reſpected him accordingly.

In 1678, being attacked more cruelly than ever by his old enemy the gout, he made his laſt voyage to England for advice in the medical way. But his diſorder was beyond the power of medicine; and having in his laſt illneſs given the ſtrongeſt proofs of Chriſtian patience, manly courage, and rational fortitude, he breathed his laſt on the 16th of October 1679, in the 59th year of his age. His lordſhip wrote, 1. A work intitled *The art of war*. 2. Partheniſſa, a romance, in one volume folio. 3. Several poems. 4. Dramatic pieces, two volumes. 5. State-tracts, in one volume folio, &c. Mr Walpole, ſpeaking of this nobleman, ſays he never made a bad figure but as a poet. As a ſoldier, his bravery was diſtinguiſhed, his ſtratagems remarkable. As a ſtateſman, it is ſufficient to ſay, that he had the confidence of Cromwell. As a man, he was grateful, and would have ſupported the ſon of his friend: but, like Cicero and Richelieu, he could not be content without being a poet; though he was ill qualified, his writings of that kind being flat and trivial.

Boyle (Robert), one of the greateſt philoſophers as well as beſt men that England or indeed any other nation has produced, was the ſeventh ſon and the 14th child of Richard earl of Cork, and born at Liſmore in the province of Munſter in Ireland, January 25. 1626-7. Before he went to ſchool, he was taught to write a very fair hand, and to ſpeak French and Latin, by one of the earl's chaplains, and a Frenchman that he kept in the houſe. In the year 1635, his father ſent him over to England, in order to be educated at Eaton ſchool, under Sir Henry Wotton, who was the earl of Cork's old friend and acquaintance. Here he ſoon diſcovered a force of underſtanding which promiſed great things, and a diſpoſition to cultivate and improve it to the utmoſt. While he remained at Eaton, there were ſeveral very extraordinary accidents that befel him, of which he has given us an account; and three of which were very near proving fatal to him. The firſt was, the ſudden fall of the chamber where he was lodged, when himſelf was in bed, when, beſides the danger he run of being cruſhed to pieces he had certainly been choaked with the duſt during the time he lay under the rubbiſh, if he had not the preſence of mind enough to have wrapped his head up in the ſheet, which gave him an opportunity of breathing without hazard. A little after this, he had been cruſhed to pieces by a ſtarting horſe that roſe up ſuddenly, and threw himſelf backwards, if he had not happily diſengaged himſelf from the ſtirrups, and caſt himſelf from his back before he fell. A third accident proceeded from the careleſſneſs of an apothecary's ſervant, who, by miſtaking the phials, brought him a ſtrong vomit inſtead of a cooling julep.

He remained at Eaton, upon the whole, between three and four years; and then his father carried him to his own ſeat at Stalbridge in Dorſetſhire, where he remained for ſome time under the care of one of his chaplains who was the parſon of the place. In 1638, he attended his father to London; and remained with him at the Savoy, till his brother Mr Francis Boyle eſpouſed Mrs Elizabeth Killigrew; and then, towards the end of October, within four days after the marriage, the two brothers, Francis and Robert, were ſent abroad upon their travels, under the care of Mr Marcombes. They embarked at Rye in Suſſex, and from thence proceeded to Dieppe in Normandy: then they travelled by land to Rowen, ſo to Paris, and from thence to Lyons; from which city they continued their journey to Geneva, where his governor had a family; and there the two gentlemen purſued their ſtudies without interruption. Mr Boyle, during his ſtay here, reſumed his acquaintance with the mathematics, or at leaſt with the elements of that ſcience, of which he had before gained ſome knowledge. For he tells us in his own memoirs, that while he was at Eaton, and afflicted with an ague, before he was ten years old, by way of diverting his melancholy, they made him read Amadis de Gaul, and other romantic books, which produced ſuch a reſtleſſneſs in him, that he was obliged to apply himſelf to the extraction of the ſquare and cube roots, and to the more laborious operations of algebra, in order to fix and ſettle the volatile operations of his fancy.

In September 1641, he quitted Geneva, after having ſpent 21 months in that city; and paſſing through Switzerland and the country of the Griſons, entered Lombardy. Then, taking his rout through Bergamo, Breſcia, and Verona, he arrived at Venice; where having made a ſhort ſtay, he returned to the continent, and ſpent the winter at Florence. Here he employed his ſpare hours in reading the modern hiſtory in Italian, and the works of the celebrated aſtronomer Galileo, who died in a village near this city during Mr Boyle's reſidence in it. It was at Florence that he acquired the Italian language; which he underſtood perfectly, though he never ſpoke it ſo fluently as the French. Of this indeed he was ſuch a maſter, that as occaſion required he paſſed for a native of that country in more places than one during his travels.

About the end of March 1642, he began his journey from Florence to Rome, which took up but five days. He ſurveyed the numerous curioſities of that city; among which he tells us, "he had the fortune to ſee Pope Urban VIII. at chapel, with the cardinals, who, ſeverally appearing mighty princes, in that aſſembly looked like a company of common friars." He viſited the adjacent villages which had any thing curious or antique belonging to them; and had probably made a longer ſtay, had not the heats diſagreed with his brother. He returned to Florence; from thence to Leghorn; and ſo by ſea to Genoa: then paſſing through the county of Nice, he croſſed the ſea to Antibes, where he fell into danger from refuſing to honour the crucifix: from thence he went to Marſeilles by land. He was in that city, in May 1642, when he received his father's letters, which informed him that the rebellion had broken out in Ireland, and how difficultly he had procured the L. 250 then remitted to them in order to help them home. They never received this money; and were obliged to go to Geneva with their governor Marcombes, who ſupplied them with as much at leaſt as carried them thither. They continued there a conſiderable time, without either advice or ſupplies from England; upon which Marcombes was obliged to take up ſome jewels upon his own credit, which were afterwards diſpoſed of with as little loſs as might be; and with the money thus raiſed, they continued their journey for England, where they arrived in the year 1644. On their arrival, Mr Boyle found his father dead; and though the earl had made an ample proviſion for him, by leaving him his manor of Stalbridge in England, as well as other conſiderable eſtates in Ireland, yet it was ſome time before he could receive any money. However, he procured protections for his eſtates in both kingdoms from the powers then in being; from which he alſo obtained leave to go over to France for a ſhort ſpace, probably to ſettle accounts with his governor Mr Marcombes.

In March 1646, he retired to his manor at Stalbridge, where he reſided for the moſt part till May 1650. He made excurſions ſometimes to London, ſometimes to Oxford; and in February 1647, he went over to Holland: but he made no conſiderable ſtay any where. During his retirement at Stalbridge, he applied himſelf with incredible induſtry to ſtudies of various kinds, to thoſe of natural philoſophy and chemiſtry in particular. He omitted no opportunity of obtaining the acquaintance of perſons diſtinguiſhed for parts and learning; to whom he was in every reſpect a ready, uſeful, generous aſſiſtant, and with whom he held a conſtant correſpondence. He was alſo one of the firſt members of that ſmall but learned body of men which, when all academical ſtudies were interrupted by the civil wars, ſecreted themſelves about the year 1645; and held private meetings, firſt in London, afterwards at Oxford, for the ſake of canvaſſing ſubjects of natural knowledge upon that plan of experiment which Lord Bacon had delineated. They ſtyled themſelves then *The philoſophic college*; and, after the Reſtoration, when they were incorporated and diſtinguiſhed openly, they took the name of the *Royal Society*.

In the ſummer of 1654, he put in execution a deſign he had formed for ſome time of reſiding at Oxford, where he choſe to live in the houſe of one Mr Croſſe, an apothecary, rather than in a college, for the ſake of his health, and becauſe he had more room to make experiments. Oxford was indeed the only place at that time in England where Mr Boyle could have lived with much ſatisfaction; for here he found himſelf ſurrounded with a number of learned friends, ſuch as Wilkins, Wallis, Ward, Willis, Wren, &c. ſuited exactly to his taſte, and who had reſorted thither for the ſame reaſons that he had done, the philoſophical ſociety being now removed from London to Oxford. It was during his reſidence here that he improved that admirable engine the air-pump; and by numerous experiments was enabled to diſcover ſeveral qualities of the air, ſo as to lay a foundation for a complete theory. He was not, however, ſatisfied with this; but laboured inceſſantly in collecting and digeſting, chiefly from his own experiments, the materials requiſite for this purpoſe. He declared againſt the philoſophy of Ariſtotle, as having in it more words than things; promiſing much, and performing little; and giving the inventions of men for indubitable proofs, inſtead of building upon obſervation and experiment. He was ſo zealous for, and ſo careful about, this true method of learning by experiment, that though the Carteſian philoſophy then made a great noiſe in the world, yet he would never be perſuaded to read the works of Des Cartes, for fear he ſhould be amuſed and led away by plauſible accounts of things founded on conjecture, and merely hypothetical. But philoſophy, and inquiries into nature, though they engaged his attention deeply, did not occupy it entirely; ſince we find that he ſtill continued to purſue critical and theological ſtudies. In theſe he had the aſſiſtance of ſome great men, particularly Dr Edward Pocock, Mr Thomas Hyde, and Mr Samuel Clarke, all of great eminence for their ſkill in the oriental languages. He had alſo a ſtrict intimacy with Dr Thomas Barlow, at that time head keeper of the Bodleian library, and afterwards biſhop of Lincoln, a man of various and extenſive learning. In the year 1659, Mr Boyle, being acquainted with the unhappy circumſtances of the learned Sanderſon, afterwards biſhop of Lincoln, who had loſt all his preferments on account of his attachment to the royal party, conferred upon him an honorary ſtipend of 50l. a-year. This ſtipend was given as an encouragement to that excellent maſter of reaſoning to apply himſelf to the writing of "Caſes of Conſcience:" and accordingly he printed his lectures *De obligatione conſcientiæ*, which he read at Oxford in 1647, and dedicated them to his friend and patron.

Upon the reſtoration of Charles II. Mr Boyle was treated with great civility and reſpect by the king, as well as by the two great miniſters the lord treaſurer Southampton and the lord chancellor Clarendon. He was ſolicited by the latter to enter into holy orders, not only out of regard to him and his family, but chiefly with a view to ſerve the church itſelf; for Mr Boyle's noble family, his diſtinguiſhed learning, and above all, his unblemiſhed reputation, induced Lord Clarendon to think that any eccleſiaſtical preferments he might attain would be worthily diſcharged, ſo as to do honour to the clergy, and ſervice to the eſtabliſhed communion. Mr Boyle conſidered all this with due attention: but, to balance theſe, he reflected, that, in the ſituation of life in which he was, whatever he wrote with reſpect to religion would have ſo much the greater weight as coming from a layman; ſince he well knew that the irreligious fortified themſelves againſt all that the clergy could offer, by ſuppoſing, and ſaying, that it was their trade, and that they were paid for it. He conſidered likewiſe, that, in point of fortune and character, he needed no acceſſions; and indeed he never had any appetite for either. He choſe, therefore, to purſue his philoſophical ſtudies in ſuch a manner as might be moſt effectual for the ſupport of religion; and began to communicate to the world the fruits of theſe ſtudies.

The firſt of theſe was printed at Oxford in 1660, in 8vo, under the title of, 1. New experiments, phyſico-mechanical, touching the ſpring of the air and its effects. 2. Seraphic love; or ſome motives and incentives to the love of God, pathetically diſcourſed of in a letter to a friend. 3. Certain phyſiological eſſays and other tracts, 1661, 4to. 4. Sceptical chemiſt, 1662, 8vo; a very curious and excellent work, reprinted about the year 1679, 8vo, with the addition of divers experiments and notes about the producibleneſs of chemical principles.

In the year 1663, the royal ſociety being incorporated by king Charles II. Mr Boyle was appointed one of the council; and as he might be juſtly reckoned among the founders of that learned body, ſo he continued one of the moſt uſeful and induſtrious of its members during the whole courſe of his life. In June 1663, he publiſhed, 5. Conſiderations touching the uſefulneſs of experimental natural philoſophy, 4to. 6. Experiments and conſiderations upon colours; to which was added a letter, containing, Obſervations on a diamond that ſhines in the dark, 1663, 8vo. This treatiſe full of curious and uſeful remarks on the hitherto unexplained doctrine of light and colours; in which he ſhows great judgment, accuracy, and penetration; and may be ſaid to have led the way to that mighty genius the great Sir Iſaac Newton, who has ſince ſet that point in the cleareſt and moſt convincing light. 7. Conſiderations on the ſtyle of the Holy Scriptures, 1663, 8vo. It was an extract from a larger work, intitled, *An eſſay on Scripture;* which was afterwards publiſhed by Sir Peter Pett, a friend of Mr Boyle's.

1664, he was elected into the company of the royal mines; and was all this year taken up in the proſecution of various good deſigns, which probably was the reaſon why he did not ſend abroad any treatiſes either of religion or philoſophy. The year following, came forth, 8. Occaſional reflections upon ſeveral ſubjects; whereto is prefixed a diſcourſe about ſuch kind of thoughts, 1665, 8vo. This piece is addreſſed to *Sophronia*, under whoſe name he concealed that of his beloved ſiſter the viſcounteſs of Ranelagh. The thoughts themſelves are on a vaſt variety of ſubjects, written many years before; ſome indeed upon trivial occaſions, but all with great accuracy of language, much wit, more learning, and in a wonderful ſtrain of moral and pious reflection. Yet this expoſed him to the only ſevere cenſure that ever was paſſed upon him; and that too from no leſs a man than the celebrated Dean Swift, who, to ridicule theſe diſcourſes, wrote *A pious meditation upon a broomſtick, in the ſtyle of the honourable Mr Boyle.* But as his noble relation the late Lord Orrery has ſaid, "To what a height muſt the ſpirit of ſarcaſm ariſe in an author, who could prevail on himſelf to ridicule ſo good a man as Mr Boyle? The ſword of wit, like the ſcythe of time, cuts down friend and foe, and attacks every object that lies in its way. But, ſharp and irreſiſtible as the edge of it may be, Mr Boyle will always remain invulnerable."

The ſame year, he publiſhed an important work, intitled, 9. New experiments and obſervations upon cold, 1665, 8vo. In the year 1666, he publiſhed, 10. Hydroſtatical paradoxes made out by new experiments, for the moſt part phyſical and eaſy, in 8vo. 11. The origin of forms and qualities, according to the corpuſcular philoſophy, illuſtrated by conſiderations and experiments. This treatiſe did great honour to Mr Boyle, whether we conſider the quickneſs of his wit, the depth of his judgment, or his indefatigable pains in ſearching after truth. We muſt not forget to obſerve, that, both in this and the former year, he communicated to his friend Mr Oldenburgh, who was ſecretary to the royal ſociety, ſeveral curious and excellent ſhort treatiſes of his own, upon a great variety of ſubjects, and others tranſmitted to him by his learned friends both at home and abroad, which are printed and preſerved in the Philoſophical Tranſactions.

In the year 1668, Mr Boyle reſolved to ſettle in London for life; and removed for that purpoſe to the houſe of his ſiſter, the lady Ranelagh, in Pall-Mall. This was to the infinite benefit of the learned in general, and particularly to the advantage of the royal ſociety, to whom he gave great and continual aſſiſtance, as the ſeveral pieces communicated to them from time to time, and printed in their Tranſactions, do abundantly teſtify. Thoſe who applied to him, either to deſire his help, or to communicate to him any new diſcoveries in ſcience, he had his ſet hours for receiving; otherwiſe, it is eaſy to conceive that he would have had very little of his time for himſelf. But, beſides theſe, he kept a very extenſive correſpondence with perſons of the greateſt figure, and moſt famous for learning, in all parts of Europe. In the year 1669, he publiſhed, 12. A continuation of new experiments touching the weight and ſpring of the air; to which is added, *A* diſcourſe of the atmoſpheres of conſiſtent bodies: and the ſame year he reviſed and made many additions to ſeveral of his former tracts, ſome of which were now tranſlated into Latin, in order to gratify the curious abroad. 13. Tracts about the coſmical qualities of things; coſmical ſuſpicions; the temperature of the ſubterraneous regions; the bottom of the ſea: to which is prefixed an introduction to the hiſtory of particular qualities. This book occaſioned much ſpeculation, as it ſeemed to contain a vaſt treaſure of knowledge which had never been communicated to the world before; and this too grounded upon actual experiments, and arguments juſtly drawn from them, inſtead of that notional and conjectural philoſophy which in the beginning of the 17th century had been ſo much in faſhion.

In the year 1671, he publiſhed, 14. Conſiderations on the uſefulneſs of experimental and natural philoſophy; the ſecond part, 4to. And, 15. A collection of tracts upon ſeveral uſeful and important points of practical philoſophy, 4to. Both of which works were received as new and valuable gifts to the learned world. 16. An eſſay about the origin and virtues of gems, 1672, 8vo. 17. A collection of tracts upon the relation between flame and air; and ſeveral other uſeful and curious ſubjects: beſides furniſhing, in this and the former year, a great number of ſhort diſſertations upon a vaſt variety of topics, addreſſed to the royal ſociety, and inſerted in their Tranſactions. 18. Eſſays on the ſtrange ſubtilty, great efficacy, and determinate nature, of effluvia; to which were added a variety of experiments on other ſubjects; 1673, 8vo. 19. A collection of tracts upon the ſaltneſs of the ſea, the moiſture of the air, the natural and preternatural ſtate of bodies; to which is prefixed a dialogue concerning cold; 1674, 8vo. 20. The excellency of theology compared with philoſophy, 1673, 8vo. This diſcourſe was written in the year 1665, while Mr Boyle, to avoid the great plague which then raged in London, was forced to go from place to place in the country, and had little or no opportunity of conſulting his books. It contains a great number of curious and uſeful, as well as juſt and natural, obſervations. 21. A collection of tracts containing ſuſpicions about hidden qualities of the air; with an appendix touching celeſtial magnets; animadverſions upon Mr Hobbes's problem about a vacuum; a diſcourſe of the cauſe of attraction and ſuction; 1674, 8vo. 22. Some conſiderations about the reconcileableneſs of reaſon and religion. By T. E. a layman. To which is annexed a diſcourſe about the poſſibility of the reſurrection. By Mr Boyle. 1675, 8vo. The reader muſt be informed, that both theſe pieces were of his writing; only he thought fit to mark the former with the final letters of his name. Among other papers that he communicated this year to the royal ſociety, there were two connected into one diſcourſe: the firſt was intitled, An experimental diſcourſe of quickſilver growing hot with gold; the other related to the ſame ſubject; and both of them contained diſcoveries of the utmoſt importance.

In the year 1676, he publiſhed, 23. Experiments and notes about the mechanical origin or production of particular qualities, in ſeveral diſcourſes on a great variety of ſubjects, and among the reſt on electricity. In 1678, he communicated to Mr Hook a ſhort memorial of ſome obſervations made upon an artificial ſubſtance that ſhines without any preceding illuſtration; which that gentleman thought fit to publiſh in his *Lectiones Cutlerianæ*. 24. Hiſtorical account of a degradation of gold made by an anti-elixir. This made a great noiſe both at home and abroad, and is looked upon as one of the moſt remarkable pieces that ever fell from his pen; ſince the facts contained in it would have been eſteemed incredible, if they had been related by a man of leſs integrity and piety than Mr Boyle. The regard which the great Newton had for Mr Boyle, appears from a very curious letter, which the former wrote to him, at the latter end of this year, for the ſake of laying before him his ſentiments of that etherial medium, which he afterwards conſidered in his Optics as the cauſe of gravitation. This letter is to be found in the life of our author by the reverend Dr Birch.

In the year 1680, Mr Boyle publiſhed, 25. The aerial noctiluca; or ſome new phenomena, and a proceſs of a factitious ſelf-ſhining ſubſtance, 8vo. This year the royal ſociety, as a proof of the juſt ſenſe of his great worth, and of the conſtant and particular ſervices which through a courſe of many years he had done them, made choice of him for their preſident; but he being extremely, and, as he ſays, peculiarly tender in point of oaths, declined the honour done him, by a letter addreſſed to "his much reſpected friend Mr "Robert Hooke, profeſſor of mathematics at Greſham "College." 26. Diſcourſe of things above reaſon; inquiring, whether a philoſopher ſhould admit any ſuch; 1681, 8vo. 27. New experiments and obſervations upon the icy noctiluca: to which is added a chemical paradox, grounded upon new experiments, making it probable that chemical principles are tranſmutable, ſo that out of one of them others may be produced: 1682, 8vo. 28. A continuation of new experiments, phyſicomechanical, touching the ſpring and weight of the air, and their effects, 1682, 8vo. In 1683, he publiſhed nothing but a ſhort letter to Dr Beale, in relation to the making of freſh water out of ſalt. In 1684, he publiſhed two very conſiderable works, *viz.* 29. Memoirs for the natural hiſtory of human blood, eſpecially the ſpirit of that liquor, 8vo; and, 30. Experiments and conſiderations about the poroſity of bodies, 8vo.

In 1685, Mr Boyle obliged the world with, 31. Short memoirs for the natural experimental hiſtory of mineral waters, with directions as to the ſeveral methods of trying them; including abundance of new and uſeful remarks, as well as ſeveral curious experiments. 32. An eſſay on the great effects of even languid and unheeded motion; whereunto is annexed an experimental diſcourſe of ſome hitherto little regarded cauſes of the ſalubrity and inſalubrity of the air, and its effects. None of his treatiſes, it is ſaid, were ever received with greater or more general applauſe than this. 33. Of the reconcileableneſs of ſpecific medicines to the corpuſcular philoſophy; to which is annexed a diſcourſe about the advantages of the uſe of ſimple medicines; 8vo. Beſides theſe philoſophical tracts, he gave the world, the ſame year, an excellent theological one, 34. Of the high veneration man's intellect owes to God, peculiarly for his wiſdom and power, 8vo.

At the entrance of the ſucceeding year, came abroad his, 35. Free inquiry into the vulgarly received notion of nature; a piece which was then, and will always be, greatly admired by thoſe who have a true zeal and reliſh for pure religion and philoſophy. In 1687, he publiſhed, 36. The martyrdom of Theodora and Didymia; a work he had drawn up in his youth. 37. A diſquiſition about the final cauſes of natural things; wherein it is inquired, whether, and (if at all) with what caution, a naturaliſt ſhould admit them; with an appendix about vitiated light; 1680, 8vo. In the month of May this year, our author, though very unwilling, was conſtrained to make his complaint to the public, of ſome inconveniences under which he had long laboured; and this he did by an advertiſement, about "the loſs of many of his writings addreſſed to J. W. to be communicated to thoſe of his friends that are virtuoſi; which may ſerve as a kind of preface to moſt of his mutilated and unfiniſhed writings." He complains in this advertiſement of the treatment he had met with from plagiaries both at home and abroad; and though it might have been difficult in any other man to have done ſo without incurring the imputation of ſelf-conceit and vanity, yet Mr Boyle's manner is ſuch as only to raiſe in us an higher eſteem and admiration of him. This advertiſement is inſerted at length in his life by Birch.

He began now to find that his health and ſtrength, notwithſtanding all his care and caution, gradually declined, as he obſerves in a letter to Mr Le Clerc, dated May 30th, 1689; which put him upon uſing every poſſible method of huſbanding his remaining time for the benefit of the learned. It was with this view that he no longer communicated particular diſcourſes, or new diſcoveries, to the royal ſociety; becauſe this could not be done without withdrawing his thoughts from taſks which he thought of ſtill greater importance. It was the more ſteadily to attend to theſe, that he reſigned his poſt of governor of the corporation for propagating the goſpel in New-England; nay, he went ſo far as to ſignify to the world that he could no longer receive viſits as uſual, in an advertiſement which begins in the following manner: "Mr Boyle finds himſelf obliged to intimate to thoſe of his friends and acquaintance, that are wont to do him the honour and favour of viſiting him, 1. That he has by ſome unlucky accidents, namely, by his ſervant's breaking a bottle of oil of vitriol over a cheſt which contained his papers, had many of his writings corroded here and there, or otherwiſe ſo maimed, that, without he himſelf fill up the lacunæ out of his memory or invention, they will not be intelligible. 2. That his age and ſickline ſs have for a good while admoniſhed him to put his ſcattered and partly defaced writings into ſome kind of order, that they may not remain quite uſeleſs. And, 3. That his ſkilful and friendly phyſician, Sir Edmund King, ſeconded by Mr Boyle's beſt friends, has preſſingly adviſed him againſt ſpeaking daily with ſo many perſons as are wont to viſit him, repreſenting it as what cannot but waſte his ſpirits," &c. He ordered likewiſe a board to be placed over his door, with an inſcription ſignifying when he did, and when he did not, receive viſits.

Among the other great works, which by this means he gained time to finiſh, there is great reaſon to believe, that one was a collection of elaborate proceſſes in chemiſtry; concerning which he wrote a letter to a friend, which is ſtill extant; wherein we read, that "he left it as a kind of hermetic legacy to the ſtudious diſciples of that art." Beſides theſe papers committed to the care of one whom he eſteemed his friend, he left very many behind him at his death, relating to chemiſtry; which, as appears by a letter directed to one of his executors, he deſired might be inſpected by three phyſicians whom he named, and that ſome of the moſt valuable might be preſerved.

In the mean time, Mr Boyle publiſhed ſome other works before his death; as, 38. *Medicina Hydroſtatica;* or, Hydroſtatics applied to the materia medica, ſhowing how, by the weight that divers bodies uſed in phyſic have in water, one may diſcover whether they be genuine or adulterated. To which is ſubjoined a previous hydroſtatical way of eſtimating ores, 1690, 8vo. 39. The Chriſtian virtuoſo; ſhowing, that, by being addicted to experimental philoſophy, a man is rather aſſiſted than indiſpoſed to be a good Chriſtian. To which are ſubjoined, 1. A diſcourſe about the diſtinction that repreſents ſome things as above reaſon but not contrary to reaſon. 2. The firſt chapters of a diſcourſe intitled *Greatneſs of mind promoted by Chriſtianity.* The laſt work which he publiſhed himſelf, was in the ſpring of 1691; and is intitled, 40. *Experimenta et Obſervationes Phyſicæ:* wherein are briefly treated of ſeveral ſubjects relating to natural philoſophy in an experimental way. To which is added a ſmall collection of ſtrange reports. 8vo.

About the entrance of the ſummer, he began to feel ſuch an alteration in his health as induced him to think of ſettling his affairs; and accordingly, on the 18th of July, he ſigned and ſealed his laſt will, to which he afterwards added ſeveral codicils. In October, his diſtempers increaſed; and on the laſt day of December 1691, he departed this life, in the 65th year of his age. He was buried in St Martin's church in the Fields, Weſtminſter, on the 7th of January following; and his funeral ſermon was preached by Dr Gilbert Burnet, biſhop of Saliſbury. The biſhop made choice upon this occaſion of a text very appoſite to the ſubject; namely, "For God giveth to a man that is good in his ſight, wiſdom, knowledge, and joy.*" After explaining the meaning of the words, he applied the doctrine to the honourable perſon deceaſed; of whom, he tells us, he was the better able to give a character from the many happy hours he had ſpent in converſation with him, in the courſe of 29 years. He gives a large account of Mr Boyle's ſincere and unaffected piety; and more eſpecially of his zeal for the Chriſtian religion, without having any narrow notions concerning it, or miſtaking, as ſo many do, a bigotted heat in favour of a particular ſect, for that zeal which is an ornament of a true Chriſtian. He mentions, as a proof of this, his noble foundation for lectures in defence of the goſpel againſt infidels of all ſorts; the effects of which have been ſo conſpicuous in the many volumes of excellent diſcourſes which have been publiſhed in conſequence of that noble and pious foundation. He was at the charge of the tranſlation and impreſſion of the New Teſtament into the Malayan tongue, which he ſent over all the Eaſt Indies. He gave a noble reward to him that tranſlated Grotius's incomparable book "Of the truth of the Chriſtian religion" into Arabic; and was at the charge of a whole impreſſion, which he took care ſhould be diſperſed in all the countries where that language was underſtood. He was reſolved to have carried on the impreſſion of the New Teſtament in the Turkiſh language; but the company thought it became them to be the doers of it, and ſo ſuffered him only to give a large ſhare towards it. He was at 700*l.* charge in the edition of the Iriſh bible, which he ordered to be diſtributed in Ireland; and he contributed liberally to the impreſſion of the Welſh bible. He gave, during his life, 300*l.* to advance the deſign of propagating the Chriſtian religion in America; and as ſoon as he heard that the Eaſt India company were entertaining propoſitions for the like deſign in the eaſt, he ſent 100*l.* for a beginning, as an example, but intended to carry it much farther when it ſhould be ſet on foot to purpoſe.

In other reſpects his charities were ſo bountiful and extenſive, that they amounted, as this prelate tells us, from his own knowledge, to upwards of 1000*l.* a-year. But as our limits will not allow us to follow the biſhop in the copious and eloquent account he has given of this great man's abilities, we muſt therefore content ourſelves with adding the ſhort eulogium by the celebrated phyſician, philoſopher, and chemiſt, Dr Herman Boerhaave; who, after having declared lord Bacon to be the father of experimental philoſophy, aſſerts, that "Mr Boyle, the ornament of his age and country, ſucceeded to the genius and inquiries of the great chancellor Verulam. Which (ſays he) of all Mr Boyle's writings ſhall I recommend? All of them. To him we owe the ſecrets of fire, air, water, animals, vegetables, foſſils: ſo that from his works may be deduced the whole ſyſtem of natural knowledge." The reader perhaps may here be pleaſed to know, that Mr Boyle was born the ſame year in which lord Bacon died.

As to the perſon of this great man, we are told, that he was tall, but ſlender; and his countenance pale and emaciated. His conſtitution was ſo tender and delicate, that he had divers ſorts of cloaks to put on when he went abroad, according to the temperature

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* *Eccl.* xi. 26.

of the air; and in this he governed himſelf by his thermometer. He eſcaped indeed the ſmall-pox; but for almoſt forty years he laboured under ſuch feebleneſs of body, and ſuch lowneſs of ſtrength and ſpirits, that it was aſtoniſhing how he could read, meditate, make experiments, and write, as he did. He had likewiſe a weakneſs in his eyes; which made him very tender of them, and extremely apprehenſive of ſuch diſtempers as might affect them. He imagined likewiſe, that if ſickneſs ſhould confine him to his bed, it might raiſe the pains of the ſtone to a degree which might be above his ſtrength to ſupport; ſo that he feared his laſt minutes ſhould be too hard for him. This was the ground of all the caution and apprehenſion with which he was obſerved to live; but as to life itſelf, he had that juſt indifference for it which became a philoſopher and a Chriſtian. However, his ſight began to grow dim not above four hours before he died; and when death came upon him, he had not been above three hours in bed, before it made an end of him, with ſo little pain that the flame appeared to go out merely for want of oil to maintain it.

Mr Boyle was never married; but Mr Evelyn was aſſured, that he courted the beautiful and ingenious daughter of Cary earl of Monmouth, and that to this paſſion was owing his "Seraphic Love." In the memorandum of Mr Boyle's life ſet down by biſhop Burnet, it is remarked that he abſtained from marriage, at firſt out of policy, afterwards more philoſophically; and we find by a letter of Dr John Wallis to him, dated at Oxford, July 17th, 1669, that he had an overture made him with reſpect to the lady Mary Haſtings, ſiſter to the earl of Huntingdon: But it does not appear from any of his papers, that he had ever entertained the leaſt thoughts of that kind; nay, there is a letter of his, wrote when he was young, to the lady Barrymore his niece, who had informed him of a report that he was actually married, which almoſt ſhows that he never did. The letter is written with great politeneſs, and in the true ſpirit of gallantry; and is a clear proof, that though Mr Boyle did not chooſe to marry, yet it was no miſanthropic cynical humour which reſtrained him from it. It is impoſſible to entertain the reader better than by preſenting him with that part of it, which concerns the point in queſtion. "It is high time for me to haſten the payment of the thanks I owe your ladyſhip for the joy you are pleaſed to wiſh me, and of which that wiſh poſſibly gives me more than the occaſion of it would. You have certainly reaſon, madam, to ſuſpend your belief of a marriage, celebrated by no prieſt but Fame, and made unknown to the ſuppoſed bridegroom. I may poſſibly ere long give you a fit of the ſpleen upon this theme; but at preſent it were incongruous to blend ſuch pure raillery, as I ever prate of matrimony and amours with, among things I am ſo ſerious in as thoſe this ſcribble preſents you. I ſhall therefore only tell you, that the little gentleman and I are ſtill at the old defiance. You have carried away too many of the perfections of your ſex to leave enough in this country for reducing ſo ſtubborn a heart as mine; whoſe conqueſt were a taſk of ſo much difficulty, and ſo little worth it, that the latter property is always likely to deter any that hath beauty and merit enough to overcome the former. But though this untamed heart be thus inſenſible to the thing itſelf called *love*; it is yet very acceſſible to things very near of kin to that paſſion; and eſteem, friendſhip, reſpect, and even admiration are things that their proper objects fail not proportionably to exact of me, and conſequently are qualities which in their higheſt degrees are really and conſtantly paid my lady Barrymore by her moſt obliged humble ſervant, and affectionate uncle, ROBERT BOYLE."

We ſhall conclude this account of Mr Boyle with the mention of his poſthumous works, which are as follow. 1. "The general Hiſtory of the air deſigned and begun." 2. "General heads for the natural hiſtory of a country, great or ſmall; drawn out for the uſe of travellers and navigators." 3. "A paper of the honourable Robert Boyle's, depoſited with the ſecretaries of the Royal Society, October 14th, 1680, and opened ſince his death; being an account of his making the phoſphorus, September 30th, 1680." Printed in the Philoſophical Tranſactions. 4. "An account of a way of examining waters, as to freſhneſs or ſaltneſs." 5. "A free diſcourſe againſt cuſtomary ſwearing, and a diſſuaſive from curſing," 1695, 8vo. 6. "Medicinal experiments, or a collection of choice remedies, chiefly ſimple and eaſily prepared, uſeful in families, and fit for the ſervice of the country people. The third and laſt volume, publiſhed from the author's original manuſcript; whereunto is added ſeveral uſeful notes explicatory of the ſame." 1698, 12mo. Beautiful editions of all his works have been printed at London, in 5 volumes folio, and 6 volumes 4to.

BOYLE (Charles) earl of Orrery in Ireland, and baron of Maſton in the county of Somerſet, was the ſecond ſon of Roger the ſecond earl of Orrery, and was born in Auguſt 1679. He was educated at Chriſt-church in Oxford, and ſoon diſtinguiſhed himſelf by his learning and abilities. Like the firſt earl of Orrery, he was an author, a ſoldier, and a ſtateſman. He tranſlated the life of Lyſander from the Greek of Plutarch; and publiſhed a new edition of the epiſtles of Phalaris, which engaged him in a literary diſpute, in which he defended the genuineneſs of theſe epiſtles againſt Dr Bentley. He was three times member for the town of Huntingdon; but his elder brother, Lionel earl of Orrery, dying on the 23d of Auguſt 1703 without iſſue, he ſucceeded to that title; and, entering into the Queen's ſervice, had a regiment given him, when he behaved with ſuch bravery, that in 1709 he was raiſed to the rank of major-general, and ſworn one of her majeſty's privy council. At the famous battle of the wood, he gave the ſtrongeſt proofs of his intrepid courage, remaining at the head of his regiment in the warmeſt part of the action, till the victory was complete, which, as it was one of the moſt glorious, ſo it was the deareſt bought, of any of that war. His lordſhip had the honour of being appointed the Queen's envoy to the ſtates of Brabant and Flanders; and having honourably diſcharged that truſt, was raiſed to the dignity of a Britiſh Peer, by the title of lord Boyle, baron of Maſton in Somerſetſhire. He enjoyed ſeveral other additional honours in the reign of King George I.; but having the misfortune to fall under the ſuſpicion of the government, his lordſhip was committed to the tower: he was, however, at length, admitted to bail; and nothing being found that could be eſteemed a ſufficient ground for a proſecution, he was diſcharged. His lordſhip died Auguſt 28th 1731, in the

66th year of his age. To his tutor, Mr Atterbury, he probably owed a good part of that fine reliſh he had for the writings of the ancients. He made theſe his conſtant ſtudy, and expreſſed a high contempt, ſays Budgell, for the greater part of our modern wits and authors. He was delighted with the company of two ſorts of perſons; either ſuch as were really geniuſes of the firſt rank, who had fine underſtandings, ſtrong judgments, and true taſtes; or ſuch as had a few foibles, and an eye of ridicule in them, which ſerved to make him laugh. He would rally theſe in ſo agreeable, and yet in ſo tender a manner, that, though it diverted himſelf and others, it was never offenſive to the perſon rallied. The inſtrument which was invented by him, and bears his name, repreſenting the ſolar ſyſtem according to the ſentiments of the new aſtronomers, is an undeniable proof of his mechanic genius. His lordſhip had alſo a turn for medicine; which led him not only to buy and read whatever was publiſhed on that ſubject, but alſo to employ his friends to ſend him accounts of herbs and drugs in foreign countries.

BOYLE (John), earl of Cork and Orrery, a nobleman diſtinguiſhed by his learning and genius, was the only ſon of Charles earl of Orrery, and was born on the 2d of Jan. 1707. He was educated at Chriſt-church college in Oxford; but, as he himſelf declares, early diſappointments, indifferent health, and many untoward accidents, rendered him fond of retirement, and of improving his talents for polite literature and poetry; of which laſt art he gave ſeveral excellent ſpecimens. He alſo wrote a Tranſlation of Pliny the Younger's letters, with various notes, for the ſervice of his eldeſt ſon the lord Boyle, in two volumes, 4to. This was firſt publiſhed in 1751. The year following, he publiſhed the Life of Dean Swift, in ſeveral letters, addreſſed to his ſecond ſon Hamilton Boyle; and afterwards printed Memoirs of Robert Cary earl of Monmouth, a manuſcript preſented to him by a relation, with explanatory notes. He died in 1762.

BOYLE's *Lectures*, a courſe of eight ſermons or lectures preached annually, ſet on foot by the honourable Robert Boyle, Eſq. by a codicil annexed to his will in 1691; whoſe deſign, as expreſſed by the inſtitutor, is, to prove the truth of the Chriſtian religion againſt infidels, without deſcending to any controverſies among Chriſtians; and to anſwer new difficulties, ſcruples, &c. For the ſupport of this lecture he aſſigned the rent of his houſe in Crooked-lane to ſome learned divine within the bills of mortality, to be elected for a term not exceeding three years, by the late Archbiſhop Tenniſon and others. But the fund proving precarious, the ſalary was ill paid: to remedy which inconveniences, the ſaid archbiſhop procured a yearly ſtipend of L.50 for ever, to be paid quarterly, charged on a farm in the pariſh of Brill in the county of Bucks. To this appointment we are indebted for many elaborate defences both of natural and revealed religion.

BOYNE, a river in Ireland, which riſes in Queen's county in the province of Leinſter, and runs north-eaſt by Trim and Cavan, falling at laſt into the Iriſh Channel a little below Drogheda. It is memorable for a battle fought on its banks between James II. and King William III. in which the former was defeated.

BOYSE, BOYS, or BOIS (John), one of the tranſlators of the Bible in the reign of James I. was ſon of William Bois, rector of Weſt Stowe, near St Edmondſbury, Suffolk, and born at Nettleſtead in Suffolk on the 3d of January 1560. He was taught the firſt rudiments of learning by his father; and his capacity was ſuch, that at the age of five years he read the Bible in Hebrew. He went afterwards to Hadley ſchool; and at 14 was admitted of St John's college, Cambridge, where he diſtinguiſhed himſelf by his ſkill in Greek. Happening to have the ſmall-pox when he was elected fellow, he, to preſerve his ſeniority, cauſed himſelf to be carried in blankets to be admitted. He applied himſelf for ſometime to the ſtudy of medicine; but, fancying himſelf affected with every diſeaſe he read of, he quitted that ſcience. He was ten years chief Greek lecturer in his college, and read every day. He voluntarily read a Greek lecture for ſome years at four in the morning, in his own chamber, which was frequented by many of the fellows. On the death of his father, he ſucceeded him in the rectory of Weſt Stowe. At the age of 36, he married the daughter of Mr Holt, rector of Boxworth in Cambridgeſhire; whom he ſucceeded in that living, October 13, 1596. On his quitting the univerſity, the college gave him L.100. His young wife, who was bequeathed to him with the living, which was an advowſon, proving a bad œconomiſt, and he himſelf being wholly addicted to his ſtudies, he ſoon became ſo much involved in debt, that he was obliged to ſell his choice collection of books, conſiſting of almoſt every Greek author then extant. When a new tranſlation of the Bible was by King James I. directed to be made, Mr Bois was elected one of the Cambridge tranſlators. He performed not only his own, but alſo the part aſſigned to another, with great reputation; though with no profit, for he had no allowance but his commons. He was alſo one of the ſix who met at Stationer's Hall to reviſe the whole: which taſk they went through in nine months, having each from the company of ſtationers, during that time, 30s. a-week. He afterwards aſſiſted Sir Henry Saville in publiſhing the works of St Chryſoſtom. In 1615, Dr Lancelot Andrews, biſhop of Ely, beſtowed on him, unaſked, a prebend in his church. He died on the 14th of January 1643, in the 84th year of his age. He left a great many manuſcripts behind him, particularly a Commentary on almoſt all the books of the New-Teſtament.—When he was a young ſtudent at Cambridge, he received from the learned Dr Whitaker three rules for avoiding thoſe diſtempers which uſually attend a ſedentary life, to which he adhered with equal conſtancy and ſucceſs. The firſt was, To ſtudy always ſtanding; the ſecond, Never to ſtudy in a window; and the third, Never to go to bed with his feet cold.

BOYSE (Joſeph), a late eminent diſſenting miniſter in Dublin, much reſpected not only for learning and abilities, but his extenſive humanity and undiſſembled piety. During his miniſterial charge at Dublin, he publiſhed many ſermons which compoſe ſeveral folio volumes, a few poems, and other tracts; but what chiefly diſtinguiſhed him as a writer, was the controverſy he carried on with Dr King, archbiſhop of Dublin, and author of the *Origin of Evil*, concerning the office of a ſcriptural biſhop. This controverted point was managed on both ſides with great force of argument and calmneſs

Boyſe.

calmneſs of temper. The biſhop aſſerted that the epiſcopal right of juriſdiction had its foundation in the New Teſtament: Mr Boyſe, conſiſtent with his principles, denied that any eccleſiaſtical ſuperiority appeared there, with the greateſt candour and good manners. He was father to

Boyse (Samuel), the poet, a man remarkable for the fineneſs of his genius, the lowneſs of his manners, and the wretchedneſs of his life. He was born in 1708, and received the rudiments of his education in a private ſchool in Dublin. When he was but 18 years old, his father, who probably intended him for the miniſtry, ſent him to the univerſity of Glaſgow, that he might finiſh his education there. He had not been a year at the univerſity, when he fell in love with the daughter of a tradeſman in that city, and was imprudent enough to interrupt his education by marrying her before he had entered into his 20th year. The natural extravagance of his temper ſoon expoſed him to want; and as he had now the additional charge of a wife, his reduced circumſtances obliged him to quit the univerſity, and go over with his wife (who alſo carried a ſiſter with her) to Dublin, where they relied on the old gentleman for ſupport. Young Boyſe was of all men the furtheſt removed from a gentleman; he had no graces of perſon, and fewer ſtill of converſation. Never were three people of more libertine characters than young Boyſe, his wife, and ſiſter-in-law; yet the two ladies wore ſuch a maſk of decency before the old gentleman, that his fondneſs was never abated. The eſtate his father poſſeſſed in Yorkſhire was ſold to diſcharge his debts; and when the old man lay in his laſt ſickneſs, he was entirely ſupported by preſents from his congregation, and buried at their expence. We have no further account of Mr Boyſe, till we find him ſoon after his father's death at Edinburgh. At this place his poetical genius raiſed him many friends, and ſome patrons of very great eminence. He publiſhed a volume of poems in 1731, to which are ſubjoined *The Tablature of Cebes*, and *A letter upon liberty*, inſerted in the *Dublin Journal* 1726; and by theſe he obtained a very great reputation. They are addreſſed to the counteſs of Eglinton. This amiable lady was the patroneſs of all men of wit, and greatly diſtinguiſhed Mr Boyſe while he reſided in that country. Upon the death of the viſcounteſs Stormont, Mr Boyſe wrote an elegy, which was very much applauded by her ladyſhip's relations. This elegy he intitled *The tears of the muſes*, as the deceaſed lady was a woman of the moſt refined taſte in the ſciences, and a great admirer of poetry. The lord Stormont was ſo much pleaſed with this mark of eſteem paid to the memory of his lady, that he ordered a very handſome preſent to be given to Mr Boyſe by his attorney at Edinburgh. The notice which lady Eglinton and the lord Stormont took of our poet, recommended him likewiſe to the patronage of the ducheſs of Gordon; who was ſo ſolicitous to raiſe him above neceſſity, that ſhe employed her intereſt in procuring the promiſe of a place for him. She gave him a letter, which he was next day to deliver to one of the commiſſioners of the cuſtoms at Edinburgh. It happened that he was then ſome miles diſtant from the city; and the morning on which he was to have rode to town with her grace's letter of recommendation proved to be rainy. This ſlender circumſtance was enough to diſcourage Boyſe, who never looked beyond the preſent moment: he declined going to town on account of the rainy weather; and while he let ſlip the opportunity, the place was beſtowed upon another, which the commiſſioner declared he kept for ſome time vacant in expectation of ſeeing a perſon recommended by the ducheſs of Gordon. Boyſe at laſt having defeated all the kind intentions of his patrons towards him, fell into contempt and poverty, which obliged him to quit Edinburgh. He communicated his deſign of going to London, to the ducheſs of Gordon; who, having ſtill a very high opinion of his poetical abilities, gave him a letter of recommendation to Mr Pope, and obtained another for him to Sir Peter King the lord chancellor of England. Lord Stormont recommended him to the ſolicitor-general his brother, and many other perſons of the firſt faſhion. Upon receiving theſe letters, he, with great caution, quitted Edinburgh, regretted by none but his creditors. Upon his arrival in London, he went to Twickenham, in order to deliver the ducheſs of Gordon's letter to Mr Pope; but that gentleman not being at home, Mr Boſye never gave himſelf the trouble to repeat his viſit. He wrote poems; but thoſe, though excellent in their kind, were loſt to the world, by being introduced with no advantage. He had ſo ſtrong a propenſity to groveling, that his acquaintance were generally of ſuch a caſt as could be of no ſervice to him; and thoſe in higher life he addreſſed by letters, not having ſufficient confidence or politeneſs to converſe familiarly with them. Thus unfit to ſupport himſelf in the world, he was expoſed to variety of diſtreſſes, from which he could invent no means of extricating himſelf but by writing mendicant letters. It will appear amazing, that this man, of ſo abject a ſpirit, was voluptuous and luxurious: he had no taſte for any thing elegant, and yet was to the laſt degree expenſive. Can it be believed, that often when he had received but a guinea in conſequence of a ſupplicating letter, he would go into a tavern, order a ſupper to be prepared, drink of the richeſt wines, and ſpend all the money that had juſt been given him in charity, without having any one to participate the regale with him, and while his wife and child were ſtarving at home?

Boyſe.

It was about the year 1740, that Mr Boyſe, reduced to the laſt extremity of human wretchedneſs, had not a ſhirt, a coat, or any kind of apparel, to put on; the ſheets in which he lay were carried to the pawn-broker's, and he was obliged to be confined to his bed with no other covering than a blanket. He had little ſupport but what he got by writing letters to his friends in the moſt abject ſtyle; but was perhaps aſhamed to let this inſtance of his diſtreſs be known, which probably was the occaſion of his remaining ſix weeks in that ſituation. During this time he had ſome employment in writing verſes for the Magazines; and whoever had ſeen him in his ſtudy, muſt have thought the object ſingular enough; he ſat up in bed with the blanket wrapt about him, through which he had cut a hole large enough to admit his arm, and placing the paper upon his knee, ſcribbled in the beſt manner he could, the verſes he was obliged to make: whatever he got by thoſe, or any other of his begging letters, was but juſt ſufficient for the preſervation of life. And perhaps he would have remained much longer in this diſtreſsful ſtate, had not a compaſſionate gentleman, upon hearing this circumſtance related, ordered his clothes to be taken out of pawn, and enabled him to appear again abroad.

About the year 1745, Mr Boyſe's wife died. He was then at Reading, and pretended much concern when he heard of her death. His buſineſs at Reading was to compile a Review of the moſt material tranſactions at home and abroad during the laſt war: in which he has included a ſhort account of the late rebellion. Upon his return from Reading, his behaviour was more decent than it had ever been before; and there were ſome hopes that a reformation, though late, would be wrought upon him. He was employed by a bookſeller to tranſlate *Fenelon on the exiſtence of God*; during which time he married a ſecond wife, a woman in low circumſtances, but well enough adapted to his taſte. He began now to live with more regard to his character, and ſupported a better appearance than uſual; but while his circumſtances were mending, and his irregular appetites loſing ground, his health viſibly declined. He had the ſatisfaction, while in his lingering illneſs, to obſerve a poem of his, intitled *The Deity*, recommended by two eminent writers, the ingenious Mr Fielding, and the reverend Mr James Hervey author of *The Meditations*.

Mr Boyſe's mind was often religiouſly diſpoſed; he frequently talked upon that ſubject, and probably ſuffered a great deal from the remorſe of his conſcience. The early impreſſions of his good education were never entirely obliterated; and his whole life was a continued ſtruggle between his will and reaſon, as he was always violating his duty to the one, while he fell under the ſubjection of the other. It was in conſequence of this war in his mind, that he wrote a beautiful poem called *The Recantation*. In May 1749, he died in obſcure lodgings near Shoe-lane; but in ſentiments, there is the greateſt reaſon to believe, very different from thoſe in which he had ſpent the greateſt part of his life. An old acquaintance of his endeavoured to collect money to defray the expences of his funeral, ſo that the ſcandal of being buried by the pariſh might be avoided: but in vain; the remains of this ſon of the muſes were, with very little ceremony hurried away by the pariſh officers.

Never was a life ſpent with leſs grace than that of Mr Boyſe, and never were ſuch diſtinguiſhed abilities given to leſs purpoſe. His genius was not confined to poetry only: he had a taſte for painting, muſic, and heraldry; with the latter of which he was very well acquainted. His poetical pieces, if collected, would make ſix moderate volumes. Many of them are ſcattered in *The Gentleman's Magazine*, marked with the letter *Y*, and *Alcæus*. Two volumes were publiſhed in London. An ode of his in the manner of Spenſer, intitled *The Olive*, was addreſſed to Sir Robert Walpole, which procured him a preſent of ten guineas. He tranſlated a poem from the High Dutch of Van Haren, in praiſe of peace, upon the concluſion of that made at Aix-la-Chapelle; but the poem which procured him the greateſt reputation was that upon the attributes of the Deity. He was employed by Mr Ogle to tranſlate ſome of Chaucer's tales into modern Engliſh, which he performed with great ſpirit, and received at the rate of three pence a line for his trouble. Mr Ogle publiſhed a complete edition of that old poet's *Canterbury Tales modernized*; and Mr Boyſe's name is put into ſuch tales as were done by him. In 1743, Mr Boyſe publiſhed, without his name, an ode on the battle of Dettingen, intitled *Albion's Triumph*.

BOZOLO, a town of Italy, in the duchy of Mantua, capital of a territory of the ſame name, and ſubject to the houſe of Auſtria, E. L. 10. 25. N. Lat. 45. 9.

B QUADRO, QUADRATO, or *Durale*, in muſic, called by the French *b quarre*, from its figure ♮ This is what we call B *natural* or *ſharp*, in diſtinction to B *mol* or *flat*. See FLAT and SHARP.

If the flat ♭ be placed before a note in the thorough baſs, it intimates, that its third is to be a minor; and if placed with any cypher over a note in the baſs, as ♭ 6, or ♭ 5, &c. it denotes, that the fifth or ſixth thereto are to be flat. But if the quadro ♮ be placed over any note, or with a cypher, in the thorough baſs, it has the contrary effect; for thereby the note or interval thereto is raiſed to its natural order.

BRABANCIONES, in middle-age writers, a kind of Netherland ſoldiery, infamous for rapine, being little better than commiſſioned banditti, who hired themſelves to fight for any that could pay them beſt. The word is variouſly written by the hiſtorians of thoſe days; all given them from the country of Brabant, which was the chief nurſery of thoſe troops. They are alſo frequently confounded with the *Routiers*, *Roturiers*, *Ruptarii*, *Ruterarii*, *Corteraux*, &c.

BRABANT, a large province of the Netherlands, with the title of a duchy. It is bounded on the north by the province of Holland and the duchy of Guelderland; on the eaſt, by the ſame duchy and the biſhopric of Liege; on the ſouth, by the province of Namur and Hainhalt; and on the weſt, by Zealand. It is divided into Dutch Brabant and Auſtrian Brabant; watered by ſeveral rivers, of which the Scheld, the Ruppel, and the Dommel, are the chief. The ſoil is very fertile; and it contains 26 fortified towns, of which Bruſſels is the capital.

BRABEJUM, the AFRICAN ALMOND: A genus of the monoecia order, blonging to the polygamia claſs of plants. In the male the corolla is four-parted; there are four ſtamina inverted in the throat; the ſtile is bifid, and abortive: The female has a four-parted corolla, revoluted upwards, with four ſtamina, one piſtil with two ſtigmas; the fruit is a roundiſh drupa with a globular ſeed. Of this genus there is but one ſpecies, viz. the ſtellatifolium, which is a native of the Cape of Good-Hope. In Europe it ſeldom grows above eight or nine feet high, but in its native ſoil is a tree of a middling growth. It riſes with an upright ſtem, which is ſoft, and full of pith within, and covered with a brown bark. The leaves come out all round the branches at each joint: they are indented at their edges, ſtanding on very ſhort foot-ſtalks. The flowers are produced towards the end of their ſhoots, which are of a pale colour inclining to white. This may be propagated, though with difficulty, by layers made in April; but they are often two years before they produce roots ſtrong enough to be taken from the plants. When the branches are laid down, it will be proper to ſlit them at the point (as is practiſed in laying carnations), which will promote their taking root. In winter, the plants ſhould have a good greenhouſe; but in ſummer they ſhould be placed abroad in a ſheltered ſituation.

BRABEUTES, or Brabeuta, in antiquity, an officer among the Greeks, who preſided at the public games, and decided controverſies that happened among the antagoniſts in the gymniſtical exerciſes. The number of brabeutæ was not fixed; ſometimes there was only one, but more commonly they amounted to nine or ten.

BRACCIANO, a town of St Peter's patrimony, about 12 miles north of Rome, ſituated on the weſt ſide of a lake to which it gives name. E. Long. 13. N. Lat. 42.

BRACCIOLINI (Francis), an Italian poet, a native of Poſtoia, and the friend of Pope Urban VIII. died about the year 1644, aged 80. He wrote, 1. An epic poem, intitled, The croſs reconquered, under the emperor Heraclius. 2. An heroic poem, intitled, The mockery of the Pagan gods. 3. The election of Pope Urban VIII. in 23 books.

BRACE is commonly taken for a couple or pair, and applied by huntſmen to ſeveral beaſts of game, as a brace of bucks, foxes, hares, &c.

Brace, or *Braſſe*, is alſo a foreign meaſure, anſwering to our fathom. See Fathom.

Brace, in architecture, a piece of timber framed in with bevil joints, the uſe of which is to keep the building from ſwerving either way. When the brace is framed into the kingleſſes or principal rafters, it is by ſome called a *ſtrut*.

Brace, in writing or printing, a crooked line incloſing a paſſage, as in a triplet.

Braces, in the ſea-language, are ropes belonging to all the yards of the ſhip, except the mizen, two to each yard, reeved through blocks that are faſtened to pennants, ſeized to the yard-arms. Their uſe is either to ſquare or traverſe the yards. Hence to brace the yard, is to bring it to either ſide. All braces come aftward on; as, the main brace comes to the poop, the main-top-ſail brace comes to the mizen-top and thence to the main ſhrouds, the fore and fore-top-ſail braces come down by the main and main-top-ſail ſtays, and ſo of the reſt. But the mizen-bowline ſerves to brace to the yard, and the croſs-jack braces are brought forwards to the main ſhrouds, when the ſhip ſails cloſe by a wind.

Braces *of a Coach*, thick ſtraps of leather on which it hangs.

BRACELET, an ornament worn on the wriſt, much uſed among the ancients: it was made of different materials, and in different faſhions, according to the age and quality of the wearer. The word is French, *bracelet*; which Menage derives further from *braceletum*, a diminutive of *bracile*, a word occurring in writers of the Juſtinian age; all formed from the Latin *brachium, arm*. It amounts to the ſame with what was called by the ancients, *armilla, brachiale, occabus*; in the middle age, *boga, bauga, armiſpatha*.

Bracelets are much worn by the ſavages of Africa, who are ſo exceſſively fond of them, as to give the richeſt commodities, and even their fathers, wives, and children, in exchange for thoſe made of no richer materials than ſhells, glaſs-beads, and the like.

They form alſo, in modern civilized countries, a very common part of the ornaments of the ladies.

BRACHIÆUS, the name of a muſcle. See Anatomy, *Table of the Muſcles*.

Coraco-BRACHIALIS. See Anatomy, *ibid*.

BRACHIUM, or Arm. See Anatomy, n° 48, &c.

BRACHMINS, or Brachmans, a branch of the ancient Gymnoſophiſts, or philoſophers of India, remarkable for the ſeverity of their lives and manners. See the article Gymnosophists.

Some ſay they derive their name from the patriarch Abraham, whom they call in their language *Brachma*, or *Brama*. Others deduce it from the name of their god *Brachma*; which ſome again take to be the ſame with Abraham: whence Poſtel calls them *Abrachmanes*. F. Thomaſſin derives the word from the Hebrew *barach*, to *fly* or *eſcape*; becauſe the Brachmans retire into the country and live in deſerts. The ſame author gives us another derivation, *viz.* from the Hebrew *barach, (benedicere, orare)*, to bleſs or pray; in regard this is their principal occupation.—The Greeks aſcribe to them the doctrine of the immortality of the ſoul, and certain notions concerning the nature of the Supreme Being and future rewards and puniſhments. To this ſpecies of knowledge the Brachmans added an infinite number of religious obſervances, which were adopted by Pythagoras in his ſchool; ſuch as faſting, prayer, ſilence, and contemplation. They were looked upon as the friends of the gods, becauſe they affected to pay them ſo much regard; and as the protectors of mankind, becauſe they paid them no regard at all. No bounds were therefore ſet to the reſpect and gratitude that were ſhown them: princes themſelves did not ſcruple to conſult theſe recluſes upon any critical conjuncture, from a ſuppoſition, no doubt, that they were inſpired; ſince it was impoſſible to imagine that they had the advantages of experience. We can ſcarcely, however, deny, that there might be among them ſome men of real virtue, whoſe minds reliſhed the pure and ingenious delights of ſtudy and ſcience; and who, by nobly raiſing their thoughts to the contemplation of the Firſt Being, muſt have had more powerful incitements to render themſelves worthy of his care, and none to juſtify them in deceiving and tyrannizing over their fellow-creatures.

There appear ſtill ſome remains of the ancient brachmans in the eaſt, under the denomination of Bramins. See Bramins.

BRACHYGRAPHY, the art of ſhort-hand-writing. See Short-Hand.

BRACHYLOGY, (from βραχυς, and λογος, "expreſſion"), in rhetoric, the expreſſing any thing in the moſt conciſe manner. This, ſo far as conſiſtent with perſpicuity, is a virtue and beauty of ſtyle; but if obſcurity be the conſequence, which is often the caſe, it becomes a blemiſh and inexcuſable defect—Quintilian gives an inſtance of brachylogy from Salluſt: *Mithridates corpore ingenti perinde armatus*; "Mithridates, as it were, armed with the hugeneſs of his ſtature."

BRACHYPTERA, a term uſed by Willoughby, to denote thoſe hawks which have their wings ſo ſhort as not to reach to the end of the tail. Of this kind are the goſs-hawk, ſparrow-hawk, *&c*.

BRACHYPYRENIA, in the hiſtory of foſſils, a genus of ſeptariæ, with a ſhort roundiſh nucleus. See Septariæ.

BRACHYTELOSTYLA, in natural hiſtory, the name by which Dr Hill calls thoſe cryſtals which are compoſed of a ſhort hexangular column, terminated at each end by an hexangular pyramid. See Crystal.

BRACKET, among carpenters, &c. a kind of wooden ſtay, ſerving to ſupport ſhelves and the like.

Brackets, in a ſhip, the ſmall knees, ſerving to ſupport the galleries, and commonly carved. Alſo the timbers that ſupport the gratings in the head are called *brackets.*

Brackets, in gunnery, are the cheeks of the carriage of a mortar: they are made of ſtrong planks of wood, of almoſt a ſemicircular figure, and bound round with thick iron plates; they are fixed to the beds by four bolts, which are called *bed-bolts;* they riſe up on each ſide of the mortar, and ſerve to keep her at any elevation, by means of ſome ſtrong iron bolts, called *bracket-bolts,* which go through theſe cheeks or brackets.

BRACKLAU, a ſtrong town in Poland, capital of a palatinate of the ſame name. The houſes are built of wood. It was taken by the Turks in 1672, but retaken three years afterwards. It is ſeated on the river Bog, in E. Long. 29. 20. N. Lat. 48. 5.

BRACKLAW, a palatinate of that name, which is the eaſtern part of Podolia; it is alſo called *Lower Podolia,* and is of greater extent than Upper Podolia, but is more deſolate, on account of the neighbourhood of the Tartars.

BRACKLEY, a borough-town in Northamptonſhire, in England, ſeated on the edge of the county, next Buckinghamſhire, on a branch of the river Ouſe. It is an ancient and large corporation-town, containing two pariſh-churches; is governed by a mayor and aldermen; and ſends two members to parliament. It had formerly a college, which is turned into a free ſchool. W. Long. 1. 15. N. Lat. 52. 0.

BRACTEA, in natural hiſtory, denotes a ſpangle, or thin flake of any ſubſtance.

Bractea, in botany, a thin leaf or plate of any *folium florale,* ranged by Linnæus among the *fulcra* of plants. Theſe floral leaves differ in ſhape and colour from the other *folia* of the plant; are generally ſituated on the pedunculus, and often ſo near the corolla as to be eaſily miſtaken for the *calyx;* than which, however, the *bracteæ* are generally more permanent. Examples of the floral leaves are ſeen in the tilia, furmaria bulboſa, lavendula, and horminum.

BRACKTEARIA, in natural hiſtory, a genus of talcs, compoſed of ſmall plates in form of ſpangles, each plate either being very thin, or fiſſile into very thin ones.

Of this genus there are a great many ſpecies, called, from their different colours, *mica aurea,* or gold-glimmer; and *mica argentea,* ſilver-glimmer, or cats-ſilver, &c.

BRACTON (Henry), lord chief juſtice of England in the reign of Henry III. was probably a native of Devonſhire. He was educated at Oxford, where he took the degree of doctor of laws, and was made one of the itinerant judges about the year 1244. Ten years after, he became chief juſtice, and had the earl of Derby's houſe in London aſſigned him for his town reſidence, during the minority of that nobleman. He is ſaid to have filled this important office with ſingular reputation during 20 years. When he died is not known; probably it was in the reign of Edward I. He wrote *De legibus et conſuetudinibus Angliæ,* which is one of the moſt ancient, and alſo moſt methodical books on the Engliſh laws. His method is copied from Juſtinian. This work was printed at London in 1569, folio; and in 1640, 4to. The firſt is very incorrect.

BRAD, a town of Sclavonia, ſeated on the north ſide of the river Save, in E. Long. 18. 40. N. Lat. 45. 20.

BRADFIELD, a town of Eſſex in England, in E. Long. 0. 30. N. Lat. 51. 14.

BRADFORD, a town of Wiltſhire in England, ſeated in W. Long. 2. 40. N. Lat. 51. 20.

Bradford (John), a divine, and martyr to the reformation, was born in the former part of the reign of Henry VIII. at Mancheſter in Lancaſhire. Being a remarkable penman and accountant, he became ſecretary to Sir John Harrington, who was ſeveral times employed by king Henry, and his ſucceſſor Edward VI. as paymaſter to the troops abroad. Bradford at this time was a gay man, and to ſupport his extravagance made free with the king's money; but being at laſt unable to ſupport the reflection of his guilt, he determined to make reſtitution, and actually repaid the money. Quitting his employment of ſecretary, about the year 1547, he took chambers in the inner temple, and for ſome time ſtudied the law; but finding in himſelf an inclination to preach the goſpel, in the following year he removed to Catharine-hall in Cambridge, where he applied with ſuch uncommon aſſiduity to the ſtudy of divinity, that in a much ſhorter time than uſual he was admitted to the degree of maſter of arts, and ſoon after made fellow of Pembroke-hall. Biſhop Ridley, who, in 1550, was tranſlated to the ſee of London, charmed with Bradford's application and zeal, now ſent for him to the metropolis, ordained and appointed him his chaplain. In 1553, he was alſo made chaplain to Edward VI. during which time he became one of the moſt popular preachers in the kingdom. Such a reformer was too dangerous to be ſuffered in the ſucceeding reign. Mary was hardly in poſſeſſion of the crown, before Bradford's perſecutions began. He was firſt confined in the tower for ſedition, where he continued a year and an half; during which time he wrote ſeveral epiſtles that were diſperſed in various parts of the kingdom. He was afterwards removed to other priſons, and at laſt brought to his trial before that infernal court of inquiſition in which Gardiner ſat as chief inquiſitor, where he defended his principles to the laſt, in contempt of their utmoſt power. They condemned him to the flames; and he was accordingly burnt alive in Smithfield, on July 1, 1555. His works are, 1. Seventy-two letters, written to various people, whilſt the author was in priſon: printed in Biſhop Coverdale's collection. 2. Ten letters, printed in Fox's acts and monuments. 3. Complaint of verity, 1559, 8vo. 4. Three examinations before the commiſſioners, and his private talk with the prieſts, with the original of his life, 1561, octavo. 5. Two notable ſermons 1574, octavo, 1631. 6. Godly meditations and prayers 1614, 24to. 7. Treatiſe of repentance, 1622. With ſeveral tranſlations and other pieces.

BRADFORTH, a town in the weſt of Yorkſhire, ſeated on a branch of the river Are, in W. Long. 1. 35. N. Lat. 53. 40.

BRADLEY (Dr James), a famous Engliſh aſtronomer,

nomer, was the third ſon of William and Jane Bradley, and was born at Sherborne in Dorſetſhire in the year 1692.

He was fitted for the univerſity at North Leach by Mr Egles, and Mr Brice, who kept a boarding-ſchool there; and from North Leach he was ſent to Oxford. His friends intended him for the church, and his ſtudies were regulated with that view; and as ſoon as he was of ſufficient age to receive holy orders, the biſhop of Hereford, who had conceived a great eſteem for him, gave him the living of Bridſtow, and ſoon after he was inducted to that of Welfrie in Pembrokeſhire. But notwithſtanding theſe advantages, from which he might promiſe himſelf ſtill farther advancement in the church, he at length reſigned his living, that he might be wholly at liberty to purſue his favourite ſtudy the mathematics, and particularly aſtronomy. He was nephew to Mr Pound, a gentleman who was well known in the learned world by many excellent obſervations, and who would have enriched it with more, if the journals of his voyages had not been burnt at Pulo Condor, when the place was ſet on fire, and the Engliſh who were ſettled there cruelly maſſacred, Mr Pound himſelf very narrowly eſcaping with his life. With this gentleman, Mr Bradley paſſed all the time that he could ſpare from the duties of his function; and perhaps he ſometimes treſpaſſed upon them: he was then ſufficiently acquainted with the mathematics to improve by Mr Pound's converſation; yet it does not appear that, in this ſtudy, he had any preceptor but his genius, or any aſſiſtant but his labour.

It may be eaſily imagined, that the example and converſation of Mr Pound did not render Bradley more fond of his profeſſion than he was before; he continued, however, as yet to fulfil the duties of it, though at this time he had made ſuch obſervations as laid the foundation of thoſe diſcoveries which afterwards diſtinguiſhed him as one of the greateſt aſtronomers of his age. Though theſe obſervations were made as it were by ſtealth, they gained him at firſt the notice, and then the friendſhip, of the lord chancellor Macclesfield, Mr Newton afterwards Sir Iſaac, Mr Halley, and many other members of the royal ſociety, into which he was ſoon elected a member. About the ſame time, the chair of Savilian profeſſor of aſtronomy became vacant by the death of the celebrated Dr Kiel; and Mr Bradley was elected to ſucceed him on the 31ſt of October 1721, being then juſt 29 years old; and his colleague was Mr Halley, who was profeſſor of geometry on the ſame foundation. Bradley, upon his being elected into this profeſſorſhip, gave up both his livings, and with great joy quitted a ſituation in which his duty was directly oppoſite to his inclination. From this time, he applied himſelf wholly to the ſtudy of his favourite ſcience; and in the year 1727 he publiſhed his theory of the aberration of the fixed ſtars, which is allowed to be one of the moſt uſeful and ingenious diſcoveries of modern aſtronomy. Three years after this diſcovery, by which Mr Bradley acquired very great reputation, he was appointed lecturer in aſtronomy and phyſics, at the muſeum at Oxford.

He purſued his ſtudies with equal application and delight; and in the courſe of his obſervations, which were innumerable, he diſcovered that the inclination of the earth's axis upon the plane of the ecliptic was not always the ſame, but that it varied backwards and forwards ſome ſeconds, and that the period of theſe variations was nine years. This period ſeemed altogether unaccountable, as it could not be ſuppoſed to have any thing in common with the revolution of the earth, which is performed in one year. Mr Bradley, however, diſcovered the cauſe of this phenomenon in the Newtonian ſyſtem of attraction. He publiſhed this diſcovery in 1737, ſo that in the ſpace of about ten years he communicated to the world two of the fineſt diſcoveries in modern aſtronomy, which will for ever make a memorable epocha in the hiſtory of that ſcience.

Mr Bradley always preſerved the eſteem and friendſhip of Mr Halley; who, being worn out by age and infirmities, thought he could do nothing farther for the ſervice of aſtronomy, than procure for Mr Bradley the place of regius profeſſor of aſtronomy at Greenwich, which he had poſſeſſed himſelf many years with the greateſt reputation. With this view, he wrote many letters, which have ſince been found among Mr Bradley's papers, deſiring his permiſſion to apply for a grant of the reverſion of it to him, and even offering to reſign in his favour if it ſhould be thought neceſſary: but before Mr Halley could bring his kind project to bear, he died. Mr Bradley, however, obtained the place afterwards, by the favour and intereſt of my lord Macclesfield, who was afterwards preſident of the royal ſociety. As ſoon as the appointment of Mr Bradley to this place was known, the univerſity of Oxford ſent him a diploma creating him doctor of divinity. The appointment of aſtronomer at Greenwich placed Mr Bradley in his proper element, and he purſued his obſervations with unwearied diligence. However numerous the collection of aſtronomical inſtruments at the obſervatory at Greenwich, it was impoſſible that ſuch an obſerver as Dr Bradley ſhould not deſire to increaſe them, as well to anſwer thoſe particular views, as in general to make obſervations with greater exactneſs. In the year 1748, therefore, he took the opportunity of the annual viſit made by the royal ſociety to the obſervatory, in order to examine the inſtruments and receive the profeſſor's obſervations for the year, to repreſent ſo ſtrongly the neceſſity of repairing the old inſtruments, and purchaſing new, that the ſociety thought proper to repreſent it to his majeſty, and his majeſty gave them L. 1000 for that purpoſe. This ſum was laid out under the direction of Dr Bradley, who, with the aſſiſtance of the late celebrated Mr Graham and Mr Bird, furniſhed the obſervatory with as complete a collection of aſtronomical inſtruments, as the moſt ſkilful and diligent obſerver could deſire. Dr Bradley, furniſhed with ſuch aſſiſtance, purſued his obſervations with new aſſiduity, an incredible number of which were found after his death, and put into the hands of the royal ſociety.

It has been already obſerved, that when Dr Bradley was elected to the profeſſor's chair at Oxford, he gave up his two livings, which were at ſuch a diſtance, that he could not poſſibly fulfil the duties of them himſelf; but it happened that after he was ſettled at Greenwich, the living of that pariſh became vacant, which is very conſiderable, and which was offered to him, as he was upon the ſpot to perform the duty, and had the claim of uncommon merit to the reward. This living, however, Dr Bradley, very greatly to his honour, refuſed, fearing the duties of the aſtronomer would too much interfere with thoſe of the divine. His majeſty, however, hearing of the refuſal, was ſo pleaſed with it, that he granted him a penſion of 250l. a-year in conſideration of his great abilities and knowledge in aſtronomy and other branches of the mathematics, which had procured ſo much advantage to the commerce and navigation of Great Britain, as is particularly mentioned in the grant which is dated the 15th of February, 1752. Dr Bradley, about the ſame time, was admitted into the council of the royal ſociety. In the year 1748, he was admitted a member of the royal academy of ſciences and belles letters of Berlin, upon the death of M. Crevier, firſt phyſician to his catholic majeſty; in the year 1752, a member of the imperial academy at Peterſburgh; and in 1757, of that inſtituted at Bologna.

Dr Bradley was ſtill indefatigable in his obſervations, and whatever honour he received became an incitement to obtain new diſtinction; his corporeal abilities however, at length declined, though his intellectual ſuffered no abatement. In the year 1760, he became extremely weak and infirm; and towards the end of June 1762, he was attacked with a total ſuppreſſion of urine, cauſed by an inflammation of the reins, which on the 12th of July following put an end to his life, in the 70th year of his age. He was buried at Mitchin-Hampton, in Glouceſterſhire, in the ſame grave with his mother and his wife. In the year 1744, he married Suſannah Peach, the daughter of a gentleman of that name in Glouceſterſhire, by whom he had only one daughter.

As to his character, he was remarkable for a placid and gentle modeſty, very uncommon in perſons of an active temper and robuſt conſtitution. It was ſtill more remarkable, that, with this untroubled equanimity of temper, he was compaſſionate and liberal in the higheſt degree. Although he was a good ſpeaker, and poſſeſſed the rare but happy art of expreſſing his ideas with the utmoſt preciſion and perſpicuity, yet no man was a greater lover of ſilence, for he never ſpoke but when he thought it abſolutely neceſſary. He did indeed think it neceſſary to ſpeak when he had a fair opportunity to communicate any uſeful knowledge in his own way; and he encouraged thoſe that attended his lectures to aſk him queſtions, by the exactneſs with which he anſwered, and the care he took to adapt himſelf to every capacity. He was not more inclined to write than to ſpeak, for he has publiſhed very little: he had a natural diffidence, which made him always afraid that his works ſhould injure his character; and therefore ſuppreſſed many, which probably were well worthy of the public attention. He was even known, as it were, in ſpite of himſelf; and, in ſpite of himſelf, he was known much, and conſequently much eſteemed. He was acquainted with many of the firſt perſons in the kingdom, perſons eminent as well for their rank as their abilities: he was honoured by all men of learning in general; and there was not an aſtronomer of any eminence in the world with whom he had not a literary correſpondence. Upon the whole, it may be ſaid of Dr Bradley, that no man cultivated great talents with more ſucceſs, or had a better claim to be ranked among the greateſt aſtronomers of his age.

BRADNINCH, a town of Devonſhire, once a conſiderable place, but ſome time ago totally deſtroyed by fire. W. Long. 3. 35. N. Lat. 50. 45.

BRADS, among artificers, a kind of nails uſed in building, which have no ſpreading heads as other nails have. They are diſtinguiſhed by iron-mongers by ſix names; as *joiner's brads, flooring-brads, batten-brads, bill-brads,* or *quarter-heads,* &c. Joiners-brads are for hard wainſcot; batten-brads are for ſoft wainſcot; bill brads are uſed when a floor is laid in haſte, or for ſhallow joiſts ſubject to warp. See NAIL.

BRADSHAW (Henry), a Benedictine monk, was born at Cheſter, about the middle of the 15th century. Diſcovering an early propenſity to religion and literature, he was received while a boy into the monaſtery of St Werberg in that city; and having there imbibed the rudiments of his education, he was afterwards ſent to Glouceſter college, in the ſuburbs of Oxford, where for a time he ſtudied theology with the novices of his order, and then returned to his convent at Cheſter; here, in the latter part of his life, he applied himſelf chiefly to the ſtudy of hiſtory, and wrote ſeveral books. He died in the year 1513, the fifth of Henry VIII. His poetry is not inferior to that of any of his cotemporaries. His works are, 1. *De antiquitate et magnificentia urbis Ceſtriæ.* 2. *Chronicon.* 3. The life of the glorious virgin of St Werberg. Printed Lond. 1521, 4to, in verſe. The life of St Werberg makes only part of this work; for it contains alſo a deſcription of the kingdom of Mercia, life of St Etheldred, the life of St Sexburg, the foundation and hiſtory of Cheſter, and the chronicles of ſome kings. Poſſibly this work may include the two firſt. Biſhop Tanner ſays, that he wrote a chronicle in Engliſh verſe, extracted from Bede, Malmſbury, Geraldus, and others. Probably this is the chronicle abovementioned.

BRADWARDIN (Thomas), archbiſhop of Canterbury, was born at Hartfield in Suſſex, about the cloſe of the 13th century. He was educated at Merton College, Oxford, where he took the degree of doctor of divinity; and acquired the reputation of a profound ſcholar, a ſkilful mathematician, and conſummate divine. Authors are not agreed as to his firſt preferments. Pits ſays he was profeſſor of divinity at Oxford. They agree, however, in aſſerting, that from being chancellor of the dioceſe of London, he became a courtier and confeſſor to Edward III. whom he conſtantly attended during his war with France, aſſiſting that victorious prince with his advice, animating the troops, and fervently praying for their ſucceſs. After his return from the war, he was made prebendary of Lincoln, and afterwards archbiſhop of Canterbury. He died at Lambeth in the year 1349, forty days after his conſecration; and was buried in St Anſelm's chapel, near the ſouth wall. His works are, 1. *De cauſa Dei,* printed London, 1618, publiſhed by J. H. Savil. 2. *De geometria ſpeculativa,* &c. Paris, 1495, 1512, 1530. 3. *De arithmetica practica,* Paris, 1502, 1512, 4. *De proportionibus,* Paris, 1595. Venice, 1505, folio. 5. *De quadratura circuli,* Paris, 1495, folio.

BRADY (Robert), born in Norfolk in 1643, was maſter of Caius college, Cambridge, regius profeſſor there, and twice repreſentative of that univerſity in parliament. In 1685, he was made keeper of the records in the tower, and was phyſician in ordinary to James II.

He wrote, An introduction to the Old Engliſh hiſtory; An hiſtory of England, from the time of the Romans to the end of the reign of Richard II.; and, A treatiſe on Engliſh boroughs. He died in 1700.

Brady (Nicholas), an excellent divine and poet, born at Bandon, in the county of Cork, October 28th 1659. He ſtudied at Weſtminſter-ſchool, and afterwards at Oxford and Dublin college. He was a zealous promoter of the Revolution; and, in 1690, when the troubles broke out in Ireland, by his intereſt with M'Carty, king James's general, he thrice prevented the burning of the town of Bandon. Having quitted ſeveral preferments in Ireland, he ſettled in London, where he was ſucceſſively promoted to ſeveral livings; and at the time of his death was rector of Clapham, miniſter of Richmond, and chaplain to the Duke of Ormond's troop of horſe-guards. He wrote part of the new verſion of the Pſalms, now ſung in many churches in England and Ireland; the Æneids of Virgil, in 4 vols; and 3 vols of ſermons. He died May 20th 1726.

Plate CIX. fig. 6.

BRADYPUS, or **Sloth**, a genus of quadrupeds, belonging to the order of bruta. The characters are theſe: They have no fore-teeth in either jaw; the dog-teeth are blunt, ſolitary, and longer than the grinders; they have five grinders on each ſide. The body is covered with hair. There are only two ſpecies of bradypus, viz.

1. The tridactylus, or American ſloth, has a ſhort tail, and only three toes on each foot. It is about the ſize of a fox. The body is covered over with hair of a grey colour; the face is naked; the throat is yellowiſh; the fore-feet are longer than the hind-feet; the claws, which are three on each foot, are compreſſed, and very ſtrong; and they have no mammæ on the breaſt; they have no external ears, but only two winding holes. It is the moſt ſluggiſh and moſt ſlow of all animals, and ſeems to move with the utmoſt pain. Its food is fruit, or the leaves of trees. If it cannot find fruit on the ground, it looks out for a tree well loaded, and with great pains climbs up: to ſave the trouble of deſcending, it flings off the fruit; and, forming itſelf into a ball, drops from the branches, continues at the foot till it has devoured all, nor ever ſtirs till compelled by hunger. It never drinks, and is terrified at rain.

The following wonderful account of this animal, from Kircher's *Muſurgia*, is quoted by Mr Stillingfleet in his miſcellaneous tracts. "The deſcription (ſays Kircher) I had from father Torus, who reſided in America, who had animals of this kind in his poſſeſſion, and made many experiments in relation to their nature and qualities. Its figure is extraordinary; it is about the bigneſs of a cat, of very ugly countenance, and has claws extended like fingers. The hinder part of the head and neck are covered with hair. It ſweeps the ground with its fat belly, never riſes upon its feet, and moves ſo ſlowly, that it would ſcarce go the length of a bow-ſhot in 15 days, though conſtantly moving, and it is therefore called the *ſloth*. It lives generally upon tops of trees, and employs two days to crawl up, and as many to get down again. Nature has doubly guarded this animal againſt its enemies. Firſt, by giving it ſuch ſtrength in its feet, that whatever it ſeizes, it holds ſo faſt, that it never can be freed from its claws, but muſt there die of hunger. Secondly, in giving it ſuch a moving aſpect, when it looks at any man who ſhould be tempted to hurt it, that it is impoſſible not to be touched with compaſſion; beſides, that at the ſame time it ſheds tears, and upon the whole perſuades one, that a creature ſo defenceleſs, and of ſo unhappy a body, ought not to be tormented. To make an experiment of this, the above-mentioned father procured one of theſe animals to be brought to our college at Carthagena. He put a long pole under his feet, which it ſeized upon very firmly, and would not let go again. The animal therefore thus voluntarily ſuſpended, was placed between two beams along with the pole, and there it remained without meat, drink, or ſleep, 40 days; its eyes being always fixed on people that looked at it, who were ſo touched, that they could not forbear pitying it. At laſt being taken down, they let looſe a dog on it, which after a little while the ſloth ſeized with his feet, and held him four days, till he died of hunger. This was taken from the mouth of the father. They add (continues Kircher), that this creature makes no noiſe but at night, but that very extraordinary. For by interruptions, that laſt about the length of a ſigh or ſemipauſe, it goes through the ſix vulgar intervals of muſic, Ut, re, mi, fa, ſol, la, La, ſol, fa, mi, re, ut, aſcending and deſcending, and theſe perfectly in tune. So that the Spaniards, when they firſt got poſſeſſion of this coaſt, and heard theſe notes, imagined that ſome people brought up to our muſic were ſinging. This animal is called by the natives *haut*; certainly becauſe, going through theſe muſical intervals, it repeats, Ha, ha, ha, ha, ha, &c." To this account, Linnæus ſeems, in his *Syſtema Naturæ*, to give credit. For he ſays, in his ſhort way of deſcription, among other things, "It utters an aſcending hexachord: its noiſe is horrible; its tears are piteous." He quotes Muſgrave, Cluſius, Guſner, &c.

2. The didactylus has two toes on each foot, and no tail: The head is round; the ears are large; and it has two mammæ on the breaſt: The body is covered with aſh-coloured hair. It is a native of Ceylon.

BRAE-mar, a mountainous territory of Scotland, in the ſhire of Aberdeen, where the laſt earl of Mar began to raiſe a rebellion in 1715. It is 27 miles north-weſt of Aberdeen.

Brae-Murray, a mountainous and woody tract of land, lying in the ſhires of Elgin and Nairn in Scotland.

BRAG, an ingenious and pleaſant game at cards, where as many may partake as the cards will ſupply; the eldeſt hand dealing three to each perſon at one time, and turning up the laſt card all round. This done, each gameſter puts down three ſtakes, one for each card.—The firſt ſtake is won by the beſt card turned up in the dealing round; beginning from the ace, king, queen, knave, and ſo downwards. When cards of the ſame value are turned up to two or more of the gameſters, the eldeſt hand gains; but it is to be obſerved, that the ace of diamonds wins, to whatever hand it be turned up.—The ſecond ſtake is won by what is called the *brag*, which conſiſts in one of the gameſters challenging the reſt to produce cards equal to his: Now it is to be obſerved, that a pair of aces is the beſt brag, a pair of kings the next, and ſo on; and a pair of any ſort wins the ſtake from the moſt valuable ſingle card. In this part conſiſts the great diverſion of the game;

for, by the artful management of the looks, geſtures, and voice, it frequently happens, that a pair of fives, treys, or even duces, out-brags a much higher pair, and even ſome pairs royal, to the no ſmall merriment of the company. The knave of clubs is here a principal favourite, making a pair with any other card in hand, and with any other two cards a pair royal.—The third ſtake is won by the perſon who firſt makes up the cards in his hand one and thirty; each dignified card going for ten, and drawing from the pack, as uſual in this game.

BRAGA, the capital of the province of Entre-minhoduro, in Portugal, ſituated on the river Cavado, in W. Long. 8. 40. N. Lat. 41. 20.

BRAGANZA, a city of Portugal, and capital of a duchy of the ſame name. It is ſeated on an eminence, by a brook called *Fervenca*; and is divided into two parts, the old city, and the town. The former is upon an eminence, and fortified with a double wall. That part next the town has five baſtions, but no ditch; the citadel is on the oppoſite ſide joined to the wall. The town is in a plain, and defended by a fort with four baſtions. It is ſeated near the river Sabor on the frontiers of Galicea, in W. Long. 6. 15. N. Lat. 41. 27.

BRAGGOT, a kind of drink made of malt, honey, and ſpices, much uſed in Wales.

BRAHE (Tycho), a celebrated aſtronomer, deſcended of an illuſtrious family originally of Sweden but ſettled at Denmark, was born December 14th 1546, at Knudſtorp in the county of Schonen. He was taught Latin when ſeven years old, and ſtudied five years under private tutors. His father dying, his uncle ſent him, in April 1559, to ſtudy philoſophy and rhetoric at Copenhagen. The great eclipſe of the ſun on the 21ſt of Auguſt 1560, happening at the preciſe time the aſtronomers had foretold, he began to look upon aſtronomy as ſomething divine; and purchaſing the tables of Stadius, gained ſome notion of the theory of the planets. In 1562, he was ſent by his uncle to Leipſic to ſtudy law; but aſtronomy wholly engroſſed his thoughts, and in purchaſing books on that ſcience he employed all his pocket-money. Having procured a ſmall celeſtial globe, he was wont to wait till his tutor was gone to bed, in order to examine the conſtellations and learn their names; and when the ſky was clear, he ſpent whole nights in viewing the ſtars. In 1565, a difference ariſing between Brahe and a Daniſh nobleman, they fought, and the former had part of his noſe cut off: which defect he ſo artfully ſupplied with one made of gold and ſilver, that it was not perceivable. It was about this time that he began to apply to chemiſtry, propoſing nothing leſs than to obtain the philoſopher's ſtone. In 1571, he returned to Denmark; and was favoured by his mother's brother, Steno Belle, a lover of learning, with a convenient place at his caſtle of Herritzvad near Kundſtorp, for making his obſervations, and building a laboratory. His marrying a country girl, beneath his rank, occaſioned ſuch a violent quarrel between him and his relations, that the king was obliged to interpoſe to reconcile them. In 1574, by his majeſty's command, he read lectures upon the theory of the comets at Copenhagen. The year following he began his travels through Germany, and proceeded as far as Venice: he then reſolved to remove his family, and ſettle at Baſil; but Frederic II. king of Denmark being informed of his deſign, and unwilling to loſe a man that was capable of being ſuch an ornament to his country, promiſed to enable him to purſue his ſtudies, to beſtow upon him for life the iſland of Huen in the ſound, to erect an obſervatory and laboratory there, and to defray all the expences neceſſary for carrying on his deſigns. Tycho Brahe readily embraced this propoſal; and accordingly the firſt ſtone of the obſervatory was laid Auguſt 8, 1576. The king alſo gave him a penſion of 2000 crowns out of his treaſury, a fee in Norway, and a canonry of Roſhild, which brought him in 1000 more. James VI. of Scotland, afterwards raiſed to the crown of England, going to Denmark in order to marry the princeſs Anne, paid a viſit to our author in his retirement at Uraniaburg, made him ſeveral preſents, and with his own hand wrote a copy of verſes in his praiſe: but, ſoon after the death of king Frederic, he was deprived of his penſion, fee, and canonry; upon which, finding himſelf incapable of bearing the expences of his obſervatory, he went to Copenhagen, whither he brought ſome of his inſtruments, and continued his aſtronomical obſervations in that city, till Valkendorf, chamberlain to the houſehold of Charles IV. commanded him by the king's order to diſcontinue them. He then removed his family to Roſtock, and afterwards to Holſtein, in order to ſolicit Henry Ranzou to introduce him to the emperor; and that gentleman complying with his requeſt, he was received by the emperor at Prague with the utmoſt civility and reſpect. That prince gave him a magnificent houſe, till he could procure one for him more fit for aſtronomical obſervations; aſſigned him a penſion of 3000 crowns; and promiſed, upon the firſt opportunity, a fee for him and his deſcendants: but he did not long enjoy this happy ſituation; for, upon the 24th of October 1601, he died of a retention of urine, in the 55th year of his age, and was interred in a very magnificent manner in the principal church at Prague, where a noble monument was erected to him.—His ſkill in aſtronomy is univerſally known, and he is famed for being the inventor of a new ſyſtem, which he endeavoured, though without ſucceſs, to eſtabliſh upon the ruins of that of Copernicus. He was very credulous with regard to judicial aſtrology and preſages. If he met an old woman when he went out of doors, or an hare upon the road on a journey, he uſed to turn back immediately, being perſuaded that it was a bad omen. When he lived at Uraniaburg, he had at his houſe a madman, whom he placed at his feet at table, and fed himſelf. As he imagined that every thing ſpoken by mad perſons preſaged ſomething, he carefully obſerved all that this man ſaid; and becauſe it ſometimes proved true, he imagined it might always be depended on. A mere trifle put him in a paſſion; and againſt perſons of the firſt rank, with whom it was his duty to keep on good terms, he openly diſcovered his reſentment. He was very apt to rally others, but highly provoked if the ſame liberty was taken with himſelf. His principal works are, 1. *Progymnaſmata aſtronomiæ.* 2. *De mundi ætherei recentioribus phænomenis.* 3. *Epiſtolarum aſtronomicarum liber.*

BRAHMA. See BRAMA.

BRAIDALBIN, a diſtrict of Perthſhire in Scotland, ſtretching 32 miles from eaſt to weſt, and 13 where broadeſt from ſouth to north; is a mountainous country, lying among the Grampian hills, ſuppoſed to be the country anciently known by the name of *Albanii*; whence the Highlanders to this day call themſelves *Albinich*. It is bounded on the weſt by Lochaber, Lorn, and Knapdale; and on the north and eaſt, by part of Lochaber and part of Athol; and on the ſouth by Strathern and Monteith. It produces plenty of game and black cattle; is inhabited by Highlanders ſaid to be the moſt ferocious in all Scotland; and gives the title of earl to a branch of the Campbell family, which is poſſeſſed of a noble and magnificent ſeat in this diviſion. Much flax is cultivated here. Some years ago, when premiums were given for the greateſt crops, from 70 to 120 hogſheads of flaxſeed were annually ſown, each peck yielding two ſtones of dreſſed flax; and when the yarn ſold higheſt, L.2000 worth has been ſold out of the country. Oats and potatoes are the other crops. Oats yield from four to ſix fold at the moſt, oftener leſs; bear, from eight to ten, at an average ſix. The corn raiſed ſeldom ſuffices the number of inhabitants, ſo they are often obliged to have recourſe to importation. From their potatoes ſome have diſtilled a very ſtrong ſpirit, which has been found cheaper than what is diſtilled from any grain. Starch is alſo made from them; and, in ſome places, bread. Corcur, or the lichen omphaloides, is an article of commerce; great quantities have been ſcraped from the rocks, and exported for the uſe of the dyers, at the price of 1s. or 16d. per ſtone. A good many ſheep are reared here, and much wool is ſent out of the country. There are few horſes raiſed in this country: ſuch as feed on the tops of the higher hills are often afflicted with a diſtemper that commonly proves fatal, if a remedy is not applied within 24 hours. It attacks them in the months of July and Auguſt, uſually after a fall of rain, or before the dew riſes in the morning. An univerſal ſwelling prevails over the body: the remedy is exerciſe, chafing, or any method that promotes urine and perſpiration. The common people attribute this evil to a certain animal that ſcatters its poiſon over the graſs; but, more probably, it ariſes from ſome noxious vegetable hitherto unobſerved. Before the year 1745, lord Braidalbin was obliged to keep a conſtant guard for the protection of his vaſſals cattle, or to retain ſpies among the thieviſh clans, having too much ſpirit to ſubmit to pay an infamous tax called the *black-meal*, to the plundering chieftains as the price of their ſafety.

BRAIL, or BRAILS, in a ſhip, are ſmall ropes made uſe of to furl the ſails acroſs: they belong only to the two courſes and the mizen-ſail; they are reeved through the blocks, ſeized on each ſide the ties, and come down before the ſail, being at the very ſkirt thereof faſtened to the cringles; their uſe is, when the ſail is furled acroſs, to hale up its bunt, that it may the more eaſily be taken up or let fall. Hale up the brails, or brail up the ſail; that is, Hale up the ſail, in order to be furled or bound cloſe to the yard.

BRAILOW, a town of Poland in the province of Podolia, ſeated on the river Bog, in E. Long. 29. 0. N. Lat. 43. 50.

BRAIN, in anatomy, is that large, ſoft, whitiſh maſs, incloſed in the cranium or ſkull; wherein all the organs of ſenſe terminate, and the ſoul is ſuppoſed principally to reſide. See ANATOMY, n° 17, 129, 136.

BRAIN le Comte, a town of the Auſtrian Netherlands, in the province of Hainault. E. Long. 4. 11. N. Lat. 50. 35.

BRAINTREE, a large town of Eſſex in England, ſituated in E. Long. 0. 35. N. Lat. 51. 50.

BRAKE, denotes female fern, or the place where it grows.—Alſo a ſharp bit or ſnaffle for horſes; and a baker's kneading trough.—Alſo an inſtrument with teeth to bruiſe flax or hemp. See *FLAX-Dreſſing*.

BRAKEL, a town of Germany, in the circle of Weſtphalia, and in the biſhopric of Paderborn, ſeated on the rivulet Brught, in E. Long. 9. 8. N. Lat. 51. 46.

BRAMA, or BRUMA, a pagan deity of the Eaſt Indies. He is the firſt perſon of a kind of trinity in their theology; is the great progenitor of mankind; and has created as many worlds as there are conſiderable parts in his body. See the articles BRACHMANS, BRAMINS, and INDOSTAN.

BRAMA, in ichthyology, the trivial name of a ſpecies of cyprinus. See CYPRINUS.

BRAMANT, a town of Savoy, in the valley of Maurich, ſeated on the river Arck, in E. Long. 4. 15. N. Lat. 45. 0.

BRAMBER, a town of Suſſex in England, formerly of ſome account, but has neither market nor fair; however it ſends two members to parliament. W. Long. 0. 15. N. Lat. 50. 50.

BRAMBLE, in botany, the Engliſh name of the rubus. See RUBUS.

BRAMBLE-Net, otherwiſe called *hallier*, is a net to catch birds in of ſeveral ſizes; the great meſhes muſt be four inches ſquare; thoſe of the leaſt ſize are three inches ſquare; and thoſe of the biggeſt, five. In the depth they ſhould not be above three or four inches: but as for the length, they may be enlarged at pleaſure; the ſhorteſt being 18 feet long.

BRAMBLE, or *Brambling*, in ornithology, the trivial name of a ſpecies of FRINGILLA.

BRAMER (Leonard), hiſtory-painter, was born at Delft in 1596; but learned the art of painting in the ſchool of Rembrant, and imitated the manner of his maſter in ſmall. In the 18th year of his age he went to Rome for his improvement; but although he continued in Italy for ſome years, and acquired ſomewhat in his ſtyle rather more graceful than Rembrant, yet he could never diveſt himſelf of the Flemiſh gout. He had a fine taſte of deſign; his expreſſion is generally good, and in ſome of his compoſitions truly noble. His pencil is delicate, and his colouring very peculiar in the tints, being alſo remarkably thin in many parts, ſo as barely to cover the panel; yet, by great ſkill in the management of the chiaro-ſcuro, his colouring is bright, bold, and full of luſtre,; particularly in the vaſes, which he was fond of introducing in every ſubject that could admit them, as he knew how to give them a rich and fine relievo. He had accuſtomed himſelf to paint with a very thin body of colour, eſpecially in the browns and ſhadowy parts, in order to give his pictures a greater tranſparence. At Venice, Naples, Florence, Mantua, and other cities of Italy, as well as at Rome, he left many proofs of his extraordinary merit, which rendered his name deſervedly famous; and his works are rarely to be met with out of Italy, where he painted moſt; but whenever they are

Pilkington's Dict.

are to be purchaſed they are bought at conſiderable prices, if they are entire and undamaged. One of the moſt capital pictures of Bramer is the *Raiſing of Lazarus*, in which there is a charming oppoſition of light and ſhadow; and another is the *Denial of St Peter*: They are both painted in his beſt manner; they are bright, tranſparent, and finely penciled, and are ſtill preſerved at Rome. Likewiſe at the palace of Ryſwick there are ſeveral valuable paintings by this maſter; in which the invention and execution are highly commendable. But none of his works can be more admired than a ſmall picture on copper repreſenting the ſtory of Pyramus and Thiſbe.

BRAMHALL (Dr John), archbiſhop of Armagh, was born of an ancient family at Pontefract in Yorkſhire, about the year 1593. He was invited over to Ireland by the lord deputy Wentworth; and ſoon after obtained the arch-deaconry of Meath, the beſt in that kingdom. In 1634, he was made biſhop of Londonderry, which ſee he improved very much; but the greateſt ſervice he did to the church of Ireland was by getting, with the deputy's aſſiſtance, ſeveral acts paſſed for aboliſhing fee-farms, recovering impropriations, &c. by which and by other means he regained to the church in the ſpace of four years L.30,000 or L. 40,000 a-year. In the convocation he prevailed upon the church of Ireland to unite in the ſame faith with the church of England, by adopting the 39 articles of that church; and would willingly have introduced the Engliſh canons, but could only prevail on their accepting ſuch as they deemed proper. Articles of treaſon were exhibited againſt him in the Iriſh parliament; and at the treaty of Uxbridge in 1644, the Engliſh parliament made it a preliminary article, that Biſhop Bramhall, with Archbiſhop Laud and others, ſhould be excepted from the general pardon. He went abroad; but on the reſtoration was appointed archbiſhop of Armagh, primate and metropolitan of all Ireland, and was choſen ſpeaker of the Houſe of Lords. He died in 1663; and was the author of ſeveral works, which are collected in one vol. folio.

BRAMINS, the name of the prieſts among the idolatrous Indians; the ſucceſſors of the ancient Brachmans. See the the title BRACHMANS.

Their name is formed from *Brama*, their particular deity. They are found in Siam, Malabar, China, Coromandel, and the moſt eaſtern nations anywiſe civilized; but their chief ſeat is in Indoſtan †, or the Mogul's country. They have a language peculiar to themſelves, which they call *Shanſcrit*; in which they have ſeveral ancient books, written, as is alleged, by their great prophet Brahma; as the *ſhaſtram*, which is their bible; and *porane*, a hiſtory which they eſteem ſacred, and pretend to have been dictated by God himſelf.

There are ſeveral orders of Bramins. Thoſe who mix in ſociety are for the moſt part very corrupt in their morals: they believe that the water of the Ganges will waſh away all their crimes; and, as they are not ſubject to any civil juriſdiction, live without either reſtraint or virtue, excepting that character of compaſſion and charity which is ſo commonly found in the mild climate of India. The others, who live abſtracted from the world, are either weak-minded men or enthuſiaſts; and abandon themſelves to lazineſs, ſuperſtition, and the dreams of metaphyſics. We find in their diſputes the very ſame ideas that occur in the writings of our moſt celebrated metaphyſicians; ſuch as, ſubſtance, accident, priority, poſteriority, immutability, indiviſibility, &c.

Their religion, which was anciently of the allegorical and moral kind, hath degenerated into a heap of extravagant and obſcene ſuperſtitions, owing to their having realized thoſe fictions which were intended merely as ſo many ſymbols and emblems. Were it poſſible to obtain a ſight of their ſacred books, the only remains there are of the Indian antiquities, we might in ſome meaſure be enabled to remove the veil that envelopes thoſe numerous myſteries; but the following ſtory will ſhow how little reaſon there is to hope that we ſhall ever be entruſted with ſuch a communication.

Raynal's Hiſt. of the Indies.

The emperor Mahmoud Akbar had an inclination to make himſelf acquainted with the principles of all the religious ſects throughout his extenſive provinces. Having diſcarded the ſuperſtitious notions with which he had been prepoſſeſſed by his education in the Mahometan faith, he reſolved to judge for himſelf. It was eaſy for him to be acquainted with the nature of thoſe ſyſtems that are formed upon the plan of making proſelytes; but he found himſelf diſappointed in his deſign when he came to treat with the Indians, who will not admit any perſon whatever to the participation of their myſteries. Neither the authority nor promiſes of Akbar could prevail with the Bramins to diſcloſe the tenets of their religion; he was therefore obliged to have recourſe to artifice. The ſtratagem he made uſe of was to cauſe a boy, of the name of Feizi, to be committed to the care of theſe prieſts, as a poor orphan of the ſacerdotal line, who alone could be initiated into the ſacred rites of their theology. Feizi, having received the proper inſtructions for the part he was to act, was conveyed privately to Benares, the ſeat of knowledge in Indoſtan; he was received into the houſe of a learned Bramin, who educated him with the ſame care as if he had been his own ſon. After the youth had ſpent ten years in ſtudy, Akbar was deſirous of recalling him: but he was ſtruck with the charms of the daughter of his preceptor. The women of the ſacerdotal tribe are looked upon as the greateſt beauties in Indoſtan. The old Bramin laid no reſtraint upon that growing paſſion of the two lovers: he was fond of Feizi, who had gained his affection by his addreſs and docility; and offered him his daughter in marriage. The young man, divided between love and gratitude, reſolved to conceal the fraud no longer; and falling at the feet of the Bramin, diſcovered the impoſture, and aſked pardon for his offence. The prieſt, without reproaching him in the leaſt, ſeized a poignard which hung at his girdle, and was going to plunge it in his breaſt, if Feizi had not prevented him by taking hold of his arm. The young man uſed every means to pacify him, and declared himſelf ready to do any thing to expiate his treachery. The Bramin, burſting into tears promiſed to pardon him on condition that he ſhould ſwear never to tranſlate the *Bedas* or ſacred volumes, or diſcloſe to any perſon whatever the ſymbol of the Bramin creed. Feizi readily promiſed all that the Bramin required: how far he kept his word is not known; but the ſacred books of the Indians have never been tranſlated by him, nor any one elſe, to this day. As the

† See *Indoſtan*.

Bramins are the only perſons who underſtand the language of the ſacred book, their comments on the text are the ſame as thoſe that have ever been made on religious books; all the maxims which fancy, intereſt, paſſion, or falſe zeal can ſuggeſt, are to be found in theſe volumes. See the article SHAFTAH and VEDAM.

The own a ſupreme God, who created Brama, and gave him a power to create the world. They have alſo their ſubaltern deities, their pagods or temples, and idols, whom they fan to defend from flies, dancing before them. They alſo hold a feaſt in honour of the ſun, conſidered as the ſource of light and heat, whereby all nature is fecundified.

Their pagods or temples conſiſt of three parts. The firſt is a vaulted roof, ſupported on ſtone columns: it lies open, and all perſons, without diſtinction, are allowed to enter into it. It is adorned with ſymbolical figures, made of wood, as elephants, oxen, and horſes. The ſecond part is open in the day-time, and ſhut at night. It is filled with groteſque and monſtrous figures, as men with many heads and arms. The third, which is a kind of chancel, is kept always ſhut, with a very ſtrong gate. In this is placed the ſtatue of the deity to whom the pagod is dedicated. A great number of lamps burn day and night before the idol. The Bramins, before they go into the pagod, pull off their ſhoes, and leave them at the door.

The Bramins of Siam and Coromandel maintain that the earth will be deſtroyed by fire; and the former aſſert that another will ariſe out of its aſhes, in which there ſhall be no ſea, nor any change of ſeaſons, but an eternal ſpring; and the latter maintain a plurality of worlds, which are alternately deſtroyed and renewed.

Robert de Nobili, an Italian Jeſuit, and one of the Indian miſſionaries, in the beginning of the 17th century, in order to ſecure ſucceſs to his miſſion, aſſumed the title and appearance of a Bramin, and at length perſuaded the credulous people that he was in reality a member of that venerable order. He forged a deed in the ancient Indian characters, ſhowing that the Bramins of Rome were older than thoſe of India, and that the Jeſuits of Rome deſcended in a direct line from the god Brahma. He farther declared on oath, that he derived his origin from this Indian deity. By this impoſture he proſelyted twelve eminent Bramins, whoſe influence proved very favourable to his miſſion. After his death, the Portugueſe Jeſuits carried on the impoſture with very conſiderable ſucceſs. Theſe miſſions, however, were ſuſpended and abandoned in conſequence of a papal mandate, iſſued out in the year 1744, by Benedict XIV. who declared his diſapprobation of the artifices that had been uſed in the converſion of the Indians. See further under the article OBSERVATORY.

BRAMPOUR, or BRAMPORE, a city of Aſia, in the dominions of the Great Mogul, and capital of Candiſh. It formerly ſtood on as much ground as London; but is now greatly decayed, and chiefly inhabited by Banians. The ſtreets are numerous, but narrow, with low thatched houſes made of earth, though a few are covered with varniſhed tiles. In rainy weather many of the ſtreets are overflowed. In the market-place is the ſtatue of an elephant in red ſtone, as big as the life. On the other ſide of the river they have built a new town, which is in a better ſituation. A great trade is carried on in this town, and throughout all the province, where there is made a prodigious quantity of cotton-cloths, as cotton is in greater plenty here than in any other place of the empire. E. Long. 77. 25. N. Lat. 21. 10.

BRAMPTON, a town of Cumberland in England, ſeated not far from the Picts wall, and on the river Irthin. It is a very ancient place, but at preſent is very ſmall. W. Long. 2. 40. N. Lat 54. 50.

BRAN, the ſkin or huſks of corn, eſpecially wheat ground, ſeparated from the flour by a ſieve or boulter. It contains, beſides, a portion of the farinaceous matter; this is leſs glutinous than the fine flour, and is ſuppoſed to have a detergent quality; infuſions of bran are not unfrequently employed in this intention externally, and ſometimes likewiſe taken inwardly.

Among the ancients, bran was uſed as an erotic, to excite love. Bran boiled, purges ſcurf, dandreff, and cleanſes the hands in lieu of ſoap. The dyers reckon it among the not-colouring drugs; and uſe it for making what they call the *ſour waters*, with which they prepare their ſeveral dyes. Bran is alſo uſed as a medicine for horſes. See FARRIERY, § 1. 6.

BRANCH, in botany, an arm of a tree, or a part which, ſprouting out from the trunk, helps to form the head or crown thereof. Branches do not ſpring out of the mere ſurface of the trunk, but are profoundly rooted therein, ſo as not only to penetrate the cortical, but alſo the woody ſubſtance, and even the pith. The conſtituent parts, therefore, of a *branch* are the ſame as of the trunk, viz. ſkin, bark, wood, and pith. See the article PLANTS.

BRANCHES of a Bridle, in the manege, are two pieces of iron bended, which, in the interval between the one and the other, bear the bit-mouth, the croſs-chains, and the curb; ſo that on one end they anſwer to the head-ſtall, and on the other to the reins, in order to keep the horſe's head in ſubjection. With regard to their form and ſtructure, branches are either ſtrait, in form of a piſtol, for young horſes to form their mouth; or after the conſtable of France's faſhion, proper for a horſe that carries his head well. Some are in form of a gigot or leg, which will prevent horſes from carrying too low; Some are in form of a bent knee, contrived for horſes that arm themſelves againſt the operation of the bit; and others after the French faſhion, which is hardly above ½ of an inch at the ſevile hole, and kneed 1 ¾ inch at the jarret or ham.

It is to be obſerved, 1. That the farther the branch is from the horſe's neck, the more effect it will have. 2. That ſhort branches, *cæteris paribus*, are ruder, and their effects more ſudden, than thoſe of longer. 3. That the branch is to be proportioned to the length of a horſe's neck; and one may ſooner err in chooſing one too ſhort than too long.

BRANCHES of Ogives, in architecture, are the arches of Gothic vaults. Theſe arches, traverſing from one angle to another diagonal-wiſe, form a croſs between the other arches, which make the ſides of the ſquare, of which the arches are diagonals.

BRANCH-Stand, with falconers, a term uſed to ſignify the making a hawk leap from tree to tree, till the dog ſprings the game.

BRANCHER, among ſportſmen, a young hawk, newly taken out of the neſt, that can hop from bough to bough.

BRANCHIÆ, or GILLS, in the anatomy of fiſhes, the parts correſponding to the lungs of land animals. All fiſhes except the cetaceous ones, and the pteromyzum, which have lungs, are furniſhed with theſe organs of reſpiration. See COMPARATIVE *Anatomy*.

BRANCHIDÆ, in Grecian antiquity, prieſts of the temple of Apollo, which was at Didymus in Ionia, a province of leſſer Aſia, towards the Ægean ſea, upon the frontiers of Caria. They opened to Xerxes the temple of Apollo, the riches whereof he took away. After which, thinking it unſafe to ſtay in Greece, they fled to Sogdiana, on the other ſide of the Caſpian ſea, upon the frontiers of Perſia, where they built a city, called by their own name: but they did not eſcape the puniſhment of their crime; for Alexander the Great having conquered Darius king of Perſia, and being informed of their treachery, put them all to the ſword, and razed their city, thus puniſhing the impiety of the fathers in their poſterity.

BRANCHIOSTEGI, in *Ichthyology*, a term uſed to expreſs one of the general claſſes of fiſhes; the characters of which are, that the rays of the fins are of a bony ſubſtance; but theſe fiſh have no bones or oſſicula at the branchiæ, as the malacopterygious and acanthopterygious fiſhes all have.

BRANCHON, a town of the Auſtrian Netherlands, in the province Namur, ſeated on the river Mehaigne. E. Long. 4. 40. N. Lat. 50. 32.

BRAND-SUNDAY, *Dimanche des Brandons*, in French eccleſiaſtical writers, denotes the firſt Sunday in Lent; which is thus called on account of an ancient practice in the Lyonnois, where the peaſants, in the night of this day, walked about their orchards, gardens, &c. with torches lighted, or fire-brands in their hands; in which plight they viſited every tree, and addreſſing themſelves to them one after another, threatened that if they did not bear fruit well the enſuing ſeaſon, they ſhould be cut down to the ground and burnt. This is evidently a relict of paganiſm; the like of which was practiſed by the ancient idolaters in the month of February; hence called *Februarius, à februando*.

BRANDEIS, a town of Bohemia, ſeated on the river Elbe. E. Long. 14. 25. N. Lat. 50. 15.

BRANDENBURG (Marquiſate of), a large country of Germany, having Mecklenburgh and Pomerania on the north; Poland, on the eaſt; Sileſia, with the Luſatias, the electorate of Saxony, Anhalt, and duchy of Magdebourg, on the ſouth; and part of the ſame duchy, and that of Lunenburg, on the weſt. Its greateſt length is near 200 miles, and its greateſt breadth near 100. Its northern ſituation makes it very cold for ſeven or eight months in winter. The ſoil in general is far from being fruitful, a great part of it conſiſting of ſand: yet there are ſeveral fruitful ſpots in it; and the whole, under the laſt and preſent reign, has been greately improved, and much better peopled. In ſome parts there is great plenty of potatoes and turnips; in others of buck-wheat, millet, and flax; in others of tobacco, woad, and other herbs for dyeing. All ſorts of colour earths, together with alum, ſaltpetre, amber, iron, ſtone, and medicinal ſprings, are found in it. Abundance of cattle, eſpecially ſheep, are bred here; and the woods not only ſupply the inhabitants with fuel, but with timber, charcoal, tar, and wood-aſhes, both for domeſtic uſes and for exportation. The culture of ſilk alſo is carried on in this country with great ſucceſs. The principal rivers by which it is watered are the Elbe, the Oder, the Prignitz, the Havel, the Warte, and the Spree. Some of the rivers and lakes abound in fiſh, and are united by canals, for the benefit of navigation. They reckon in the whole Mark 120 towns, above 2500 villages, and about 800,000 inhabitants. The ſtates here conſiſt of the nobility and towns, whoſe aſſembly-houſe is in the Spandau-ſtreet at Berlin, and who ſtill enjoy ſome ſmall remains of their ancient privileges. The hereditary offices of the marquiſate are a marſhal, chamberlain, cup-bearer, purveyor, ſewer, treaſurer, and ranger. The king of Pruſſia, who is alſo elector of Brandenburg, with his whole court, are Calviniſts; but the religion of moſt of the inhabitants is Lutheraniſm. The churches of both perſuaſions are well endowed, and the laity jointly employed by the government. The Roman-catholics are alſo tolerated here. In ſhort, every inhabitant enjoys full liberty of conſcience. A great variety of manufacturers, moſt of which were introduced by the French refugees, are carried on in the marquiſate, eſpecially at Berlin and Potſdam; where are alſo excellent painters, ſtatuaries, and engravers. By means of theſe manufactures, fabrics, and arts, not only large ſums are kept in the country, but alſo imported from other parts, to which conſiderable quantities of the manufactures, and natural productions, are exported. For the education of youth, and the advancement of learning, beſides Latin ſchools in ſeveral places, and gymnaſia, there is an univerſity at Frankfort on the Oder, and an academy of ſciences at Berlin.

The Brandenburg family is of great antiquity. Some hiſtorians ſay it was founded by the Sclavonians, who gave it the name of *Branber*, which ſignifies the "Guards of the Foreſts;" and the Germans called it *Branburgh*. Henry I. ſurnamed the Fowler, fortified this place in the year 923, to ſerve as a rampart againſt the Huns, a warlike nation, who were extremely troubleſome by their frequent incurſions. He beſtowed the government on Sifroi, Count of Ringelheim, with the title of Margrave or Marquis, which ſignifies Protector of the Marches or Frontiers, in 923. It deſcended to Geron, Margrave of Luſatia; which, in ſucceſſion of time, paſſed into the families of Staden, Aſcania, Bellenſtadt, and that of Bavaria, till the Emperor Sigiſmund, with the conſent of the ſtates of the empire in 1416, gave perpetual inveſtiture to Frederick VI. of Nurenberg; who alſo, the following year received from the Emperor, at the diet of Conſtance, the inveſtiture of the country of Brandenburg as Frederick I. having had previouſly conferred upon him the dignity of elector and arch-chamberlain of the holy Roman empire.

Brandenburg remained long in ſubjection to Poland; and the inveſtiture of Pruſſia was granted by the Poliſh kings to each ſucceeding margrave. Frederick-William, having concluded a treaty with the king of Poland, was acknowledged to be ſovereign of Ducal

Pruſſia by an aſſembly of the ſtates at Konigſberg A. D. 1663. By the treaty of Vienna the Emperor confirmed this title; and Frederick, the ſon of Frederick-William, was proclaimed king of Pruſſia, Jan. 18. 1701. He was ſucceeded by his ſon, who performed the greateſt ſervices to his country, and prepared the materials of the future grandeur of the late ſovereign, Frederick III. who began his reign on on the 31ſt of May 1740, at the age of 28. See PRUSSIA.

Among the electors he poſſeſſes the ſeventh place. As arch-chamberlain, he carries the ſceptre before the emperor at his coronation, and brings him water in a ſilver baſon to waſh with. In the college of princes of the empire, he has five voices. His aſſeſſment as elector, is 60 horſe and 277 foot, or 1828 florins in lieu of them. To the chamber of Wetzlar, his quota is 811 rix-dollars, 58 kruitzers, each term. As to the orders of the knights of the Black-Eagle, and of Merit, it is ſufficient here to obſerve, that the former was inſtituted by Frederick I. at his coronation, and the other by the preſent king. For the government of this country and the adminiſtration of juſtice, there are ſeveral ſupreme colleges and tribunals; particularly for the departments of war, foreign affairs, and the finances, there are diſtinct boards. Here is a ſupreme eccleſiaſtical council and conſiſtory for the Lutherans; a ſupreme directory of the Calviniſt church; a ſupreme medicinal college; a ſupreme mine-office; a college or board of trade, &c. Thoſe of the French nation, ſettled in this country, are allowed particular courts of their own. The amount of the yearly revenues of the Mark, ariſing from the domains, protection-money paid by the Jews, tolls, land-tax, mines, foreſts, duties on ſtamp-paper, ſalt, and variety of other impoſts and exciſes, is computed at about 2,500,000 crowns; but the money is ſaid to be much inferior in goodneſs to that of Saxony and the dominions of Hanover. During the late continental war it was extremely debaſed. Some eſtimate the whole number of the inhabitants of the royal and electoral dominions at 5,000,000, and the revenues at about 2,000,000 ſterling. Upwards of 100,000 men are kept on foot in time of peace, which are ſaid to coſt more than half of the royal revenue. Theſe troops are under ſtrict diſcipline, very expert at their exerciſe, always in readineſs to march, and always complete. Each regiment has a particular canton or diſtrict allotted it for its quarters and raiſing recruits. The infantry are clothed in blue, and the horſe and dragoons in white; and both are required to hear ſermon twice a-day, when in quarters or garriſons. In time of peace they are allowed, for ſeveral months in the year, to hire themſelves out, or to follow their buſineſs either as burghers or peaſants, in the canton where they are quartered; but they are not allowed to marry. A conſiderable part of theſe troops are ſtationed in the Mark, particularly at Berlin and Potſdam. The corps of huſſars alone amount to about 10,000 men. The Mark of Brandenburg is divided, in general, into the electoral and new Marks. The former is again ſubdivided into the old Mark, the Pregnitz, the middle Mark, and the Ucker Mark. The old Mark, which lies on the weſt ſide of the Elbe, between that river and Lunenburgh, is about 50 miles in length, and 30 in breadth.

BRANDENBURG, a city of Germany, and capital of the marquiſate of that name, ſituated on the river Havel, in E. Long. 13. N. Lat. 52. 25. It is divided into the old and new town, and was anciently the ſee of a biſhop. The mountain in the neighbourhood called Marienberg, is planted with vines. Here is a ſmall colony of French Calviniſts, with a manufacture of cloth, fuſtian, and canvas; and a pretty good trade is carried on by the Havel. The fort here looks like a ſuburb, and contains a riding ſchool, with the cathedral church. The greateſt part alſo of the members of the chapter which ſtill ſubſiſts, and is compoſed of a Lutheran provoſt, dean, ſenior, ſubſenior, and three other canons, reſide in it. They are diſtinguiſhed by a croſs of gold enamelled with violet, terminating in eight points; and have a conſiderable eſtate. Near the town is a large lake.

BRANDEUM, in eccleſiaſtical writers, a linen cloth or veil put over the tombs of the apoſtles St Peter and St Paul, and left there for ſome time; by which it is ſuppoſed to acquire a degreee of ſanctity, ſo as to be worſhipped as a relic, and for that purpoſe frequently ſent by the pope as a preſent to ſome prince. In this ſenſe, Brandeum amounts to the ſame with what was otherwiſe called *ſanctuarium*, *ſudarium*, *orarium*, and *velum*. The uſe of brandea was introduced as a means of diffuſing and propagating the virtues and influences of relics, without moving, or any way impairing the ſubſtance of them; the tranſlation of relics in early days being forbidden.

BRANDING, in the face or hand, denotes a puniſhment inflicted by law on various offences, by burning with a hot iron, after the offender hath been once admitted to benefit of clergy.

BRANDON, a town of Suffolk in England, ſeated on the little river Ouſe, over which it has a bridge, and a ferry at a mile's diſtance; whence it is divided into Brandon, and Brandon-ferry; which laſt has the moſt buſineſs, becauſe commodities are brought thither from the iſle of Ely. This place gives the Britiſh title of duke to the family of Hamilton in Scotland. E. Long. 0. 55. N. Lat. 52. 30.

BRANDRITH, denotes a trevet or other iron ſtand, whereon to ſet a veſſel over the fire.

BRANDRITH, among builders, denotes a fence or rail about the mouth of a well.

BRANDT (Gerard), a learned divine of the reformed religion, was born at Amſterdam in 1626, and was ſucceſſively miniſter in ſeveral places of the Netherlands. He wrote ſome works which are eſteemed, particularly The Hiſtory of the reformation of the Netherlands, 4 vols. 4to; and the life of admiral Ruyter; both written in the Flemiſh tongue. He died at Rotterdam in 1685.

BRANDY, a ſpirituous and inflammable liquor, extracted from wine and other liquors by diſtillation. See DISTILLATION.

Wine-brandy, made in France, is eſteemed the beſt in Europe. They make it wherever they make wine, and for that purpoſe uſe wine that is pricked rather than good wine. The chief brandies for foreign trade, and thoſe accounted beſt, are the brandies of Bourdeaux, Rochelle Cogniac, Charenton, the iſle of Rhe, Orleans, the county of Blaſois, Poictou, Touraine, Anjou Nantz, Burgundy, and Champaign.

BRANK, an inſtrument uſed in ſome parts of Scotland, and England, for correcting ſcolding women, is a ſort of head-piece, which opens and incloſes the head of the impatient, while an iron, ſharp as a chiſſel, enters the mouth, and ſubdues the more dreadful weapon within. Thus harneſſed, the offender is led in triumph through the ſtreets. Dr Plott, in his Hiſtory of Staffordſhire, has favoured the world with a minute deſcription and figure of the inſtrument†, which is there called a *ſcolding-bridle*; and tells us, he looks upon it "as much to be preferred to the ducking-ſtool, which not only endangers the health of the party, but alſo gives the tongue liberty betwixt every dip; to neither of which this is at all liable."

† P. 389. Tab. xxxii.

BRANLIN, in ichthyology, a ſpecies of ſalmon, with ſeveral tranſverſe black ſtreaks, reſembling the impreſſion of ſo many fingers.

BRANNODUNUM (Notitiæ), with a garriſon of the Equites Dalmatæ; a town of Britain, on the Sinus Metaris: now Branceſter, in Norfolk, on the Waſhes.

BRANOGENIUM, or BRANONIUM, a town of the Coritani, a people in the heart of Britain; from the diſtances of the Itinerary, Camden ſuppoſes it to be Worceſter.

BRANSKA, a town of Tranſilvania, ſituated on the river Mariſh. E. Long. 23. 15. N. Lat. 46. 0.

BRASIDAS, a celebrated general of the Lacedemonians, about 424 years before the birth of Chriſt. He defeated the Athenians by land and ſea, took many places, and rendered his country formidable to all the neighbouring ſtates. He conquered the Athenians on their attempting to ſurpriſe Amphipolis, but died of the wounds he received in that battle. *See* ATTICA and LACEDEMON.

BRASIDA, an anniverſary ſolemnity at Sparta, in memory of Braſidas, a Lacedemonian captain, famous for his atchievements at Methone, Pylos, and Amphipolis. It was celebrated with ſacrifices and games wherein none were permitted to contend but free-born Spartans. Whoever neglected to be preſent at the ſolemnity was fined.

BRASIL, a large country of South-America, being the eaſtermoſt part of that continent, lying between the equinoctial line and the tropic of Capricorn. It is about 1560 miles in length, and 1000 in breadth; but, meaſuring along the coaſt, it is 2000 miles long, and is bordered with mountains that open from time to time, and form good harbours, where veſſels may lie in ſafety. It was accidentally diſcovered by the Portugueſe in 1500. Emanuel king of Portugal had equipped a ſquadron of 13 ſail, carrying 1200 ſoldiers and ſailors deſtined for the Eaſt-Indies, under the conduct of Peter Alvarez Cabral. This Admiral quitting Liſbon on the 9th of March 1500, ſtruck out to ſea to avoid the coaſt of Guinea, and ſteered his courſe ſouthward, that he might the more eaſily turn the Cape of Good Hope, which projects a good way into the ocean. On the 24th of April he got ſight of the continent of South-America, which he judged to be a large iſland at ſome diſtance from the coaſt of Africa. Coaſting along for ſome time, he ventured to ſend a boat on ſhore; and was aſtoniſhed to obſerve the inhabitants entirely different from the Africans in features, hair, and complexion. It was found, however, impracticable to ſeize upon any of the Indians, who retired with great celerity to the mountains on the approach of the Portugueſe; yet, as the ſailors had diſcovered a good harbour, the admiral thought proper to come to an anchor, and called the bay *Puerto Seguro*. Next day he ſent another boat on ſhore, and had the good fortune to lay hold on two of the natives, whom he clothed and treated kindly, and then diſmiſſed to make a good report to their countrymen. The ſtratagem had the deſired effect. The Indians, having heard the relation of the priſoners, immediately crowded to the ſhore, ſinging, dancing, and ſounding horns of different kinds, which induced Cabral to land, and take ſolemn poſſeſſion in the name of his Portugueſe majeſty.

As ſoon as the court of Liſbon had ordered a ſurvey to be taken of the harbours, bays, rivers, and coaſts of Braſil, and was convinced that the country afforded neither gold nor ſilver, they held it in ſuch contempt, that they ſent thither none but condemned criminals and abandoned women. Two ſhips were ſent every year from Portugal, to carry the refuſe of the kingdom to this new world, and to bring home parrots and woods for the dyers and cabinet-makers. Ginger was afterwards added; but ſoon after prohibited, leſt it ſhould interfere with the ſale of the ſame article from India.

In 1548, the Jews, many of whom had taken refuge in Portugal, beginning to be perſecuted by the inquiſition, were ſtripped of their poſſeſſions, and baniſhed to Braſil. Here, however, they were not entirely forſaken. Many of them found kind relations and faithful friends; others, who were known to be men of probity and underſtanding, obtained money in advance from merchants of different nations with whom they had formerly had tranſactions. By the aſſiſtance of ſome enterpriſing men, they were enabled to cultivate ſugar canes, which they firſt procured from the iſland of Madeira. Sugar, which till then had been uſed only in medicine, became an article of luxury. Princes and great men were all eager to procure themſelves this new ſpecies of indulgence. This circumſtance proved favourable to Braſil, and enabled it to extend its ſugar plantations. The court of Liſbon, notwithſtanding its prejudices, began to be ſenſible, that a colony might be beneficial to the mother country, without producing gold or ſilver; and this ſettlement, which had been wholly left to the capricious management of the coloniſts, was now thought to deſerve ſome kind of attention; and accordingly Thomas de Souza was ſent thither in 1549, to regulate and ſuperintend it.

This able governor began by reducing theſe men, who had always lived in a ſtate of anarchy, into proper ſubordination, and bringing their ſcattered plantations cloſer together; after which he applied himſelf to acquire ſome information reſpecting the natives, with whom he knew he muſt be inceſſantly engaged either in traffic or war. This it was no eaſy matter to accompliſh. Braſil was full of ſmall nations, ſome of which inhabited the foreſts, and others lived in the plains and along the rivers. Some had ſettled habitations; but the greater number of them led a roving life, and moſt of them had no intercourſe with each other. It is not to be ſuppoſed that ſuch a people would be at all diſpoſed to ſubmit to the yoke which the Portugueſe wanted to put upon them on their arrival. At firſt they only declined all intercourſe with theſe ſtrangers; but finding themſelves purſued in order to be made ſlaves, and to be employed in the labours of the field, they took the reſolution to murder and devour all the Europeans they could ſeize upon. The friends and relations of the ſavages that were taken priſoners, alſo ventured to make frequent attempts to reſcue them, and were ſometimes ſucceſsful: ſo that the Portugueſe were forced to attend to the double employments of labour and war.

Souza did not bring a ſufficient number of forces to change the ſituation of affairs. Indeed, by building San Salvador, he gave a centre to the colony; but the honour of ſettling, extending, and making it really uſeful to the mother country, was reſerved for the Jeſuits who attended him. Theſe men, who for their arts of inſinuation and addreſs have been equalled by none, diſperſed themſelves among the Indians. When any of the miſſionaries were murdered, they were immediately replaced by others; and ſeeming to be inſpired only with ſentiments of peace and charity, the Indians, in proceſs of time, grew not only familiar but paſſionately fond of them. As the miſſionaries were too few in number to tranſact all the buſineſs themſelves, they frequently deputed ſome of the moſt intelligent Indians in their ſtead. Theſe men having diſtributed hatchets, knives, and looking-glaſſes, among the ſavages they met with, repreſented the Portugueſe as a harmleſs, humane, and good ſort of people.

The proſperity of the colony of Braſil, which was viſible to all Europe, excited the envy of the French, Spaniards, and Dutch ſucceſſively. The latter, indeed, bid faireſt for the conqueſt of the whole. Their admiral Henry Lonk arrived, in the beginning of the year 1630, with 46 men of war, on the coaſt of Fernambucca, one of the largeſt and beſt fortified captainſhips of theſe parts. He reduced it after ſeveral obſtinate engagements, in which he was always victorious. The troops he left behind ſubdued the captainſhips of Temaraca, Pareiba, and Rio Grande, in the years 1633, 1634, and 1635. Theſe, as well as Fernambucca, furniſhed annually a large quantity of ſugar, a great deal of wood for dyeing, and other commodities. The Hollanders were ſo elated with the acquiſition of this wealth, which flowed to Amſterdam inſtead of Liſbon, that they determined to conquer all the Braſils, and entruſted Maurice of Naſſau with the conduct of this enterprize. That general reached the place of his deſtination in the beginning of the year 1637. He found the ſoldiers ſo well diſciplined, the commanders ſuch experienced men, and ſo much readineſs in all to engage, that he directly took the field. He was ſucceſſively oppoſed by Albuquerque, Banjola, Lewis Rocca de Borgia, and the Braſilian Cameron, the idol of his people, paſſionately fond of the Portugueſe, brave, active, cunning, and who wanted no qualification neceſſary for a general, but to have learned the art of war under able commanders. Theſe ſeveral chiefs exerted their utmoſt efforts to defend the poſſeſſions that were under their protection; but their endeavours proved ineffectual. The Dutch ſeized upon the captainſhips of Siara, Seregippe, and the greater part of that of Bahia. Seven of the 15 provinces which compoſed the colony had already ſubmitted to them, and they flattered themſelves that one or two campaigns would make them maſters of the reſt of their enemies poſſeſſions in that part of America; when they were ſuddenly checked by the revolution happening on the baniſhment of Philip IV. and placing the Duke of Braganza on the throne. After this, the Portugueſe recovering their ſpirits, ſoon drove the Dutch out of Braſil, and have continued maſters of it ever ſince.

The country of Braſil is divided into the following provinces, viz. Paria, Maragnano, Siaro, Rio Grande, Pareiba, Tamarica, Fernambucca, Seregippe, Bahia, Porto Seguro, Eſperito Santo, Rio de Janeiro, Angra, St Vincent, and Del Rey. See theſe articles.

The firſt aſpect of the country from the ſea is rather unfavourable, as it appears high, rough, and unequal; but, on a more narrow inſpection, nothing can be more delightful, the eminences being covered with woods, and the valleys and ſavannahs with the moſt refreſhing verdure. In ſo vaſt a tract of land, it cannot be imagined that the climate will be found at all equal, or the ſeaſons uniform. The northern provinces are ſubject to heavy rains and variable winds, like other countries under the ſame parallels. Tornadoes, ſtorms, and the utmoſt fury of the elements, wreak their vengeance here; while the ſoutherly regions are bleſſed with all the comforts which a fine fertile ſoil and temperate climate can afford. In ſome of the provinces, the heat of the climate is thought to prove favourable to the generation of a great variety of poiſonous reptiles; ſome of which, as the *liboya*, or *roebuck* ſnake, are ſaid to extend to the length of 30 feet, and to be two or three yards in circumference. The rattleſnake, and other reptiles of the ſame kind, grow likewiſe to an enormous ſize; and the ſerpent called *ibibaboka* is affirmed to be ſeven yards long, and half a yard in circumference, poſſeſſed too of a poiſon inſtantaneouſly fatal to the human race. Here alſo are ſcorpions, ant-bears, tygers armadilloes, porcupines, janonveras, and an animal called *tapiraſſon*, which is the production of a bull and an aſs, having a great reſemblance to both. No country on earth affords a greater number of beautiful birds, nor variety of the moſt exquiſite fruits; but the chief commodities are Braſil wood, ebony, dyeing woods, ambergriſs, roſin, balſams, indigo, ſweetmeats, ſugar, tobacco, gold, diamonds, beautiful pebbles, cryſtal, emeralds, jaſper, and other precious ſtones; in all which the Portugueſe carry on ſuch an amazing trade, as may juſtly be reputed the ſupport, and indeed the vital fountain, of the mother country. The gold and diamond mines are but a recent diſcovery: they were firſt opened in the year 1681; and have ſince yielded above five millions Sterling annually, of which ſum a fifth belongs to the crown. So plentiful are diamonds in this country, that the court of Portugal hath found it neceſſary to reſtrain their importation, to prevent too great a diminution of their value. They are neither ſo hard nor ſo clear as thoſe of the Eaſt-Indies, nor do they ſparkle ſo much, but they are whiter. The Braſilian diamonds are ſold ten per cent. cheaper than the Oriental ones, ſuppoſing the weights to be equal. The largeſt diamond in the world was ſent from Braſil to the king of Portugal. It weighs 1680 carats, or 12¼ ounces; and has been valued at L. 56,787,500. Some ſkilful lapidaries, however, are of opinion that this ſuppoſed diamond is only a topaz; in which caſe a very great abatement muſt be made in its value. The crown-revenue ariſing from this colony amounts to two millions Sterling in gold, if we may credit ſome late writers, beſides the duties and cuſtoms on merchandiſe imported from that quarter. This indeed is more than a fifth of the precious metal produced by the mines; but, every other conſequent advantage conſidered, it probably does not much exceed the truth. The exceſſive confluence of people to the Braſil colonies, as well from other countries as from Portugal, not only enlarges the imports of gold, but, what is of infinitely more importance to Europe in general, the exportation of the manufactures of that hemiſphere; of which the principal are the following. Great Britain ſends woollen manufactures; ſuch as fine broad medley cloths, fine Spaniſh cloths, ſcarlet and black cloths; ſerges, duroys, druggets, ſagathies, ſhalloons, camblets, and Norwich ſtuffs; black Colcheſter bays; ſays, and perpetuanas called *long ells*; hats, ſtockings, and gloves. Holland, Germany, and France, chiefly export fine hollands, bone-lace, and fine thread: ſilk manufactures, pepper, lead, block-tin, and other articles, are alſo ſent from different countries. Beſides the particulars already ſpecified, England likewiſe trades with Portugal, for the uſe of the Braſils, in copper and braſs, wrought and unwrought pewter, and all kinds of hardware: all which articles have ſo enlarged the Portugueſe trade, that, inſtead of 12 ſhips uſually employed in the Braſil commerce, there are now never fewer than 100 ſail of large veſſels conſtantly going and returning to thoſe colonies. To all this may be added the vaſt ſlave-trade carried on with the coaſt of Africa for the uſe of the Braſil colonies; which, we may believe, employs a great number of ſhipping, from the multitude of ſlaves that are annually tranſported. Indeed the commerce of Braſil alone is ſufficient to raiſe Portugal to a conſiderable height of naval power, as it maintains a conſtant nurſery of ſeamen: yet a certain infatuation in the policy of the country has prevented that effect even amidſt all theſe extraordinary advantages. All the ſhips in this trade, being under the direction of the government, have their appointed ſeaſons of going and returning, under convoy of a certain number of men of war: nor can a ſingle ſhip clear out or go, except with the fleet, but by a ſpecial licence from the king, which is ſeldom granted; though it is eaſily determined, that ſuch reſtrictions can prove no way beneficial to the general commerce, though poſſibly the crown-revenue may be better guarded thereby. The fleets ſail in the following order, and at the following ſtated periods: That to Rio de Janeiro ſets ſail in January: the fleet to Baiha, or the bay of All Saints, in February; and the third fleet, to Fernambucca, in the month of March.

Braſil-Wood, or *Brazil-wood*, an American wood of a red colour, and very heavy. It is denominated variouſly, according to the places from whence it is brought: Thus we have braſil of Fernambucca, Japan, Lamon, &c. For its deſcription, &c. ſee Cæsalpina.

BRASILETTO, the ſame with Braſil-wood.

BRASLAW, a conſiderable town in Poland, in Lithuania, and palatinate of Wilna, with a caſtle. It is ſeated on a ſmall lake, in E. Long. 17. 5. N. Lat. 55. 45.

BRASS, or, as the French call it, *yellow copper*, is a factitious metal, made of copper and zinc, or lapis calaminaris. See *Chemistry-Index*.

The firſt formation of braſs as we are aſſured by ſcripture, was prior to the flood, and diſcovered even in the ſeventh generation from Adam†. But the uſe of it was not, as is generally believed, and the Arundelian marbles aſſert, previous to the knowledge of iron. They were both firſt known in the ſame generation, and firſt wrought by the ſame diſcoverer. And the knowledge of them muſt have been equally carried over the world afterwards, with the ſpreading of the colonies of the Noachidæ. An acquaintance with the one or the other was abſolutely neceſſary to the exiſtence of the coloniſts; the clearing away of the woods about their ſettlements, and the erection of houſes for their habitation.

The ancient Britons, though acquainted from the remoteſt periods with the uſe of both theſe metals, remained long ignorant that they were to be obtained in the iſland. Before this diſcovery they imported all their iron and braſs from the continent. And when they had at length detected the former in their own hills, and had ceaſed to introduce it, they continued to receive the latter. Their want of the metal remained, and no mines of it were opened in the iſland. In the earlieſt ages, whoſe manners have been delineated by hiſtory, we find the weapons of their warriors invariably framed of this factitious metal; and the moſt authentic of all the profane records of antiquity, the Arundelian marbles, for that reaſon, miſtakenly date the firſt diſcovery of iron a couple of centuries below the Trojan war. Every military nation, as ſuch, is naturally ſtudious of brightneſs in its arms; and the Britons, particularly, gloried in the neatneſs of theirs. For this reaſon the nations of the world ſtill fabricated their arms of braſs, even long after the Arundelian æra for the diſcovery of iron; and the Britons continued to import it from the continent, though they had found iron to be a native of the country, and could have ſupplied themſelves with a ſufficient quantity of it.

Mr Whitaker†, ſuppoſes, that when the Britons derived their iron and braſs from the continent, they purchaſed the latter at an eaſier expence than the former. The Gauls had many large braſs works carried on in the kingdom, but ſeem to have had few iron forges within it. And this would naturally induce the Belgæ to be leſs diligent in their enquiry after the veins of copper and calamine at home, than for the courſes of iron ore; though the one was equally diſcoverable in the iſland as the other, and lay equally within the Belgic regions of it. Braſs being thus cheaper than iron, they neceſſarily formed with it ſome domeſtic as well as military implements. Such were common among the Gauls; and ſuch were familiar to the Britons, either imported into the iſland, as ſome actually were, or manufactured within it, as others alſo aſſuredly were. The Britons had certainly braſs founderies erected among them, and minted money, and fabricated weapons of braſs.

In this condition of the works, the Romans entered the iſland. And ſeeing ſo great a demand among the natives for this article, they would ſpeedily inſtruct them to diſcover the materials of it among themſelves. This muſt unavoidably have reſulted from the conqueſt of the Romans. The power of ſurpriſing their new ſubjects with ſo unexpected a diſcovery would naturally ſtimulate the pride of the Roman intellect; and the deſire of obliging themſelves with ſo cheap a ſupply of that uſeful metal, ſtationary as they were in that kingdom, would alſo equally actuate the ſelfiſhneſs of the

† Gen. iv.

† *Hiſt. of Mancheſter.*

the Roman heart. The veins of copper and calamine would be eaſily found out by an experienced inquirer after them; and the former metal is therefore diſtinguiſhed among the Welſh, only by the Roman appellation of *cyprium, koppr*, or copper. And many founderies of braſs appear to have been eſtabliſhed in the iſland. Some had been erected before, one perhaps within the confines of every kingdom, and probably in the vicinity of every capital. One at leaſt would be neceſſary, in order to ſupply the armoury of the principality: and one perhaps was ſufficient for moſt of the Britiſh ſtates. But ſeveral appear now to have been ſettled in every kingdom, and one perhaps near every ſtationary town. Two have been diſcovered in the ſingle county of Eſſex, and within a narrow portion of it at Fifield and Danbury. And a third was placed upon Eaſterly Moor in Yorkſhire, 12 miles to the north-weſt of York, and in the neighbourhood of Iſurium or Aldborough.

Corinthian Brass, famous in antiquity, is a mixture of gold, ſilver, and copper. L. Mummius having ſacked and burnt the city of Corinth, 146 years before Chriſt, it is ſaid this metal was formed from the immenſe quantities of gold, ſilver, and copper, wherewith that city abounded, thus melted and run together by the violence of the conflagration.

BRASS, in the glaſs trade.—Thrice-calcined braſs is a preparation which ſerves the glaſſmen to give many very beautiful colours to their metal. The manner of preparing it is this: Place thin plates of braſs on tiles on the leet of the furnace near the occhis; let it ſtand to be calcined there for four days, and it will become a black powder ſticking together in lumps. Powder this, ſift it fine, and recalcine it four or five days more; it will not then ſtick together, but remains a looſe powder, of a ruſſet colour. This is to be calcined a third time in the ſame manner; but great care muſt be taken in the third calcination, that it be not overdone nor underdone; the way to be certain when it is right is, to try it ſeveral times in glaſs while melting. If it makes it, when well purified, to ſwell, boil, and riſe, it is properly calcined; if not, it requires longer time. This makes, according to the different proportions in which it is uſed, a ſea-green, an emerald-green, or a turcoiſe colour.

Braſs, by long calcination alone, and without any mixture, affords a fine blue or green colour for glaſs; but they have a method of calcining it alſo with powdered brimſtone, ſo as to make it afford a red, a yellow, or a chalcedony colour, according to the quantity and other variations in the uſing it. The method of making the calcination is this; Cut thin plates of braſs into ſmall pieces with ſheers, and lay them ſtratum ſuper ſtratum, with alternate beds of powdered ſulphur, in a crucible; calcine this for 24 hours in a ſtrong fire: then powder and ſift the whole: and finally, expoſe this powder upon tiles for 12 days to a reverberating furnace; at the end of this time, powder it fine, and keep it for uſe. The glaſs-makers have alſo a method of procuring a red powder from braſs, by a more ſimple calcination, which ſerves them for many colours. The method of preparing it is this: They put ſmall and thin plates of braſs into the arches of the glaſs furnaces, and leave them there till they are ſufficiently calcined, which the heat in that place, not being enough to melt them, does in great perfection. The calcined matter powdered, is of a duſky red, and requires no farther preparation.

Brass-Colour, one prepared by the braziers and colour-men to imitate braſs. There are two ſorts of it; the red braſs or bronze, and the yellow or gilt braſs: the latter is made only of copper-filings, the ſmalleſt and brighteſt that can be found; with the former they mix ſome red ochre, finely pulverized; they are both uſed with varniſh.—In order to make a fine braſs that will not take any ruſt or verdigris, it muſt be dried with a chafing-diſh of coals as ſoon as it is applied.—The fineſt braſs-colour is made with powder braſs imported from Germany, diluted into a varniſh, made and uſed after the following manner: The varniſh is compoſed of one pound four ounces of ſpirit of wine, two ounces of gum-lac, and two ounces of ſandarac; theſe two laſt drugs are pulverized ſeparately, and afterwards put to diſſolve in ſpirit of wine, taking care to fill the bottle but half full. The varniſh being made, you mix ſuch quantity as you pleaſe of it with the pulverized braſs, and apply it with a ſmall bruſh to what you would braſs over. But you muſt not mix too much at once, becauſe the varniſh being very apt to dry, you would not have time to employ it all ſoon enough; it is therefore better to make the mixture at ſeveral times. After this manner they braſs over figures of plaſter, which look as well as if they were of caſt braſs.

Brass-Leaf is made of copper, beaten out into very thin plates, and afterwards rendered yellow. The German artiſts, particularly thoſe of Nuremberg and Augſburg, are ſaid to poſſeſs the beſt method of giving to theſe thin plates of copper a fine yellow colour like gold, by ſimply expoſing them to the fumes of zinc, without any real mixture of it with the metal. Theſe plates are cut into little pieces, and then beaten out fine like leaves of gold; after which they are put into books of coarſe paper, and ſold at a low price for the vulgar kinds of gilding. The parings or ſhreds of theſe very thin yellow leaves being well ground on a marble plate, are reduced to a powder ſimilar to gold; which ſerves to cover, by means of gum-water or ſome other glutinous fluid, the ſurface of various mouldings or pieces of curious workmanſhip, giving them the appearance of real bronze, and even of fine gold, at a very trifling expence, becauſe the gold colour of this metallic powder may be eaſily raiſed and improved by ſtirring it on a wide earthen baſon over a ſlow fire.

Brass-Lumps, a common name given by miners to the globular pyrites. See PYRITES.

BRASSAW, or CRONSTADT, a ſtrong town of Tranſilvania in Burezland; ſeated on the river Buxel, in E. Long. 22. 35. N. Lat. 46. 30.

BRASSE, in ichthyology, a ſpecies of PERCA.

BRASSICA, CABBAGE: A genus of the ſiliquoſa order, belonging to the tetradynamia claſs of plants; and in the natural method ranking under the 39th order, *Siliquoſæ*. The calyx is erect, and converging; the ſeeds are globular; the gland between the ſhorter ſtamina and the piſtillum, and between the longer ones and the calyx. There are 12 ſpecies. 1. The orientalis, with heart-ſhaped ſmooth leaves embracing the ſtem, and four-cornered capſules. 2. The campeſtris, with a ſlender root and ſtem, the leaves being uniform, heart-ſhaped, and ſeſſile. 3. The arvenſis, with ſcolloped leaves embracing the ſtem; the higheſt heart-ſhaped, and moſt entire. 4. The alpina, with the radical leaves egg-ſhaped, and erect petals. 5. The napus, with the root-ſtem ſpindle ſhaped. 6. The raſſa, with the radical ſtem growing orbicular, depreſſed, and fleſhy. 7. The oleracea, with the radical ſtem growing columnar and fleſhy. 8. The chinenſis, with very entire oval leaves; the floral leaves lanceolated and embracing the ſtem; the calyxes longer than the claw of the petals. 9. The violacea, with lanceolated, egg-ſhaped, ſmooth, undivided, and dentated.

In theſe ſpecies the ſtyle is obtuſe; in the following enſiform. 10. The erucaſtrum, with runcinate leaves, a hiſpid ſtem, and poliſhed capſules. 11. The eruca, with lyrated leaves, ſhaggy ſtem, and ſmooth capſules. 12. The veſicaria, with runcinate leaves, and hiſpid capſules covered with a tumid calyx.

Culture, &c. The ſecond ſort never varies. It grows naturally on the ſea-ſhore near Dover in England. It hath a perennial branching ſtalk, in which it differs from all the other ſpecies. In very ſevere winters, when the other ſorts are deſtroyed, that is a neceſſary plant, for the moſt ſevere froſts do not injure it. The flower-ſtalks grow from the end of the branches, and ſpread out horizontally; but thoſe which ariſe from the centre of the plants grow erect, and ſeldom put out branches. The cauliflower has been much more improved in Britain than in any other part of Europe. In France they rarely have cauliflowers till Michaelmas, and Holland is generally ſupplied with them from Britain. In many parts of Germany there were none of them cultivated till within a few years paſt, and moſt parts of Europe are ſupplied with ſeeds from Britain. The eighth ſort, which is generally known by the title of *rape* or *cold ſeed*, is much cultivated in the iſle of Ely, and ſome other parts of England, for its ſeed, from which rape-oil is drawn; and it hath alſo been cultivated of late years, in other places, for feeding of cattle, to great advantage. The cole ſeed, when cultivated for feeding of cattle, ſhould be ſown about the middle of June. The ground for this ſhould be prepared for it in the ſame manner as for turnips. The quantity of ſeeds for an acre of land is from ſix to eight pounds; and as the price of the ſeed is not great, ſo it is better to allow eight pounds; for if the plants are too cloſe in any part, they may be eaſily thinned when the ground is hoed, which muſt be performed in the ſame manner as is practiſed for turnips, with this difference only, of leaving thoſe much nearer together; for as they have fibrous roots and ſlender ſtalks, ſo they do not require near ſo much room. Theſe plants ſhould have a ſecond hoeing about five or ſix weeks after the firſt, which, if well performed in dry weather, will entirely deſtroy the weeds, ſo they will require no farther culture. Where there is not an immediate want of food, theſe plants had better be kept as a reſerve for hard weather, or ſpring ſeed, when there may be a ſcarcity of other green food. If the heads are cut off, and the ſtalks left in the ground, they will ſhoot again early in the ſpring, and produce a good ſecond crop in April; which may be either fed off, or permitted to run to ſeeds, as is the practice where this is cultivated for the ſeeds: but if the firſt is fed down, there ſhould be care taken that the cattle do not deſtroy their ſtems, or pull them out of the ground. As this plant is ſo hardy as not to be deſtroyed by froſt, ſo it is of great ſervice in hard winters for feeding of ewes; for when the ground is ſo hard frozen as that turnips cannot be taken up, theſe plants may be cut off for a conſtant ſupply. This will afford late food after the turnips are run to ſeed; and if it is afterwards permitted to ſtand for ſeed, one acre will produce as much as, at a moderate computation, will ſell for five pounds, clear of charges. Partridges, pheaſants, turkeys, and moſt other fowl, are very fond of this plant; ſo that wherever it is cultivated, if there are any birds in the neighbourhood, they will conſtantly lie among theſe plants. The ſeeds of this plant are ſown in gardens for winter and ſpring ſallads, this being one of the ſmall ſallad herbs.

The common white, red, flat, and long-ſided cabbages are chiefly cultivated for autumn and winter uſe; the ſeeds of theſe ſorts muſt be ſown the beginning or middle of April, in beds of good freſh earth; and when the young plants have about eight leaves, they ſhould be pricked out into ſhady borders, about three or four inches ſquare, that they may acquire ſtrength, and to prevent their growing long ſhanked. About the middle of June you muſt tranſplant them out, where they are to remain. If they are planted for a full crop in a clear ſpot of ground, the diſtance from row to row ſhould be three feet and a half, and in the rows two feet and a half aſunder: if the ſeaſon ſhould prove dry when they are tranſplanted out, you muſt water them every other evening until they have taken freſh root; and afterwards, as the plants advance in height, you ſhould draw the earth about their ſtems with a hoe, which will keep the earth moiſt about their roots, and greatly ſtrengthen the plants. Theſe cabbages will ſome of them be fit for uſe ſoon after Michaelmas, and will continue until the end of February, if they are not deſtroyed by bad weather; to prevent which, the gardeners near London pull up their cabbages in November, and trench their ground up in ridges, laying their cabbages againſt their ridges as cloſe as poſſible on one ſide, burying their ſtems in the ground: in this manner they let them remain till after Chriſtmas, when they cut them for the market; and although the outer part of the cabbage be decayed (as is often the caſe in very wet or hard winters), yet, if the cabbages were large and hard when laid, the inſide will remain ſound.

The Ruſſian cabbage was formerly in much greater eſteem than at preſent, it being now only to be found in particular gentlemens gardens, who cultivate it for their own uſe. This muſt be ſown late in the ſpring of the year, and managed as thoſe before directed, with this difference only, that theſe muſt be ſooner planted out, and muſt have an open clear ſpot of ground, and require much leſs diſtance every way, for it is but a very ſmall hard cabbage. This ſort will not continue long before they will break and run up to ſeed.

The early and ſugar-loaf cabbages are commonly ſown for ſummer uſe, and are what the gardeners about London commonly call *Michaelmas cabbages*. The ſeaſon for ſowing of theſe is about the end of July, or beginning of Auguſt, in an open ſpot of ground; and when the plants have got eight leaves, you muſt prick them into beds at about three or four inches diſtance every way, that the plants may grow ſtrong and ſhort ſhanked; and toward the end of October you ſhould plant them out: the diſtance that theſe require is, three feet row from row, and two feet and a half aſunder in the rows. The ground muſt be kept clean from weeds, and the earth drawn up about your cabbage plants. In May, if your plants were of the early kind, they will turn in their leaves for cabbaging; at which time, the gardeners near London, in order to obtain them a little ſooner, tie in their leaves cloſe with a ſlender oſier-twig to blanch their middle; by which means, they have them at leaſt a fortnight ſooner than they could have if they were left untied.

The early cabbage being the firſt, we ſhould chooſe to plant the fewer of them, and a greater quantity of the ſugar-loaf kind, which comes after them; for the early kind will not ſupply the kitchen long, generally cabbaging apace when they begin, and as ſoon grow hard and burſt open; but the ſugar-loaf kind is longer before it comes, and is as ſlow in its cabbaging; and being of an hollow kind, will continue for a good long time. The ſugar-loaf kind may be planted out in February, and will ſucceed as well as if planted earlier; with this difference only, that they will be later before they cabbage. You ſhould alſo reſerve ſome plants of the early kind in ſome well-ſheltered ſpot of ground, to ſupply your plantation, in caſe of a defect; for in mild winters many of the plants are apt to run to ſeed, eſpecially when their ſeeds are ſown too early, and in ſevere winters they are often deſtroyed.

The Savoy cabbages are propagated for winter uſe, as being generally eſteemed the better when pinched by the froſt: theſe muſt be ſown about the end of April, and treated after the manner as was directed for the common white cabbage; with this difference, that theſe may be planted at a cloſer diſtance than thoſe; two feet and a half ſquare will be ſufficient. Theſe are always much better when planted in an open ſituation, which is clear from trees and hedges; for in cloſe places they are very ſubject to be eaten almoſt up by caterpillars and other vermin, eſpecially if the autumn prove dry.

The broccoli may alſo be treated in the ſame manner, but need not be planted above one foot aſunder in the rows, and the rows two feet diſtance; theſe are never eaten till the froſt hath rendered them tender; for otherwiſe they are tough and bitter.

The ſeeds of the broccoli (of which there are ſeveral kinds, viz. the Roman or purple, the Neapolitan or white, and the black broccoli, with ſome others, but the Roman is preferred to them all), ſhould be ſown about the latter end of May, or beginning of June, and when the plants are grown to have eight leaves, tranſplant them into beds, (as was directed for the common cabbage): and toward the latter end of July they will be fit to plant out, which ſhould be done into ſome well-ſheltered ſpot of ground, but not under the drip of trees: the diſtance theſe require is about a foot and a half in the rows, and two feet row from row. The ſoil in which they ſhould be planted ought to be rather light than heavy: if your plants ſucceed well (as there will be little reaſon to doubt, unleſs the winter prove extremely hard), they will begin to ſhow their ſmall heads, which are ſomewhat like a cauliflower, but of a purple colour, about the end of December, and will continue eatable till the middle of April. The brown or black broccoli is by many perſons greatly eſteemed, though it doth not deſerve a place in the kitchen garden where the Roman broccoli can be obtained, which is much ſweeter, and will continue longer in ſeaſon: indeed, the brown ſort is much hardier, ſo that it will thrive in the coldeſt ſituations, where the Roman broccoli is ſometimes deſtroyed in very hard winters. The brown ſort ſhould be ſown in the middle of May, and managed as hath been directed for the common cabbage, and ſhould be planted at the ſame diſtance, which is about two feet and a half aſunder. This will grow very tall, ſo ſhould have the earth drawn up to their ſtems as they advance in height. This doth not form heads ſo perfect as the Roman broccoli; the ſtems and hearts of the plants are the parts which are eaten. The Roman broccoli (if well managed) will have large heads, which appear in the centre of the plants like cluſters of buds. Theſe head ſhould be cut before they run up to ſeed, with about four or five inches of the ſtem; the ſkin of theſe ſtems ſhould be ſtripped off before they are boiled. After the firſt heads are cut off, there will be a great number of ſide-ſhoots produced from the ſtems, which will have ſmall heads to them, but are full as well flavoured as the large. The Naples broccoli hath white heads very like thoſe of the cauliflower, and eats ſo like it as not to be diſtinguiſhed from it.—Beſides this firſt crop of broccoli (which is uſually ſown in the end of May), it will be proper to ſow another crop the beginning of July, which will come in to ſupply the table the latter end of March and the beginning of April; and being very young, will be extremely tender and ſweet.

In order to ſave good ſeeds of this kind of broccoli, you ſhould reſerve a few of the largeſt heads of the firſt crop, which ſhould be let remain to run up to ſeed, and all the under ſhoots ſhould be conſtantly ſtripped off, leaving only the main ſtem to flower and ſeed. If this be duly obſerved, and no other ſort of cabbage permitted to ſeed near them, the ſeeds will be as good as thoſe procured from abroad, and the ſort may be preſerved in perfection many years.

The turnip-rooted cabbage was formerly more cultivated in Britain than at preſent; for ſince other ſorts have been introduced which are much better flavoured, this ſort has been neglected. There are ſome perſons who eſteem this kind for ſoups, but it is too ſtrong for moſt palates; and is ſeldom good but in hard winters, which will render it tender and leſs ſtrong. At the end of June the plants ſhould be tranſplanted out where they are to remain, allowing them two feet diſtance every way, obſerving to water them until they have taken root; and as their ſtems advance, the earth ſhould be drawn up to them with a hoe, which will preſerve a moiſture about their roots, and prevent their ſtems from drying and growing woody, ſo that the plants will grow more freely; but it ſhould not be drawn very high, for as it is the globular part of the ſtalk which is eaten, ſo that ſhould not be covered. In winter they will be fit for uſe, when they ſhould be cut off, and the ſtalks pulled out of the ground and thrown away, being good for nothing after the ſtems are cut off. As food for cattle, however, the cultivation of this ſpecies deſerves particular attention. See AGRICULTURE, n° 170.

The curled colewort or Siberian broccoli is now more generally eſteemed than the former, being extremely hardy, ſo is never injured by cold, but is always ſweeter in ſevere winters than in mild ſeaſons. This may be propagated by ſowing of the ſeeds the beginning of July; and when the plants are ſtrong enough for tranſplanting, they ſhould be planted in rows about a foot and a half aſunder, and ten inches diſtance in the rows. Theſe will be fit for uſe after Chriſtmas, and continue good until April, ſo that they are very uſeful in a family.

The muſk cabbage. This may be propagated in the ſame manner as the common cabbage, and ſhould be allowed the ſame diſtance: it will be fit for uſe in October, November, and December; but, if the winter proves hard, theſe will be deſtroyed much ſooner than the common ſort.

The common colewort or Dorſetſhire kale, is now almoſt loſt near London, where their markets are uſually ſupplied with cabbage plants inſtead of them. The beſt method to cultivate this plant in the fields is, to ſow the ſeeds about the beginning of July, chooſing a moiſt ſeaſon, which will bring up the plants in about ten days or a fortnight; the quantity of ſeed for an acre of land is nine pounds: when the plants have got five or ſix leaves they ſhould be hoed, as is practiſed for turnips, cutting down all the weeds from amongſt the plants, and alſo thinning the plants where they are too thick; but they ſhould be kept thicker than turnips, becauſe they are more in danger of being deſtroyed by the fly: this work ſhould be performed in dry weather, that the weeds may be killed. About ſix weeks after the plants ſhould have a ſecond hoeing, which, if carefully performed in dry weather, will entirely deſtroy the weeds, and make the ground clean, ſo that they will require no farther culture: in the ſpring they may be either drawn up and carried out to feed the cattle, or they may be turned in to feed upon them as they ſtand; but the former method is to be preferred, becauſe there will be little waſte; whereas, when the cattle are turned in amongſt the plants, they will tread down and deſtroy more than they eat, eſpecially if they are not fenced off by hurdles.

The two laſt ſorts of cabbages are varieties fit for a botanic garden, but are plants of no uſe. They are annual plants, and periſh when they have perfected their ſeeds.

The beſt method to ſave the ſeeds of all the ſorts of cabbages is, about the end of November you ſhould make choice of ſome of your beſt cabbages, which you ſhould pull up, and carry to ſome ſhed or other covered place, where you ſhould hang them up for three or four days by their ſtalks, that the water may drain from between their leaves; then plant them in ſome border near a hedge or pale, quite down to the middle of the cabbage, leaving only the upper part of the cabbage above ground, obſerving to raiſe the earth above it, ſo that it may ſtand a little above the level of the ground; eſpecially if the ground is wet, they will require to be raiſed pretty much above the ſurface. If the winter ſhould prove very hard, you muſt lay a little ſtraw or peaſe-haulm lightly upon them, to ſecure them from the froſt, taking it off as often as the weather proves mild, leſt by keeping them too cloſe they ſhould rot. In the ſpring of the year theſe cabbages will ſhoot out ſtrongly, and divide into a great number of ſmall branches: you muſt therefore ſupport their ſtems, to prevent their being broken off by the wind; and if the weather ſhould be very hot and dry when they are in flower, you ſhould refreſh them with water once a week all over the branches, which will greatly promote their ſeeding, and preſerve them from mildew. When the pods begin to change brown, you will do well to cut off the extreme part of every ſhoot with the pods, which will ſtrengthen your ſeeds; for it is generally obſerved, that thoſe ſeeds which grow near the top of the ſhoots, are very ſubject to run to ſeed before they cabbage; ſo that by this there will be no loſs, but a great advantage. When your ſeeds begin to ripen, you muſt be particularly careful that the birds do not deſtroy it, for they are very fond of theſe ſeeds. The beſt method to prevent this, is to get a quantity of birdlime, and dawb over a parcel of ſlender twigs, which ſhould be faſtened at each end to ſtronger ſticks, and placed near the upper part of the ſeed in different places, ſo that the birds may alight upon them, by which means they will be faſtened thereto; where you muſt let them remain, if they cannot get off themſelves: and although there ſhould not above two or three birds be caught, yet it will ſufficiently terrify the reſt, that they will not come to that place again for a conſiderable time after.

When your ſeed is fully ripe, you muſt cut it off; and after drying, threſh it out, and preſerve it in bags for uſe.

But in planting of cabbages for ſeed, it will be proper never to plant more than one ſort in a place, or near one another: for example, never plant red and white cabbages near each other, nor Savoy with white or red cabbages; for they will, by the commixture of their effluvia, produce a mixture of kinds: and it is ſaid to be owing to this neglect, that the gardeners rarely ſave any good red cabbage ſeed in Britain, but are obliged to procure freſh ſeeds from abroad; as ſuppoſing the ſoil or climate of Britain alters them from red to white, and of a mixed kind betwixt both; whereas, if they ſhould plant red cabbages by themſelves for ſeeds, and not ſuffer any other to be near them, they might continue the kind as good in Britain as in any other part of the world.

Cauliflowers have of late years been ſo far improved in Britain, as to exceed in goodneſs and magnitude what are produced in moſt parts of Europe, and by the ſkill of the gardener are continued for ſeveral months together; but the moſt common ſeaſon for the great crop is in May, June, and July. Having procured a parcel of good ſeed, you muſt ſow it about the 21ſt of Auguſt, upon an old cucumber or melon-bed, ſifting a little earth over the ſeeds, about a quarter of an inch thick; and if the weather ſhould prove extremely hot and dry, you ſhould ſhade the beds with mats, to prevent the earth from drying too faſt, and give it gentle waterings as you may ſee occaſion. In about a month's time after ſowing, your plants will be fit to prick out: you ſhould therefore put ſome freſh earth upon your cucumber or melon beds; or where theſe are not to be had, ſome beds ſhould be made with a little new dung, which ſhould be trodden down cloſe, to prevent the worms from getting through it; but it ſhould not be hot dung, which would be hurtful to the plants at this ſeaſon, eſpecially if it proves hot; into this bed you ſhould prick your young plants at about two inches ſquare, obſerving to ſhade and water them at firſt planting; but do not water them too much after they are growing nor ſuffer them to receive too much rain if the ſeaſon ſhould prove wet, which would be apt to make them black ſhanked, as the gardeners term it, which is no leſs than a rottenneſs in their ſtems, and is the deſtruction of the plants ſo affected. In this bed they ſhould continue till about the 30th of October, when they muſt be removed into the place where they are to remain during the winter ſeaſon; which, for the firſt ſowing, is commonly under bell or hand-glaſſes, to have early cauliflowers, and theſe ſhould be of an early kind: but in order to have a ſucceſſion during the ſeaſon, you ſhould be provided with another more late kind, which ſhould be ſown four or five days after the other, and managed as was directed for them. In order to have very early cauliflowers, you ſhould make choice of a good rich ſpot of ground that is well defended from the north, eaſt and weſt winds, with hedges, pales, or walls; but the firſt are to be preferred, if made with reeds, becauſe the winds will fall dead in theſe, and not reverberate as by peals or walls. This ground ſhould be well trenched, burying therein a good quantity of rotten dung; then level your ground, and if it be naturally a wet ſoil, you ſhould raiſe it up in beds about two feet and a half, or three feet broad, and four inches above the level of the ground; but if your ground is moderately dry, you need not raiſe it at all: then plant your plants, allowing about two feet ſix inches diſtance from glaſs to glaſs in the rows, always putting two good plants under each glaſs, which may be at about four inches from each other; and if you deſign them for a full crop, they may be three feet and a half row from row: but if you intend to make ridges for cucumbers between the rows of cauliflower plants (as is generally practiſed by the gardeners near London), you muſt then make your rows about eight feet aſunder; and the ground between the rows of cauliflowers may be planted with cabbage plants, to be drawn off for coleworts in the ſpring. When you have planted your plants, if the ground is very dry, you ſhould give them a little water, and then ſet your glaſſes over them, which may remain quite cloſe down over them till they have taken root, which will be in about a week or ten days time, unleſs there ſhould be a kindly ſhower of rain; in which caſe you may ſet off the glaſſes, that the plants may receive the benefit of it; and in about ten days after planting, you ſhould be provided with a parcel of forked ſticks or bricks, with which you ſhould raiſe your glaſſes about three or four inches on the ſide toward the ſouth, that your plants may have free air: in this manner your glaſſes ſhould remain over the plants night and day, unleſs in froſty weather, when you ſhould ſet them down as cloſe as poſſible; or if the weather ſhould prove very warm, which many times happens in November, and ſometimes in December, in this caſe you ſhould keep your glaſſes off in the day-time, and put them on only in the night, leſt, by keeping the glaſſes over them too much, you ſhould draw them into flower at that ſeaſon; which is many times the caſe in mild winters, eſpecially if unſkilfully managed. Toward the latter end of February, if the weather proves mild, you ſhould prepare another good ſpot of ground to remove ſome of the plants into from under the glaſſes, which ſhould be well dunged and trenched (as before): then ſet off your glaſſes; and, after making choice of one of the moſt promiſing plants under each glaſs, which ſhould remain, take away the other plant, by raiſing it up with a trowel, &c. ſo as to preſerve as much earth to the root as poſſible; but take care not to diſturb or prejudice the roots of the plants which remain. Then plant the plants which you have taken out at the diſtance before directed, *viz.* if for a full crop, three feet and a half, row from row; but if for ridges of cucumbers between them, eight feet, and two feet four inches diſtance in the rows: then, with a ſmall hoe, draw the earth up to the ſtems of the plants which were left under the glaſſes, taking great care not to let the earth fall into their hearts; and ſet your glaſſes over them again, raiſing your props an inch or two higher than before, to give them more air, obſerving to take them off whenever there may be ſome gentle ſhowers, which will greatly refreſh the plants.

In a little time after, if you find your plants grow ſo faſt as to fill the glaſſes with their leaves, you ſhould then ſlightly dig about the plants, and raiſe the ground about them in a bed broad enough for the glaſſes to ſtand about four inches high, which will give your plants a great deal of room, by raiſing the glaſſes ſo much higher when they are ſet over them; and by this means they might be kept covered until April, which otherwiſe they could not, without prejudice to the leaves of the plants; and this is a great advantage to them, for many times we have returns of ſevere froſts at the latter end of March, which prove very hurtful to theſe plants, if expoſed thereto, eſpecially after having been nurſed up under glaſſes.

After you have finiſhed your beds, you may ſet your glaſſes over your plants again, obſerving to raiſe your props pretty high, eſpecially if the weather be mild, that they may have free air to ſtrengthen them; and in mild ſoft weather ſet off your glaſſes, as alſo in gentle ſhowers of rain; and now you muſt begin to harden them by degrees to endure the open air; however, it is adviſable to let your glaſſes remain over them as long as poſſible, if the nights ſhould be froſty, which will greatly forward your plants; but you muſt not let your glaſſes remain upon them in very hot ſun-ſhine, eſpecially if their leaves preſs againſt the ſides of the glaſſes; for it hath often been obſerved in ſuch caſes, that the moiſture which hath riſen from the ground, together with the perſpiration of the plants, which by the glaſſes remaining over them hath been detained upon the leaves of the plants, when the ſun hath ſhone hot upon the ſides of the glaſſes, have acquired ſuch a powerful heat from the beams thereof, as to ſcald all their larger leaves, to the no ſmall prejudice of the plants: nay, ſometimes large quantities of plants have been ſo affected therewith, as never to be worth any thing after.

If your plants have ſucceeded well, toward the end of April ſome of them will begin to fruit; you muſt therefore look over them carefully every other day, and when you ſee the flower plainly appear, you muſt break down ſome of the inner leaves over it to guard it from the ſun, which would make the flower yellow and unſightly if expoſed thereto; and when you find your flower at its full bigneſs (which you may know by its outſide parting as if it would run), you muſt then draw it out of the ground, and not cut them off, leaving the ſtalk in the ground as is by ſome practiſed;

and if they are deſigned for preſent uſe, you may cut them out of their leaves; but if deſigned to keep, you ſhould preſerve their leaves about them, and put them into a cool place; the beſt time for pulling them is in a morning, before the ſun hath exhaled the moiſture; for cauliflowers pulled in the heat of the day, loſe that firmneſs which they naturally have, and become tough.

But to return to our ſecond crop (the plants being raiſed and managed as was directed for the early crop, until the end of October), you muſt then prepare ſome beds, either to be covered with glaſs-frames, or arched over with hoops, to be covered with mats, &c. Theſe beds ſhould have ſome dung laid at the bottom, about ſix inches or a foot thick, according to the ſize of your plants; for if they are ſmall, the bed ſhould be thicker of dung to bring them forward, and ſo *vice verſa*; this dung ſhould be beat down cloſe with a fork, in order to prevent the worms from finding their way through it; then lay ſome good freſh earth about four or five inches thick thereon, in which you ſhould plant your plants about two inches and a half ſquare, obſerving to ſhade and water them until they have taken new root; but you muſt not keep your coverings cloſe, for the warmth of the dung will occaſion a large damp in the bed, which, if pent in, will greatly injure the plants. When your plants have taken root, you muſt give them as much free open air as poſſible, by keeping the glaſſes off in the day-time as much as the weather will permit; and in the night, or at ſuch times as the glaſſes require to be kept on, raiſe them up with props to let in freſh air, unleſs in froſty weather; at which time the glaſſes ſhould be covered with mats, ſtraw, peaſe-haulm, &c. but this is not to be done in very hard froſts; you muſt alſo obſerve to guard them againſt great rain, which in winter time is very hurtful to them, but in mild weather, if the glaſſes are kept on, they ſhould be propped to admit freſh air; and if the under leaves grow yellow and decay, be ſure to pick them off: for if the weather ſhould prove very bad in winter, ſo that you ſhould be obliged to keep them cloſe covered for two or three days together, as it ſometimes happens, theſe decayed leaves will render the incloſed air very noxious; and the plants perſpiring pretty much at that time, are often deſtroyed in vaſt quantities.

In the beginning of February, if the weather be mild, you muſt begin to harden your plants by degrees, that they may be prepared for tranſplantation: the ground where you intend to plant your cauliflowers out (which ſhould be quite open from trees, &c. and rather moiſt than dry), having been well dunged and dug, ſhould be ſown with radiſhes a week or a fortnight before you intend to plant out your cauliflowers; the ſowing of radiſhes is particularly mentioned, becauſe if there are not ſome radiſhes amongſt them, and the month of May ſhould prove hot and dry, as it ſometimes happens, the fly will ſeize your cauliflowers, and eat their leaves full of holes, to their prejudice, and ſometimes their deſtruction; whereas, if there are radiſhes upon the ſpot, the flies will take to them, and never meddle with the cauliflowers ſo long as they laſt: indeed, the gardeners near London mix ſpinach with their radiſh-ſeed, and ſo have a double crop; which is an advantage where ground is dear, or where perſons are ſtraitened for room; otherwiſe it is very well to have only one crop amongſt the cauliflowers, that the ground may be cleared in time.

Your ground being ready and the ſeaſon good, about the middle of February you may begin to plant out your cauliflowers: the diſtance which is generally allowed by the gardeners near London (who plant other crops between their cauliflowers to ſucceed them, as cucumbers for pickling, and winter cabbages) is every other row four feet and a half apart, and the intermediate rows two feet and a half, and two feet two inches diſtance in the rows; ſo that in the latter end of May or beginning of June (when the radiſhes and ſpinach are cleared off), they put in ſeeds of cucumbers for pickling, in the middle of the wide rows, at three feet and a half apart; and in the narrow rows plant cabbages for winter uſe, at two feet two inches diſtance, ſo that theſe ſtand each of them exactly in the middle of the ſquare between four cauliflower plants; and theſe after the cauliflowers are gone off, will have full room to grow, and the crop be hereby continued in a ſucceſſion through the whole ſeaſon.

There are many people who are very fond of watering cauliflower plants in ſummer; but the gardeners near London have almoſt wholly laid aſide this practice, as finding a deal of trouble and charge to little purpoſe; for if the ground be ſo very dry as not to produce tolerable good cauliflowers without water, it ſeldom happens that watering of them makes them much better; and when once they have been watered, if it is not conſtantly continued, it had been much better for them if they never had any; as alſo if it be given them in the middle of the day, it rather helps to ſcald them; ſo that upon the whole, if care be taken to keep the earth drawn up to their ſtems, and clear them from every thing that grows near them, that they may have free open air, you will find that they will ſucceed better without than with water, where any of theſe cautions are not ſtrictly obſerved.

But in order to have a third crop of cauliflowers, you ſhould make a ſlender bed in February, in which you ſhould ſow the ſeeds, covering them a quarter of an inch thick with light mould, and covering the bed with glaſs-frames. When the plants are come up, and have gotten four or five leaves, you ſhould prepare another hot-bed to prick them into, which may be about two inches ſquare, and in the beginning of April harden them by degrees, to fit them for tranſplanting which ſhould be done the middle of that month, at the diſtance directed for the ſecond crop, and muſt be managed accordingly: theſe, (if the ſoil is moiſt where they are planted, or the ſeaſon cool and moiſt) will produce good cauliflowers about a month after the ſecond crop is gone, whereby their ſeaſon will be greatly prolonged.

There is alſo a fourth crop of cauliflowers, which is raiſed by ſowing the ſeed about the 23d of May; and being tranſplanted, as hath been before directed, will produce good cauliflowers in a kindly ſeaſon and good ſoil after Michaelmas, and continue through October and November, and, if the ſeaſon permit, often a great part of December.

Qualities, &c.

All the ſpecies of cabbage are ſuppoſed to be hard of digeſtion, to afford little nouriſhment, and to produce flatulencies, though probably on no very good foundation. They tend ſtrongly to putrefaction, and run into this ſtate ſooner than almoſt any other vegetable; when putrefied, their ſmell is likewiſe the moſt offenſive, greatly reſembling that of putrefied animal ſubſtances. A decoction of them is ſaid to looſen the belly. Of all theſe plants cauliflower is reckoned the eaſieſt of digeſtion. The white is the moſt fetid, and the red moſt emollient or laxative; a decoction of this laſt is recommended for ſoftening acrimonious humours in ſome diſorders of the breaſt, and in hoarſeneſs. The red cabbage is chiefly uſed for pickling. In ſome countries they bury the white cabbage when full grown in the autumn, and thus preſerve it all winter. The Germans cut them to pieces, and, along with ſome arromatic herbs and ſalt, preſs them cloſe down in a tub, where they ſoon ferment, and are eaten under the name of *Sour-crout*. See that article.

BRASSICAVIT, or BRACHICAVIT, in the manege, is a horſe whoſe fore-legs are naturally bended archwiſe: being ſo called by way of diſtinction from an arched horſe, whoſe legs are bowed by hard labour.

BRAULS, Indian cloths with blue and white ſtripes. They are otherwiſe called *turbants*, becauſe they ſerve to cover thoſe ornaments of the head, particularly on the coaſt of Africa.

BRAUN (George), in Latin, *Braunius*, archdeacon of Dortmund, and dean of Notre Dame in Gradibus, at Colonge. He publiſhed a Latin oration againſt the prieſts guilty of fornication; he alſo wrote the life of Jeſus Chriſt, that of the Holy Vigin, and a controveſial treatiſe againſt the Proteſtants; but his chief work is the *Theatrum Urbium*, in ſeveral volumes folio.

BRAUNA, a town of Germany, in Bavaria, ſeated on the river Inn. It has a ſtrong fortreſs: notwithſtanding, it was taken by the Auſtrians in 1743. E. Long. 13. 3. N. Lat. 48. 10.

BRAUNSBURG, a town of Poland, in Regal Pruſſia, with a very commodious harbour, and belonging to the king of Pruſſia. It is ſeated near the Baltic ſea, in E. Long. 20. 0. N. Lat. 54. 15.

BRAUNSFIELD, a town of Germany, in the circle of the Upper Rhine, and country of Solmes, with a handſome palace or caſtle. E. Long. 8. 32. N. Lat. 50. 22.

BRAVO, one of the Cape de Verd iſlands on the coaſt of Africa, remarkable for its excellent wines, and inhabited by Portugueſe. The land is very high, and conſiſts of mountains which look like pyramids. It abounds in Indian corn, gourds, water-melons, potatoes, horſes, aſſes, and hogs. There is alſo plenty of fiſh on the coaſt, and the iſland produces ſalt-petre. W. Long. 25. 35. N. Lat. 14. 0.

BRAVO, a town of Africa, on the coaſt of Ajan, with a pretty good harbour. It is an independent place, and is about 80 miles diſtant from Magadoxo. L. Long. 41. 35. N. Lat. 1. 0.

BRAURONIA, in Grecian antiquity, a feſtival in honour of Diana, ſurnamed *Brauronia*, from its having been obſerved at Brauron, an Athenian borough. This feſtival was celebrated once in five years, being managed by ten men, called in Greek [*ieropoioi*]. The victim offered in ſacrifice was a goat, and it was cuſtomary for certain men to ſing one of Homer's Iliads. The moſt remarkable perſons at his ſolemnity were young virgins, habited in yellow gowns and conſecreated to Diana. It was unlawful for any of them to be above ten or under five years of age.

BRAWN, the fleſh of a boar ſouced or pickled: for which end the boar ſhould be old; becauſe the older he is, the more horney will the brawn be.—The method of preparing brawn is as follows: The boar being killed, it is the flitches only, without the legs, that are made brawn; the bones of which are to be taken out, and then the fleſh ſprinkled with ſalt, and laid in a tray, that the blood may drain off: Then it is to be ſalted a little, and rolled up as hard as poſſible. The length of the collar of brawn ſhould be as much as one ſide of the boar will bear, ſo that when rolled up it will be nine or ten inches diameter.

The collar being thus rolled up, is to be boiled in a copper, or large kettle, till it is ſo tender, that you can run a ſtraw through it; then ſet it by till it is thorough cold, and put it into the following pickle. To every gallon of water, put a handful or two of ſalt, and as much wheat-bran; Boil them together, then drain the bran as clear as you can from the liquor; and when the liquor is quite cold, put the brawn into it.

BRAY (Sir Reginald), a celebrated architect and politician, was the ſecond ſon of Sir Richard Bray, one of the privy council to king Henry VI. Sir Reginald was inſtrumental in the advancement of king Henry VII. to the throne of England; and was greatly in the favours of that prince, who beſtowed honours and wealth upon him. His ſkill in architecture appears from Henry VII.'s chapel at Weſtminſter, and the chapel of St George at Windſor, as he had a principal concern and direction in the building of the former, and the finiſhing and bringing to perfection the latter, to which he was alſo a liberal benefactor. In the middle of the ſouth aile of the above chapel is a ſpacious chapel built by him, and ſtill called by his name. He died in 1501; and was interred in the above chapel, probably under the ſtone where lies Dr Waterland; for, on opening the vault for that gentleman, who died in 1740, a leaden coffin of ancient form was found, which, by other appearances, was judged to be that of Sir Reginald, and was, by order of the dean, immediately arched over.

BRAY (Dr Thomas), an eminent, learned, and pious divine, was born at Marton, in Shropſhire, in the year 1656, and educated at Oxford. He was at length preſented to the vicarage of Over-Whitacre, in Warwickſhire; and in 1690, to the rectory of Sheldon, where he compoſed his *Catechetical Lectures*; which procured him ſuch reputation, that Dr Compton, biſhop of London, pitched upon him as a proper perſon to model the infant church of Maryland, and eſtabliſh it upon a ſolid foundation, and for that purpoſe he was inveſted with the office of commiſſary. He now engaged in ſeveral noble undertakings. He procured ſums to be raiſed for purchaſing ſmall libraries for the uſe of the poor miniſters in the ſeveral parts of the Britiſh plantations: and the better to promote this deſign, he publiſhed two books; one intitled *Bibliotheca parochialis*, or a ſcheme of ſuch theological and other heads as ſeem requiſite to be peruſed or occaſionally conſulted by the clergy, together with a catalogue of books which may be profitably read on each of thoſe points; the other, *Apoſtolical charity, its nature and excellency conſidered*.

He endeavoured to get a fund eſtabliſhed for the propagation of the goſpel, eſpecially among the uncultivated Indians; and by his means a patent was obtained for erecting the corporation called *The ſociety for the propagation of the goſpel.* He, by his induſtry, procured relief for priſoners; and formed the plan for the ſociety for the reformation of manners, charity-ſchools, &c. He wrote, 1. his Martyrology, or Papal uſurpation, in one volume folio; 2. *Directorium miſſionarium;* and other works. This excellent man died in 1730, aged 73.

Bray, a port town of Ireland, in the county of Wicklow, and province of Leinſter, ſeated on St George's channel, eight miles ſouth of Dublin. W. Long. 6. 16. N. Lat. 53. 8.

Bray ſur Seine, a town of France, in Champagne, and in Senonois, on the confines of Brie. E. Long. 2. 15. N. Lat. 48. 35.

BRAYLE, among ſportſmen, a piece of leather ſlit to put upon the hawk's wing, to tie it up.

BRAZED, in heraldry, a term ſerving to deſcribe three cheverons, one claſping another.

BRAZEN, ſomething conſiſting of braſs, or formed out of it. See BRASS.

Brazen Age. See AGE.

Brazen Diſh, among miners, is the ſtandard by which the other diſhes are gauged, and is kept in the king's hall.

Brazen Sea, in Jewiſh antiquity, one of the ſacred utenſils in the temple of Solomon. It was caſt in the plain of Jordan, and removed from thence into the inner court of the temple; where it was placed upon 12 oxen, three of which looked towards each quarter of the world. It was ten cubits from the one brim to the other, five cubits in height, and 30 cubits in circumference, and contained 3000 baths. The brim of it was perfectly round, and ſo it continued in the two upper cubits; but below the brim, in the three lower cubits, it was ſquare. It was a hand-breadth thick, and the brim was wrought like the brim of a cup, with flowers of lilies. About the body of this huge veſſel there were two borders of engravings, being the heads of oxen in demi-relief; out of which ſome ſuppoſe the water iſſued, and that they were made as cocks and conveyances for that purpoſe.—This brazen or molten ſea, was deſigned for the prieſts to waſh themſelves in, before they performed the ſervice of the temple. The ſupply of water was through a pipe out of the well Etam; though ſome are of opinion, that it was conſtantly ſupplied with water by the Gibeonites.

BRAZIER, an artificer who makes and deals in all kinds of braſs ware. This trade, as exerciſed in Britain, may be reckoned a branch of the ſmithery, though they ſeldom keep forges, except for brazing or ſoldering, and tinning the inſides of their veſſels, which they work up chiefly out of copper and braſs prepared rough to their hands. They conſiſt of a working part, and a ſhop-keeping part, which latter many carry on to a great extent, dealing as well in all ſorts of iron and ſteel, as copper and braſs goods for houſehold furniture; and lately have fallen much into ſelling what is called *French plate*, made of a ſort of white metal, ſilvered and poliſhed to ſuch a degree that the eye cannot ſoon diſtinguiſh it from real ſilver.

BRAZIL. See BRASIL.

BRAZING, the ſoldering or joining two pieces of iron together by means of thin plates of braſs, melted between the pieces that are to be joined. If the work be very fine, as when two leaves of a broken ſaw are to be brazed together, they cover it with pulverized borax, melted with water, that it may incorporate with the braſs powder, which is added to it: The piece is then expoſed to the fire without touching the coals, and heated till the braſs is ſeen to run.

BRAZING is alſo the joining two pieces of iron together by beating them hot, the one upon the other, which is uſed for large pieces by farriers, &c.

BRAZZA, a town and iſland on the coaſt of Dalmatia, in the gulph of Venice, oppoſite to Spalatto, and ſubject to Venice. E. Long. 28. 0. N. Lat. 43. 0.

BREACH, in a general ſenſe, denotes a break or rupture in ſome part of a fence or incloſure, whether owing to time or violence.—Inundations, or overflowing of lands, are frequently owing to breaches in the dikes or ſea-banks. Dagenham breach is famous; it was made in 1707, by a failure of the Thames wall in a very high tide. The force wherewith it burſt in upon the neighbouring level tore up a large channel or paſſage for water 100 yards wide, and in ſome places 20 feet deep, by which a multitude of ſubterraneous trees that had been buried many ages before were laid bare.

BREACH, in fortification, a gape made in any part of the works of a town by the cannon or mines of the beſiegers, in order to make an attack upon the place. To make the attack more difficult, the beſieged ſow the breach with crow-feet, or ſtop it with *cheveaux de frize*.—A practicable breach, is that where the men may mount and make a lodgment, and ought to be 15 or 20 fathoms wide. The beſiegers make their way to it, by covering themſelves with gabions, earth-bags, &c.

BREACH, in a legal ſenſe, is where a perſon breaks through the condition of a bond or covenant; on an action upon which, the breach muſt be aſſigned: And this aſſignment muſt not be general, but particular, as, in an action of covenant for not repairing houſes, it ought to be aſſigned particularly what is the want of reparation; and in ſuch certain manner, that the defendant may take an iſſue.

BREAD, a maſs of dough kneaded and baked in an oven. See BAKER, BAKING, and BARM.

Macquer's Chem. Dict.

The grains of all vegetables are almoſt entirely compoſed of ſubſtances very proper for the nouriſhment of animals; and amongſt grains thoſe which contain a farinaceous matter are the moſt agreeable and moſt nutritive.

Man, who appears to be deſigned by nature to eat of all ſubſtances which are capable of nouriſhing him, and ſtill more of vegetables than animals, has, from time immemorial, and in all parts of the earth, uſed farinaceous grains, as the principal baſis of his food: but as theſe grains cannot be without difficulty eaten by men, in their natural ſtate, this active and intelligent animal has gradually found means not only to extract the farinaceous part, that is, the only nutritive part of theſe grains, but alſo to prepare it ſo that it becomes a very agreeable and wholeſome aliment, ſuch as the bread we now generally eat.

Nothing appears ſo eaſy at firſt ſight as to grind corn, to make a paſte with the flower and water, and to bake this paſte in an oven. They who are accuſtomed to enjoy the advantages of the fineſt human inventions, without reflecting on the labour it has coſt to complete them, think all theſe operations common and trivial. However, it appears very certain, that for a long time men no otherwiſe prepared their corn than by boiling and forming compact viſcous cakes, not very agreeable to the taſte, and of difficult digeſtion, before they were able to make bread of good taſte and quality, as we have now. It was neceſſary to invent and complete ingenious machines for grinding corn, and ſeparating the pure flour with little trouble and labour; and that inquiries, or rather ſome happy chance, which ſome obſerving perſon availed himſelf of, ſhould diſcover, that flour, mixed with a certain quantity of water, is ſuſceptible of a fermentation which almoſt entirely deſtroys its viſcidity, heightens its taſte, and renders it proper to make a light bread, very agreeable to the taſte, and of eaſy digeſtion.

This eſſential operation, on which the good quality of bread depends, is entirely of the province of chemiſtry. It would add to the honour of the ancient cultivators of chemiſtry, to attribute to them ſo uſeful and important a diſcovery; but, unhappily, it is too probable that they had no ſhare in it. The ancient chemiſts were engaged in other purſuits than that of bread and other common objects. They hoped to make gold; and what is bread in compariſon with gold?

However that be, to the fortunate invention of raiſing the paſte before baking we owe the perfection of the art of making bread. This operation conſiſts in keeping ſome paſte or dough, till by a peculiar ſpirituous fermentation it ſwells, rarefies, and acquires a ſmell and taſte quick, pungent, ſpirituous, ſomewhat ſour, and rather diſagreeable. This fermented dough is well worked with ſome freſh dough, which is by that mixture and moderate heat diſpoſed to a ſimilar but leſs advanced fermentation than that abovementioned. By this fermentation the dough is attenuated, and divided; air is introduced into it, which, being incapable of diſengaging itſelf from the tenacious and ſolid paſte, forms in it ſmall cavities, raiſes and ſwells it: hence the ſmall quantity of fermented paſte which diſpoſes the reſt to ferment, is called *leaven* from the French word *lever*, ſignifying to raiſe.

When the dough is thus raiſed, it is in a proper ſtate to be put into the oven; where, while it is baked, it dilates itſelf ſtill more by the rarefaction of the air, and of the ſpirituous ſubſtance it contains, and it forms a bread full of eyes or cavities, conſequently light, and entirely different from the heavy, compact, viſcous, and indigeſted maſſes made by baking unfermented dough.

The invention of beer, or wine of grains, furniſhes a new matter uſeful in the making of bread. This matter is the froth which forms upon the ſurface of theſe liquors during fermentation. When it is mixed with dough, it raiſes it better and more quickly than ordinary leaven. It is called *yeaſt* or *barm*. By means of this, the fineſt lighteſt bread is made. It often happens, that bread made with leaven dough has a ſouriſh and not agreeable taſte; which may proceed from too great a quantity of leaven, or from leaven in which the fermentation has advanced too far. This inconvenience does not happen to bread made with yeaſt; becauſe the fermentation of this ſubſtance is not too far advanced, or becauſe more attention is given to that finer bread.

It may be aſked, Why, ſince dough is capable of fermenting ſpontaneouſly and ſingly, as we ſee from the leaven, a ſubſtance is added to diſpoſe it to ferment? The true reaſon is, That all the parts of a fermenting ſubſtance do not ferment at the ſame time, nor to the ſame degree; ſo that ſome parts of this ſubſtance have finiſhed their fermentation, while others have not yet begun. The fermentable liquors which contain much ſugar, as hydromel, and muſt of wines, give proofs of this truth; for, after theſe liquors have become very vinous, they have ſtill very diſtinctly a ſaccharine taſte: but all ſaccharine matter is ſtill ſuſceptible of fermentation; and, in fact, if vinous hydromel, or muſt, or even new beer, be diſtilled, ſo that all their ardent ſpirit ſhall be ſeparated, and the reſiduums diluted with water, we ſhall ſee a ſecond fermentation take place, and a new quantity of ardent ſpirit formed.

The ſame thing preciſely happens to dough, and ſtill more ſenſibly, from its viſcoſity and want of fluidity; ſo that if it be left to ferment alone, and without the help of leaven, as the fermentation proceeds very ſlowly and ſucceſſively, the parts which ferment firſt will have become ſour and vapid before all the reſt be ſufficiently attenuated and changed, by which the bread will acquire a diſagreeable taſte.

A mixture of a ſmall quantity of leaven with dough effectually prevents this inconvenience; becauſe the effect of this leaven, and of all fermenting ſubſtances, is to diſpoſe to a ſimilar fermentation all matters capable of it, with which it is mixed; or rather, by means of leaven, the fermentation of all the parts of ſuch ſubſtances is effected more nearly at the ſame time.

Bread well raiſed and baked differs from unfermented bread, not only in being leſs compact, lighter, and of a more agreeable taſte, but alſo in being more eaſily miſcible with water, with which it does not form a viſcous maſs, which circumſtance is of great importance in digeſtion.

Cullen on the Mat. Med.

It is obſervable, that without bread, or ſomewhat of this form, no nation ſeems to live. Thus the Laplanders, having no corn of their own, make a ſort of bread of their dried fiſhes, and of the inner rind of the pine, which ſeems to be uſed, not ſo much for their nouriſhment, as ſupplying a dry food. For this mankind ſeem to have a univerſal appetite, rejecting bland, ſlippery, and mucilaginous foods. This is not commonly accounted for, but ſeems to depend on very ſimple principles. The preparation of our food depends on the mixture of the animal fluids in every ſtage. Among others the ſaliva is neceſſary, which requires dry food as a neceſſary ſtimulus to draw it forth, as bland, ſlippery, fluid aliments are too inert, and make too ſhort ſtay in the mouth, to produce this effect, or to cauſe a ſufficient degree of manducation to emulge that liquor. For this reaſon we commonly uſe dry bread along with animal food, which otherwiſe would be too quickly ſwallowed. For blending the oil and water of our food nothing is ſo fit as bread, aſſiſted by a previous manducation. For which purpoſe, bread is of like neceſſity in the ſtomach, as it is proper that a ſubſtance of ſolid conſiſtence ſhould be long retained there. Now the animal fluids muſt be mixed with our aliments, in order to change the aceſcency it undergoes. But liquid foods would not attain this end, whereas the ſolid ſtimulates and emulges the glands of the ſtomach. The bread then appears to be exceedingly proper, being bulky without too much ſolidity, and firm without difficulty of ſolution.

Suppl. to Chambers's Dict.

Among the ancients we meet with various denominations of bread; as, 1. *Panis ſiligineus*, called alſo *mundus*, *athleticus*, *iſungia*, *coliphius*, and *robys*, anſwering to our white bread; being made of the pureſt flour of the beſt wheat, and only uſed by the richer ſort. 2. *Panis ſecundus* or *ſecundarius*, called alſo *ſmilaceus* or *ſmilagineus*, the next in purity; being made of fine flour, only all the bran not ſifted out. 3. *Autopyrus*, called alſo *ſyncomiſtus* and *confuſaneus*, made of the whole ſubſtance of the wheat, without either retrenching the fine flour or coarſer bran; anſwering to our houſehold bread. 4. *Cacabaceus*, apparently the ſame with what was otherwiſe denominated *ſordidus*, as being given to dogs; *furfuraceus*, *furfureus*, or *furfurativus*, becauſe made in great part of bran; and, in the middle age, *biſſus*, on account of its brownneſs; ſometimes alſo *leibo*. There were other ſorts of bread, denominated from the manner in which they were made, or the uſes they were applied to; as, 1. The *militaris*, which was prepared by the ſoldiers and officers in camp with their own hands; for which purpoſe ſome had hand-mills, others pounded the corn in a mortar, and baked it on the coals. 2. *Clibanites*, that baked in an oven, by way of contradiſtinction from that baked on the hearth or under the embers. 3. That called *ſubcineritius*, or *ſub cinere coctus*; ſometimes alſo *reverſatus*, becauſe it was to be turned in the baking. 4. *Nauticus*, anſwering to our ſea-biſcuit, and denominated accordingly *bis coctus*, becauſe baked ſeveral times over to make it keep the longer. Other kinds of bread were denominated from their qualities and accidents; as, 1. The *panis ſiccus*, that which had been long baked; ſuch as were the *bis coctus*, naval and buccellated bread. 2. *Madidus*, a ſort made of rye or bear, ſometimes alſo made of fine flour, wherewith they ſmeared their faces, by way of a coſmetic, to render them ſmooth. 3. *Acidus*, or ſour bread, which was acidulated with vinegar. 4. *Azymus*, that unleavened or unfermented.

The French have alſo a great variety of breads; as queen's bread, alamode bread, bread de Segovie, de Gentillay, quality-bread, &c. all prepared in peculiar manners by the bakers of Paris. The bread de Goneſſe excels all others, on account of the waters at Goneſſe, a town three leagues from Paris. It is light, and full of eyes, which are the marks of its goodneſs. *Pain de menage*, is that which each family bakes for itſelf. Spice-bread, *pain d'epice*, denotes bread baked and iced over with the ſcum taken off ſugar in refining houſes; it is ſometimes alſo made with honey and other ſorts of ſeaſoning, and anſwers to what the ancients call *panis mellitus*.

Among us, bread is chiefly divided into white, wheaten, and houſehold; differing only in degrees of purity. In the firſt, all the bran is ſeparated; in the ſecond, only the coarſer; in the third, none at all: ſo that fine bread is made only of flour; wheaten bread, of flour and a mixture of the finer bran; and houſehold, of the whole ſubſtance of the grain, without taking out either the coarſe bran or fine flour. We alſo meet with ſymnel bread, manchet, or roll bread, and French bread: which are only ſo many denominations of the fineſt and whiteſt bread, made of the pureſt flour; except that in ill-roll bread there is an addition of milk; and in French bread, of eggs and butter alſo. In Lancaſhire, and ſeveral of the nothern counties of England, they have ſeveral ſorts of oaten bread; as, 1. The bannock, which is an oat-cake, kneaded only with water, and baked on the embers. 2. Clap-bread, which is made into thin hard-cakes. 3. Bitchineſs bread, which is made of thin batter, and made into thin ſoft oat-cakes. 4. Riddle-cakes, which are thick and ſour, have but little leaven, and are kneaded ſtiff. And, 5. Jannock, which is oaten bread made up into loaves. Add to theſe, *peaſe-bread*, much uſed in many parts of Scotland; being bread conſiſting either wholly of the flour of peaſe, or of this and oat-meal mixed: the dough, ſometimes leavened, ſometimes made only with water, is formed either into bannocks or cakes, and baked over the embers; or into what they call *baps*, i. e. a kind of flattiſh rolls, and baked in the oven. In the ſtatute of aſſize of bread and ale, 51 Hen. III. mention is made of waſtel-bread, cocket-bread, and bread of treet; which anſwer to three kinds of bread now in uſe, called *white*, *wheaten*, and *houſhold* bread. In religious houſes, they heretofore diſtinguiſhed bread by the names Eſquires bread, *panis armigerorum*; monks bread, *panis conventualis*; boys bread, *panis puerorum*; and ſervants bread, *panis famulorum*, called alſo *panis ſervientalis*. A like diſtribution obtained in the houſeholds of nobles and princes; where, however, we find ſome other denominations, as meſſengers bread, *panis nuncius*, that given to meſſengers as a reward of their labour; court bread, *panis curialis*, that allowed by the lord for the maintenance of his houſhold; eleemoſynary bread, that diſtributed to the poor by way of alms.

It is for the intereſt of the community that the food of the poor ſhould be as various as poſſible, that, in time of dearth and ſcarcity of the ordinary kinds, they may not be without ready and cheap reſources. To the diſcovery of ſuch reſources ſeveral benevolent philoſophers having ſucceſsfully turned their inquiries, we ſhall lay before the reader the reſult of their experiments.

1. Bread *of Potatoes* *. Potatoes, previouſly deprived of their ſkin, cut into thin ſlices, and put between paper, will dry in a heat ſomewhat leſs than 35° of Reaumur's thermometer; and, when thus dried, they will preſerve their white colour. By this proceſs they loſe about two-thirds of their weight, and they may then be reduced to a fine powder. A little of this powder thrown upon the fire ſends out a ſmoke, accompanied with a ſmell reſembling burnt bread. As this ſmell is perceived from all farinaceous vegetables when treated in the ſame manner, Mr Parmentier thinks it may be conſidered as the characteriſtic of the preſence of an *amylaceous* † matter. This ſmell does not, however, he obſerves, ariſe from the amylaceous or fibrous part ſeparately, but from both taken together. The powder of potatoes, obtained in the manner deſcribed above, has the ſmell and taſte of wheat; and, like it, is de-

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* From *Examen Chymique des Pommes de Terre*, &c. par M. Parmentier, apoth. major del hotel des invalides Paris.

† See the note *infra*.

voured by rats and mice: but, even when moſt finely powdered, it has not the feel or brightneſs of the flour of wheat; although, on a chemical analyſis, it yields the ſame products. It is alſo nutritious, and keeps well for a long time.

Finding ſo great a ſimilarity between the meal of wheat and what may be called the meal of potatoes, Mr Parmentier next endeavoured to make bread of them when mixed in different proportions. His trials were made with one-fourth, one-third, one-half, and two-thirds, of the potato-meal, the remainder being flour from wheat. Theſe proportions, with the addition of a little ſalt and yeſt, yielded bread which was well taſted, but which had fermented little, was brown, and covered with hard brown cruſts. Bread made from the meal of potatoes alone, with the addition of ſalt and yeſt, was eatable, but very heavy, unfermented, and exceedingly brown. This bread, from the meal of potatoes alone, was apt to crumble into powder. To give it more adheſion, he mixed with the meal a decoction of bran, or a mixture of honey and water; either of which made it lighter and more fermented: it obtained alſo a cruſt of a golden colour, became well taſted, and ſufficiently adheſive. Mr Parmentier obtained bread alſo, well fermented, and of a good colour and taſte, from a mixture of raw potato-pulp with meal of wheat, or potato-meal, with the addition of yeſt and ſalt.

Potatoes, when uſed for making bread, are not readily diſpoſed to ferment; without which, bread is very inſipid, and not eaſily digeſted. But Mr Parmentier found, from a variety of experiments, that good bread might be made from equal quantities of flour and potato-meal. He concludes, therefore, with recommending the mixture of potatoes, in times of ſcarcity, with the flour of wheat, inſtead of employing rye, barley, or oats, as has frequently been done.

When grain is altogether wanting, he recommends the uſe of bread made from a mixture of the amylaceous powder of potatoes and of their pulp, this mixture being fermented with leaven or with honey. The meal of this root, when diluted with hot water, acquires a tenacious and gluey conſiſtence. However fair the meal of potatoes may be, it always gives a grey colour to the bread made by mixing it with the flour of wheat: but a mixture of the pulp of potatoes with the flour of wheat does not produce brown-coloured bread.

Mr Parmentier made bread, very much like that of wheat, by a mixture of the following four ſubſtances, viz. four ounces of amylaceous powder of potatoes, one dram of mucilage extracted from barley, one dram of the bran of rye, and a dram and a half of glutinous matter dried and powdered.

2. *Bread from different Vegetables not commonly in Uſe.** Although horſe-cheſnut has not hitherto been employed, yet it is certain that wholeſome bread, without any bitterneſs, may be obtained from it. Mr Parmentier adviſes, that the fruit, after the ſkin is taken off, and the juice preſſed from it, be made into a paſte. This maſs muſt be diluted in water, and then ſtrained through a ſieve. A milky-coloured liquor is thus ſeparated, which, on ſtanding, depoſits a fine powder. This, being dried, is without either ſmell or taſte, and very fit for aliment; the maſs from which it is procured retaining the bitterneſs of the fruit.

The roots of the bryona, when treated in the ſame manner, yielded a ſimilar white powder. By the ſame treatment alſo, fine, white, inſipid, inodorous powders may be procured from the roots of the iris, gladiolus, ranunculus, fumaria, arum, dracunculus, mandragora, colchicum, filipendula, and helleborus; plants which grow ſpontaneouſly, and in great abundance.

Of acorns bread has frequently been made; and to this day, in ſome countries, they are in common uſe. The method of preparation which Mr Parmentier recommends is, that they be deprived of their cover by boiling, then dried and powdered, and afterwards baked in the ſame manner as the flour of wheat. When fully ripe, and made into a paſte, they were deprived of their aſtringency by merely preſſing their juice from them. The maſs remaining after the preſſure, when dried, was eaſily reduced to a fine powder by no means diſagreeable.

The gramen caninum arvenſe, in its appearance, approaches to corn; and ſome naturaliſts have conſidered it as the original ſpecies from which all our grain is produced. Its roots are ſweet-taſted, and have long been employed in making ptiſans. In the preparation of them for bread, it is only neceſſary that the roots ſhould be cleanſed, cut ſmall, dried, and pounded. This powder, Mr Parmentier obſerves, does not diſſolve in cold water or ſpirits; but it does in boiling water, which it renders thick and cloudy, and, upon cooling, the whole maſs obtains a gelatinous conſiſtence. Upon a chemical analyſis, it yields an acid empyreumatic oil, which poſſeſſes a ſingular odour, reſembling that which is perceived on burning the plant. The ſpongy reſiduum, calcined in the air, gives a fixed alkali. Theſe properties inconteſtably prove, that it contains an *amylaceous* (A) matter ſimilar to that of grain, which appears to be the nutritive part of vegetables. This amylaceous

*From *Memoire ſur les vegetaux qui pourroient ſuppleer en temps de diſette a ceux que l'on employe communement a la nourriture des hommes,* &c. par M. Parmentier.

(A) M. Beccari of the Bolognian academy has diſcovered in the flour of wheat two diſtinct ſubſtances. The one he terms an *animal* or *glutinous* matter; the other, an *amylaceous* matter or *vegetable paſte*.

The *gluten* has been ſuppoſed to be the nutritive part of corn, from its not diſſolving unleſs in vegetable acids; from its aſſuming a ſpongy form in boiling water; from its ſuppoſed analogy to the animal lymph; and, laſtly, from the ſimilitude which the products it affords, on a chemical analyſis, bear to thoſe obtained from animal ſubſtances. M. Parmentier, however, from various experiments, was led to conclude, with the celebrated Model of Peterſburg, that the gluten or animal matter of Beccari exiſts in the bran, and is not the nutritive part of the wheat. Having made experiments with four different kinds of flour, it appeared that the quantity of animal matter was always proportioned to the coarſeneſs of the flour. Hence, were this gluten the nutritive part, the coarſeſt bread, or that which contained moſt bran, would afford the greateſt quantity of nouriſhment. The contrary of this, however, is now known to be fact.

The *amylaceous* part, or, as ſome have termed it, the *fecula*, of wheat and other vegetables, is a peculiar gum, not laceous matter, formed into a jelly, and diffuſed in water, keeps for a long time without ſuffering any change; it then turns acid, and at length putrefies.

The amylaceous matter of acrid and poiſonous plants, although innocent and nutritive, cannot be converted into bread without the addition of ſome mucilaginous ſubſtance. In times of great ſcarcity, common bran will anſwer the purpoſe; but when potatoes are to be had, the addition of a proper proportion of theſe is to be preferred.

Mr Parmentier gives an account of the bread which he obtained from the amylaceous powders of the different vegetables mentioned above, with the addition of potatoes and a ſmall quantity of common leaven of grain. This bread appeared in general to be well fermented; it was of a good white colour, and free from any diſagreeable odour: but to the taſte it was ſomewhat inſipid; which, however, he imagines, might have been corrected by the addition of a proper quantity of ſalt.

As the reſources againſt ſcarcity here pointed out can be procured only at particular ſeaſons, the author propoſes a method for preſerving the matter thus obtained. For this purpoſe, he adviſes, that bread prepared in the manner mentioned above ſhould be carefully dried, reduced to powder, and then kept in a cloſe caſk. By this means, he is of opinion that it may be preſerved for a very long time, and will always be ready to make an agreeable and wholeſome panada by the addition of a little butter and ſalt.

Mr Parmentier, in order to diſcover the degree of power wherewith this alimentary powder nouriſhed, made himſelf the ſubject of experiment; and found, that three ounces of it for dinner, and as much for ſupper, made into panada with water, was a ſufficient quantity of aliment for a day. From his diſcharge by ſtool while he uſed it, he had reaſon to believe that it is almoſt totally alimentary. He concludes with recommending it not only as uſeful in times of ſcarcity, but as a proper ſubſtitute for ſea-biſcuit, and as a ſpecies of food well adapted for armies and hoſpitals.

3. *Cheap method of making wholeſome Bread,* when wheat-flour is dear, by mixing turnip with it.*

“At the time I tried this method, bread was very dear, inſomuch that the poor people, in the country where I live, could hardly afford themſelves half a meal a-day. This put me upon conſidering whether ſome cheaper method might not be found than making it of wheat-meal. Turnips were at that time very plentiful. I had a number of them pulled, waſhed clean, pared, and boiled; when they were become ſoft enough to maſh, I had the greateſt part of the water preſſed out of them, and afterwards had them mixed with an equal quantity in weight of coarſe wheat-meal; the dough was then made in the uſual manner, with yeſt or barm, ſalt, water, &c. It roſe very well in the trough; and after being well kneaded, was formed into loaves, and put into the oven to be baked. I had at the ſame time ſome other bread made with common meal in the ordinary way. I baked my turnip-bread rather longer than the other. When they were drawn from the oven, I cauſed a loaf of each ſort to be cut; and found, on examination, the turnip-bread was ſweeter than the other, to the full as light and as white, but had a little taſte (though nowiſe diſagreeable) of the turnip. Twelve hours afterwards I taſted my turnip bread again, when I found the taſte of the turnip in it ſcarce perceivable, and the ſmell quite gone off. On examining it when it had been baked 24 hours, had I not known that there were turnips in its compoſition, I ſhould not have imagined it: it had, it is true, a peculiar ſweetiſh taſte, but by no means diſagreeable; on the contrary, I rather preferred it to the bread made of wheat-meal alone. After it had been baked 48 hours, it underwent another examination, when it appeared to me to be rather ſuperior to the other; it eat freſher and moiſter, and had not at all abated in its good qualities: to be ſhort, it was ſtill very good after a week; and, as far as I could ſee, kept as well as the bread made of common wheat-meal.

“In my trials of this bread by the taſte, I was not ſatisfied with eating it by itſelf; I had ſome of it ſpread with butter; I taſted it with cheeſe; I eat of it toaſted and buttered, and finally in boiled milk and in ſoup: in all theſe forms it was very palatable and good.

Bread in medicine. Beſides the alimentary, bread has alſo medical, qualities.—Decoctions, creams, and jellies of bread are directed in ſome diſpenſaries. Bread carefully toaſted, and infuſed or lightly boiled in water, imparts a deep colour, and a ſufficiently agreeable reſtringent taſte. This liquor, taken as common drink, has done good ſervice in a weak lax ſtate of the ſtomach and inteſtines; and in bilious vomiting and purging, or the cholera morbus; examples are related in the Edinburgh eſſays of ſeveral caſes of this kind cured by it, without the uſe of any other medicine.—In Weſtphalia there is a very coarſe bread eaten, which ſtill retains the opprobrious name given it by a French traveller of *Bonpournickel*, “good for his horſe *Nickel*.” It is the ſame with what the Romans called *panis furfuraceus*, or *panis impurus*, from its not being cleanſed from the huſk; and *panis ater*, from the blackneſs of its colour: though we learn from Pliny, that the Romans for 300 years knew no other bread. The Germans * make two ſorts of waters by diſtillation from this bread; the one with, the other without, the addition of a ſpirituous liquor: to both which great virtues are aſcribed. That without

* From a letter in the *Muſæum Ruſticum et Commerciale*

* *Hoffman Obſer. Chem.*

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not ſoluble in ſpirit of wine, vinegar, or cold water. It contains more acid, and leſs water, than the ordinary gums. It is found in many of thoſe plants that make the nouriſhment of men and other animals. Hence Mr Parmentier concludes it to be the nutritive matter.

Though we are not to conſider the glutinous matter as the nutritious part of vegetables, yet it is a very neceſſary ingredient. It is that which preſerves the coheſion of the paſte in fermenting bread: it is that which forms the viſcid pellicle, and ſtops the air in fermentation; gives the ſavoury taſte to bread; occaſions it to be light, to ferment, and which forms the ſmall cells ſeen in it. It is found eſpecially near the cortical part of grain; and this accounts for its being found in the greateſt quantity in coarſe brown meal. It is this gluten which renders wheat a ſuperior aliment to the other grains and roots.

without any thing ſpirituous, is made out of the juice of craw-fiſh, may-dew, roſe-water, nutmegs, and ſaffron, diſtilled from a large quantity of this bread. This is eſteemed a great reſtorative, and given in hectic habits. The other is diſtilled from this bread and Rheniſh wine, with nutmegs and cinnamon. This is given in all the diſorders of the ſtomach, vomiting, loſs of appetite, and other complaints of the ſame kind: and beſides theſe, there is a ſpirit diſtilled from it by the retort in the dry way, which, when ſeparated from its fetid oil, is eſteemed a powerful ſudorific, and very valuable medicine in removing impurities of the blood.

Bread is alſo medicinal, applied *externally*, as is vulgarly known *. Mr Boyle aſſures us he drew a menſtruum from bread ſtronger than aquafortis, and which would act even upon glaſs itſelf †.

Bread-Tree. See ARTOCARPUS.

*Bees-*BREAD. See BEE, nº 12.

*Caſſada-*BREAD. See JATROPHA.

*Earth-*BREAD ‡. "In the lordſhip of Moſcaw in the Upper Luſatia, a ſort of white earth is found, of which the poor, urged by the calamities of the wars which raged in thoſe parts, make bread. It is taken out of a hill where they formerly worked at ſaltpetre. When the ſun has ſomewhat warmed this earth, it cracks, and ſmall white globules proceed from it as meal; it does not ferment alone, but only when mixed with meal. Mr Sarlitz, a Saxon gentleman, was pleaſed to inform us, that he had ſeen perſons who in a great meaſure lived upon it for ſome time. He aſſures us that he procured bread to be made of this earth alone, and of different mixtures of earth and meal; and that he even kept ſome of this bread by him upwards of ſix years: he further ſays, a Spaniard told him, that this earth is alſo found near Geronne in Catalonia.

Euchariſt, or Sacramental BREAD, in the Proteſtant churches, is common leavened bread, in conformity to the ancient practice. In the Romiſh maſs, azymous or unleavened bread is uſed, particularly in the Gallican church, where a ſort is provided for this purpoſe called *pain a chanter*, made of the pureſt wheaten flour, preſſed between two iron plates graven like wafer-moulds, being firſt rubbed with white wax to prevent the paſte from ſticking. The Greeks obſerve divers ceremonies in their making the euchariſt bread. It is neceſſary the perſon who bakes it have not lain with his wife the day before; or, if it be a woman, that ſhe have not converſed with her huſband. The Abyſſinians have an apartment in their churches, for this ſervice, being a kind of ſacriſty. F. Sirmond, in his diſquiſition on azymous bread, ſhows from the council of Toledo, that anciently there were as many ceremonies uſed in the Latin church in the preparation of their unleavened bread as are ſtill retained in the eaſtern churches. He cites the example of Queen Radegonda, who diſtributed with her own hands, in the church, the bread which ſhe herſelf had made. It appears alſo from the diſpute of cardinal Humbert againſt the Greeks, that in the Latin church no bread was uſed for the euchariſt, but what was taken out of the ſacriſty, and had been made by the deacons, ſubdeacons, and even prieſts, who rehearſed ſeveral pſalms during the proceſs.

Eccleſiaſtical writers enumerate other ſpecies of bread allotted for purpoſes of religion; as, 1. *Calendarius*, that anciently offered to the prieſt at the kalends. 2. *Prebendarius*, the ſame with *capitularis*, that diſtributed daily to each prebendary or canon. 3. *Benedictus*, that uſually given to catechumens before baptiſm, in lieu of the euchariſtic bread, which they were incapable of partaking of. The *panis benedictus* was called alſo *panagium* and *eulogium*, being a ſort of bread bleſſed and conſecrated by the prieſt, whereby to prepare the catechumens for the reception of the body of Chriſt. The ſame was uſed afterwards, not only by catechumens, but by believers themſelves, as a token of their mutual communion and friendſhip. Its origin is dated from the 7th century, at the council at Nantz. In the Gallican church we ſtill find *panis benedictus*, *pain benit*, uſed for that offered for benediction, and afterwards diſtributed to pious perſons who attend divine ſervice in chapels. 4. Conſecrated bread is a piece of wax, paſte, or even earth, over which ſeveral ceremonies have been performed with benedictions, &c. to be ſent in an *Agnus Dei*, or relic box, and preſented for veneration. 5. Unleavened bread, *panis azymus*. The Jews eat no other bread during their paſſover; and exact ſearch was made in every houſe, to ſee that no leavened bread was left. The uſage was introduced in memory of their haſty departure from Egypt, when they had not leiſure to bake leavened. 6. Shew-bread was that offered to God every Sabbath-day, being placed on the golden table in the holy of holies.

*Horſe-*BREAD is made of wheat, oats, and beans: to which ſometimes are added aniſeed, gentian, liquorice, fænugreek, eggs, and ale; and ſometimes rye and white wine are uſed.

For race-horſes three ſorts of bread are uſually given with ſucceſs, for the ſecond, third, and fourth nights feeding: they are all made of beans and wheat worked with barm; the difference conſiſting chiefly in the proportion of the two former. In the firſt kind, three times the quantity of beans is uſed to one of wheat; in the ſecond, equal quantities of both; in the third, three times the quantity of wheat to one of beans.

*Sago-*BREAD. See SAGO.

Aſſize * *of* BREAD. The price and weight of bread is regulated by the magiſtrates according to the price of wheat. We have divers tables of the weights of the loaves both of wheat, wheaten, and houſehold bread, at every price of wheat. If bread want one ounce in 36, the baker formerly was to ſuffer the pillory: now to forfeit 5s. for every ounce wanting; and for every defect leſs than an ounce, 2s 6d.; ſuch bread being complained of and weighed before a magiſtrate within 24 hours after it is baked or expoſed to ſale within the bills of mortality, or within three days in any other place. It is to be obſerved, bread loſes weight by keeping: in ſome experiments recited by Bartholine, the diminution was near one-fourth in ſix months. The ſame author aſſures us, that in Norway they make bread which keeps 30 or 40 years; and that they are there fonder of their old hard bread, than elſewhere of new or ſoft; ſince the older it is, the more agreeable it grows. For their great feaſts, particular care is taken to have the oldeſt bread; ſo that, at the chriſtening of a child, they have uſually bread which had been baked perhaps at the chriſtening of his grandfather. It is made of barley and oat-meal baked between two hollow ſtones.

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* *Boyle's Phil. Works abridged*, vol. III. p. 572.

† *Ibid* vol. I. p. 34, 49.

‡ From the *German Ephemerides*, 1764.

* See *Aſſize*, par. ult.

Bread-Room, in a ſhip, that deſtined to hold the bread or biſket.

The boards of the bread-room ſhould be jointed and caulked, and even lined with tin plates or mats. It is alſo proper to warm it well with charcoal for ſeveral days before the biſket is put into it; ſince nothing is more injurious to the bread than moiſture.

BREADTH, in geometry, one of the three dimenſions of bodies, which multiplied into their length conſtitutes a ſurface.

BREAK, in a general ſenſe, ſignifies to divide a thing into ſeveral parts with violence.

In the art of war, to *break ground*, is to open the trenches before a place.

Among ſportſmen, to *break a horſe* in trotting, is to make him light upon the hand in trotting, in order to make him fit for a gallop. To *break* a horſe for hunting, is to ſupple him, to make him take the habit of running.

BREAKERS, a name given by ſailors to thoſe billows that break violently over rocks lying under the ſurface of the ſea. They are diſtinguiſhed both by their appearance and ſound, as they cover that part of the ſea with a perpetual foam, and produce a hoarſe and terrible roaring very different from what the waves uſually have in a deeper bottom. When a ſhip is unhappily driven among breakers, it is hardly poſſible to ſave her, as every billow that heaves her upwards ſerves to daſh her down with additional force when it breaks over the rocks or ſands beneath it.

BREAKING, in a mercantile ſtyle, denotes the becoming bankrupt. See BANKRUPT.

Breaking-Bulk, in the ſea-language, is the ſame with unlading part of the cargo.

BREAKSPEAR (Nicholas). See ADRIAN IV.

BREAM, in ichthyology. See CYPRINUS.

To Bream, to burn off the filth, ſuch as graſs, ooze, ſhells, or ſea-weed, from a ſhip's bottom, that has gathered to it in a voyage, or by lying long in a harbour. This operation is performed by holding kindled furze, fagots, or ſuch materials, to the bottom, ſo that the flame incorporating with the pitch, ſulphur, &c. that had formerly covered it, immediately looſens and throws off whatever filth may have adhered to the planks. After this, the bottom is covered anew with a compoſition of ſulphur, tallow, &c. which not only makes it ſmooth and ſlippery, ſo as to divide the fluid more readily, but alſo poiſons and deſtroys thoſe worms which eat through the planks in the courſe of a voyage. Breaming may be performed either when the ſhip lies aground, after the tide has ebbed from her, or by docking, or by careening.

BREAST, in anatomy, denotes the fore-parts of the thorax. See ANATOMY, n° 36, 111.

Smiting the breaſt is one of the expreſſions of penitence. in the Romiſh church, the prieſt beats his breaſt in rehearſing the general confeſſion at the beginning of the maſs.

BREASTS, or *Mammæ*, in anatomy. See ANATOMY, n° 112.

The breaſts are uſually two; though we alſo meet with inſtances of *trimamiæ*, or women with three breaſts *, and even ſome with four, all yielding milk alike †.

Breast-Hooks, in ſhip-building, are thick pieces of timber incurvated into the form of knees, and uſed to ſtrengthen the fore-part of the ſhip, where they are placed at different heights directly acroſs the ſtem, ſo as to unite it with the bows on each ſide. The breaſt-hooks are ſtrongly connected to the ſtem and hawſe-pieces by tree-nails, and by bolts driven from without through the planks and hawſe-pieces, and the whole thickneſs of the breaſt-hooks, upon whoſe inſide thoſe bolts are forelocked or clinched upon rings. They are uſually about one-third thicker, and twice as long, as the knees of the decks they ſupport.

Breast-Plate, in antiquity, a piece of armour worn to defend the breaſt, originally believed to be made of hides, or hemp twiſted into ſmall cords, but afterwards made of braſs, iron, or other metals, which were ſometimes ſo exquiſitely hardened, as to be proof againſt the greateſt force.

Breast-Plate, in Jewiſh antiquity, one part of the prieſtly veſtments anciently worn by the high-prieſts. It was a folded piece of the ſame rich embroidered ſtuff of which the *ephod* was made; and it was ſet with twelve precious ſtones, on each of which was engraven the name of the tribes. They were ſet in four rows, three in each row; and were divided from each other by the little golden ſquares or partitions in which they were ſet. The names of theſe ſtones, and that of the tribes engraven on them, as alſo their diſpoſition on the breaſt-plate, are as follows:

Sardine. REUBEN.	*Emerald.* JUDAH.	*Ligure.* GAD.	*Beryl.* ZEBULUN.
Topaz. SIMEON.	*Sapphire.* DAN.	*Agate.* ASHER.	*Onyx.* JOSEPH.
Carbuncle. LEVI.	*Diamond.* NEPHTHALI.	*Amethyſt.* ISSACHAR.	*Jaſper.* BENJAMIN.

This breaſt-plate was faſtened at the four corners; thoſe on the top to each ſhoulder by a golden hook or ring at the end of a wreathed chain; and thoſe below, to the girdle of the ephod, by two ſtrings or ribbons, which had likewiſe two rings and hooks.

This ornament was never to be ſevered from the prieſtly garment; and it was called the *memorial*, to put the high-prieſt in mind how dear thoſe tribes ought to be to him, whoſe names he wore on his breaſt. It is alſo called the *breaſt-plate of judgment*, becauſe it had the divine oracle of *Urim and Thummim* annexed to it. See URIM THUMMIM.

Breast-Plate, in the manege, the ſtrap of leather that runs from one ſide of the ſaddle to the other, over the horſe's breaſt, in order to keep the ſaddle tight, and hinder it from ſliding backwards.

Breast-Work, in fortification, the ſame with PARAPET.

BREATH, the air inſpired and expelled again in the action of reſpiration.

The ancients were very watchful over the laſt breath of dying perſons, which the neareſt relations, as the mother, father, brother or the like; received in their mouths.

BREATHING, the ſame with RESPIRATION.

BRECHIN, a town of Scotland, in the county of Angus, ſituated in E. Long. 2. 18. N. Lat. 56. 40. It conſiſts of one large handſome ſtreet, and two ſmaller; and is ſeated on the ſide of a ſmall hill, waſhed by the river Southeſk, over which there is a ſtone-bridge of two large arches. At the foot of the town is a long row of houſes independent of it, built on ground held in feu from the family of Northeſk. It is a royal borough, and, with four others, ſends a member to parliament. In reſpect to trade, it has only a ſmall ſhare of the linen manufacture. It lies at no great diſtance from the harbour of Montroſe; and the tide flows within two miles of the town; to which a canal might be made, which perhaps might create a trade, but would be of certain ſervice in conveying down the corn of the country for exportation.

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* Barthol. Act. Med. p. 171. Caſt. Lex Med. p. 728.

† Cabrol. Obſerv. 7. Blaſ. Com. ad Veſling. p. 133.

Pennant's Tour in Scotland.

Brechin was a rich and ancient biſhopric founded by David I. about the year 1150. At the reformation, its revenues, in money and in kind, amounted to 700l. a-year; but, after that event, were reduced to 150l. chiefly by the alienation of lands and tythes by Alexander Campbell, the firſt Proteſtant biſhop, to his chieftain the earl of Argyle.—The Culdees had a convent here. Their abbot Leod was witneſs to the grant made by king David to his new abbey of Dunfermline. In after times, they gave way to the Mathurines or Red Friars. The ruins of their houſe, according to Maitland, are ſtill to be ſeen in the College Wynd.—Here was likewiſe an hoſpital called *Maiſon de Dieu*, founded in 1256, by William de Brechin, for the repoſe of the ſouls of the kings William and Alexander; of John earl of Cheſter, and of Huntingdon his brother; of Henry his father, and Juliana his mother. Albinus biſhop of Brechin, in the reign of Alexander II. was witneſs to the grant. By the walls which are yet ſtanding, behind the weſt end of the chief ſtreet, it appears to have been an elegant little building.

The cathedral is a Gothic pile, ſupported by 12 pillars; is in length 166 feet, in breadth 61: part is ruinous, and part ſerves as the pariſh-church. The weſt end of one of the ailes is entire: its door is Gothic, and the arch conſiſts of many mouldings; the window of it neat tracery. The ſteeple is a handſome tower, 120 feet high; the four lower windows in form of long narrow openings; the belfry windows adorned with that ſpecies of opening called the *quatrefoil:* the top battlemented, out of which riſes a handſome ſpire.—At a ſmall diſtance from the aile ſtands one of thoſe ſingular round towers whoſe uſe has ſo long baffled the conjectures of antiquaries. Theſe towers appear to have been peculiar to North-Britain and Ireland: in the laſt they are frequent; in the former, only two at this time exiſt. That at Brechin ſtood originally detached from other buildings. It is at preſent joined near the bottom by a low additional aile to the church, which takes in about a ſixth of its circumference. From this aile there is an entrance into it of modern date, approachable by a few ſteps, for the uſe of the ringers; two handſome bells are placed in it, which are got at by means of ſix ladders placed on wooden ſemicircular floors, each reſting on the circular abutments withinſide of the tower. The height from the ground to the roof is 80 feet; the inner diameter, within a few feet of the bottom, is 8 feet; the thickneſs of the wall at that part, 7 feet 2 inches; ſo that the whole diameter is 15 feet 2 inches; the circumference very near 48 feet; the inner diameter at top is 8 feet 7 inches; the thickneſs of the walls, 4 feet 6 inches; the circumference, 38 feet 8 inches: which proportion gives the building an inexpreſſible elegance: the top is roofed with an octagonal ſpire 23 feet high, which makes the whole 103. In this ſpire are four windows placed alternate on the ſides, reſting on the top of the tower; near the top of the tower are four others facing the four cardinal points: near the bottom are two arches, one within another, in relief; on the top of the utmoſt is a crucifixion: between the mouldings of the utmoſt and inner are two figures; one of the Virgin Mary; the other of St John, the cup, and lamb. On each corner of the bottom of this arch is a figure of certain beaſts; one poſſibly the Caledonian bear; and the other, with a long ſnout, the boar. The ſtone-work within the inner arch has a ſmall ſlit or peep-hole, but without the appearance of there having been a door within any modern period: yet there might have been one originally; for the filling up conſiſts of larger ſtones than the reſt of this curious rotund. The whole is built with moſt elegant maſonry, which Mr Gough obſerved to be compoſed of 60 courſes.—This tower hath often been obſerved to vibrate with a high wind.

The caſtle of Brechin was built on an eminence, a little ſouth of the town; it underwent a long ſiege in the year 1303; was gallantly defended againſt the Engliſh under Edward III.; and, notwithſtanding all the efforts of that potent prince, the brave governor Sir Thomas Maule, anceſter of the preſent earl of Panmure, held out this ſmall fortreſs for 20 days, till he was ſlain by a ſtone caſt from an engine on the 20th of Auguſt, when the place was inſtantly ſurrendered. The family of Panmure have now a noble houſe on the ſite of the old caſtle.—Brechin is alſo remarkable for a battle fought near it, in conſequence of the rebellion raiſed in 1452, on account of the murder of the earl of Douglas in Stirling caſtle. The victory fell to the royaliſts under the earl of Huntly. The malecontents were headed by the earl of Crawford, who, retiring to his caſtle of Finhaven, in the frenzy of diſgrace declared, that he would willingly paſs ſeven years in hell, to obtain the glory which fell to the ſhare of his antagoniſt.

BRECKNOCK, or BRECON, a town of Brecknockſhire in Wales, and capital of the county. It is called by the Welch *Aber Hondey*, and is ſeated at the confluence of the rivers Hondey and Uſk, over which there is a handſome ſtone bridge. It is an ancient place, containing three churches, one of which is collegiate, and is ſeated at the weſt end of the town. The houſes are well built. Here was formerly a ſtately caſtle, and a ſtrong wall, through which there were three gates, that are all demoliſhed. It ſends one member to parliament. It is well inhabited, which is in ſome meaſure owing to its being the town where the aſſizes are kept; and there is here a conſiderable woollen-manufactory. The markets are well ſupplied with cattle, corn, and proviſions. W. Long. 3. 15. N. Lat. 52. 0.

BRECKNOCKSHIRE, a county of Wales, bounded by Radnorſhire, on the north; Cardiganſhire and Caermarthenſhire, on the weſt; Herdfordſhire and Monmouthſhire, on the eaſt; and by Glamorganſhire and Monmouthſhire, on the ſouth. It is 35 miles in length, 30 in breadth, and about 100 in circumference. It is ſurrounded with hills, which renders the air in the valleys pretty temperate. The ſoil on the hills is very ſtony, but the ſtreams deſcending from thence into the valleys render them fruitful both in corn and graſs. The chief commodities here are corn, cattle, fiſh, and otter's fur, beſides manufactures of cloth and ſtockings. The principal rivers are the Uſk, the Wye, and the Yrvon. The chief towns are Brecknock, Bealt, and Hay.

Two miles to the eaſt of Brecknock is a large lake, called *Brecknock Meer*, and by the Welch *Lhyn Savaddan*; it is two miles in length, and nearly the ſame in breadth. It contains plenty of otters, tench, perch, and eels. The county ſends one member to parliament. It is in the dioceſe of Landaff, and contains 61 pariſhes, and is divided into ſix hundreds.

BREDA, a town in Holland, the capital of Dutch Brabant. It is a large, populous, well built city, regularly fortified after the modern way, and is one of the ſtrongeſt places on the Dutch frontiers. It is ſeated on the river Meck, in a marſhy country, which may be overflowed and rendered inacceſſible to an army. It is 4000 paces in circumference, and contains upwards of 2000 houſes. The town is of a triangular figure, and the ramparts are all planted round with elms. At every angle there is a gate built with brick. The great church is a noble ſtructure, remarkable for its fine ſpire, which is 362 feet high. The mauſoleum of Angelbert II. count of Naſſau, is a curious piece adorned with ſeveral ſtatues and inſcriptions ſuitable to the occaſion. In 1577 the garriſon delivered this city to the States-general; but it was retaken in 1581 by Cloude de Barlaimont, aſſiſted by the baron de Freſin, who was priſoner therein. In 1590, prince Maurice took it again from the Spaniards.

In 1625 it was inveſted by Spinola; when it endured a ſiege too remarkable not to deſerve a particular detail.

The citadel, which formed the reſidence of the princes of that family, was ſurrounded by a ditch of prodigious depth filled with water, and a ſtrong wall defended by three great baſtions; and the arſenal was celebrated for its extent, and the vaſt quantities of arms and military ſtores it contained. Spinola, perfectly acquainted with the ſtrength of the place, thought he ſhould expoſe his whole army to imminent deſtruction, ſhould he attempt an aſſault before he had regularly carried on his approaches. He even reſolved upon reducing the city by famine, as the method attended with leaſt danger to his army; and accordingly began with drawing trenches round, for the ſpace of four miles, erecting forts and redoubts at certain diſtances.

On the other hand, the garriſon, conſiſting of ſeven thouſand infantry, and ſeveral troops of horſe, compoſed of Engliſh, French, and Dutch ſoldiers, took the moſt vigorous meaſures for their own defence. The Engliſh were under the command of Colonel Morgan, who had frequently diſtinguiſhed his valour in the ſervice of the ſtates: the French were directed by colonel de Hauterive; and the Dutch troops were ſubject to the immediate orders of colonel Lohre, though the whole received their inſtructions from Juſtin de Naſſau, the governor. The firſt advantage was gained by Baglioni, who ſeized a large convoy of proviſions and ſtores coming up the river, converting the boats into a bridge. This loſs diſpirited the beſieged, and reduced them to a ſtated allowance of bread; and what added to their misfortunes, though they were ignorant of it, was the death of Prince Maurice, from whom they were in hopes of receiving relief.

Meanwhile Spinola proſecuted the ſiege with the utmoſt diligence and vigour. On his puſhing his trenches near the baſtions, the beſieged began a terrible fire to retard his approaches, and kept it up with ſuch vehemence and obſtinacy, that Spinola was in hopes they muſt ſoon ſurrender for want of ammunition. But here he formed a falſe judgement of the prudence of Juſtin de Naſſau, who finding he could not accompliſh his purpoſe by his firing, reſolved to try the effect of water. With this view, he ſtopped up the courſe of the river Marck; and having formed a large baſon of water opened the ſluices, ſwept away men, horſes, and houſes in an inundation, and overflowed the whole country. The chief force of the torrent fell upon Spinola's quarters, and he exerted his utmoſt ability to remove the conſequences. He dug large pits, and cut out ditches and canals to receive the water; but theſe being filled, and the whole ground covered over, ſo as to appear one uniform maſs of water, ſerved only to entrap his cavalry. The inundation was augmented by the rains which happened to fall; a mortality among the ſoldiers and horſes enſued; and of his whole army, Spinola had ſcarce twelve thouſand men fit for ſervice by the month of December. With theſe inconſiderable remains, lines of vaſt extent were to be defended, the works were to be advanced, the ſallies from the garriſon repulſed, and proviſions to be conveyed into the camp, while Spinola, the ſoul of action, was confined to a ſick-bed.

In the garriſon, an epidemical diſeaſe and ſcarcity likewiſe prevailed; but the excellent regulations made, and ſtrictly obſerved, enabled the town to hold out three or four months beyond the time expected. The magiſtrates bought the corn for the bakers; obliging them to ſell the bread to the inhabitants and garriſon at a price affixed, and returning the overplus of their pay to the ſoldiers. A variety of other prudent regulations were eſtabliſhed by the magiſtrates and governor, ſuch as we do not find equalled by any inſtances recorded in hiſtory upon a ſimilar occaſion, and all evincing the ſteadineſs, ſagacity, courage, and ability, of Juſtin de Naſſau. A kind of rivalſhip appeared between him and Spinola, which ſhould beſt fulfil their ſeveral duties. The Spaniſh general cauſed himſelf to be carried about the works in a litter; he inſpected and directed every thing; and diſplayed the activity of full health at the time his life was in imminent danger from an acute malady. He ordered ſeveral breaches in the lines to be repaired. Theſe the Hollanders had made by ſap, with a view of introducing ſuccours to the beſieged. He drove piles into all the ditches and canals through which their boats could paſs. He made drains, to clear off the waters of the river Marck; and ſucceeded in a great meaſure by dint of perſeverance, vigilance, and conduct. He was now reinforced with a body of eight thouſand foot, and one thouſand five hundred horſe; many of the ſick were perfectly recovered by his extreme care; and his army was again become formidable, amounting to twenty-five thouſand infantry and eight thouſand cavalry. Nor was prince Henry idle, who now ſucceeded to the titles and dominions of his brother Maurice, and was elected governor of Holland, Zealand, Guelderland, Utrecht, and Overyſſel. He preſſed France for aſſiſtance, and was joined by a body of cavalry under the conduct of the count de Rouſſi and the marquis de Rambures. With this reinforcement, and a body of German infantry, he attacked the enemy's lines, and after an obſtinate conflict was repulſed. He advanced a ſecond time; but Spinola, who entertained a high opinion of his valour and conduct, did not chooſe to wait for him in his lines; he marched out with the greater part of his army, ſeized upon a convenient poſt, and obliged the prince a ſecond time to retire towards Boiſleduc. Henry, finding no proſpect of being able to relieve the garriſon, ſent a permiſſion to the governor to ſurrender on the beſt conditions he could obtain. This plan, which was ſigned with no name, fell into the hands of the beſiegers, and Spinola ſent it open, by a trumpet, to Juſtin de Naſſau, offering him an honourable capitulation; but that intrepid governor, ſuſpecting the letter was forged, becauſe it was anonymous, replied civilly, that a permiſſion was not an order to ſurrender; and that he ſhould better follow the prince of Orange's intention, and ſhow his reſpect for Spinola, by continuing to defend the city to the laſt extremity.

By this time the garriſon was diminiſhed by diſeaſe, fatigue, want, and hardſhip, to half the original number; but Juſtin put on ſuch a countenance, as concealed his ſituation from Spinola. He frequently ſallied out upon Baglioni's quarters, where the Italians were periſhing with cold and hunger, the whole ſubſiſtence of the beſiegers depending on the contributions raiſed in the neighbouring territories. This inconvenience produced a mutiny in the camp, that could not be appeaſed without applying violent remedies, and executing within ſight of the whole army the chief ringleaders. One of the mutineers blew up Spinola's chief magazine, valued at two hundred thouſand livres. Urged more by neceſſity than compaſſion for the beſieged, Spinola ſent a meſſage to the governor, exhorting him not to force him to extremities, which might be attended with fatal conſequences to a brave garriſon; but Juſtin, with equal art and diſſimulation, anſwered, that Spinola was certainly ill ſerved by his ſpies, as he appeared wholly unacquainted with the ſtate of affairs in Breda, which was fully provided for a ſiege of ſeveral months, and defended by ſoldiers who preferred death to the neceſſity of ſurrendering. At that time the beſieged were not informed of the death of the prince of Orange. They flattered themſelves with the hopes of ſpeedy ſuccour, and were entirely ignorant of prince Henry's late diſappointment. When they wrote to the army an account of their miſerable condition, Henry returned an anſwer, written with his own hand, and ſigned with his name, appriſing them of the death of Maurice, the unſucceſsful attempts made to raiſe the ſiege and throw in ſuccours, the great inferiority of his troops in point of numbers, and the death of king James, whereby he was diſappointed of a ſtrong reinforcement; concluding, that he left the city entirely to the diſcretion of the governor and other principal officers. Juſtin was thunderſtruck with the contents of this letter. He had hitherto concealed the total want of proviſion and ammunition from the enemy, and his own garriſon, except a few officers and other perſons in whom he repoſed confidence. The colonels Hauterive and Morgan would liſten to no propoſitions, ſaying, that the honour of their ſeveral countries were concerned, and that they were reſponſible for the conduct of the Engliſh and French forces. They therefore required an expreſs order from the prince of Orange to ſurrender, notwithſtanding they pined under the united preſſure of fatigue, ſcarcity, and diſeaſe. Juſtin acquainted the prince with their reſolution, and he ſent back an order to ſurrender, threatening with capital puniſhment whoever ſhould diſobey; but he requeſted that the garriſon would firſt acquaint him by a certain number of fires, lighted up in different parts of the city, how many days they ſhould be able to hold out. Upon receipt of this order, eleven fires were kindled; but as the prince had ſent a duplicate of the order by another meſſenger, and this fell into the hands of the enemy, Spinola was now acquainted with the deſperate circumſtances of the beſieged. By this acquiſition he likewiſe diſcovered the myſtery of the eleven fires: a council of war was aſſembled to deliberate whether they ſhould ſtay the eleven days, and then obliged the garriſon to ſurrender at diſcretion, or immediately offer conditions worthy of ſo brave a garriſon. The Spaniſh officers were of the former opinion; the count de Berg and Spinola ſupported the latter. At laſt the marquis, determined to purſue the dictates of his noble generoſity, ſent ſuch terms as could not be refuſed. The count de Berg conducted the negociation. Two ſeparate capitulations were drawn up, one for the garriſon and the other for the city, and both the moſt honourable and advantageous that could be deviſed. They were accepted, and the garriſon marched out on the 6th of June, after having ſuſtained a ſiege for ten months, whereby they were diminiſhed two-thirds; nor was the loſs inferior on the part of the inhabitants. Spinola drew up his army to ſalute them, and ſurrounded by his field officers, paid particular compliments to the governor, the colonels Morgan, Hauterive, and Lohre. He diſtributed money among the ſoldiers, ordered the ſick and wounded to be treated with the utmoſt tenderneſs, conveyed the reſt in the manner moſt commodious for them to Gertruydenburgh, and diſplayed all the ſentiments of a hero in the regard paid to the valour and merit of his enemies.

Breda was retaken by the prince of Orange, for the United Provinces, in 1637. There was a congreſs held there, and peace concluded, in 1667, between the Dutch and the Engliſh. E. Long. 4. 45. N. Lat. 51. 35.

BREDA (John Van), painter of hiſtory, landſcape, and converſations, was born at Antwerp in 1683, the ſon of Alexander Van Breda, an artiſt who was much eſteemed for landſcapes, views of particular ſcenes in Italy, fairs, and markets, with a variety of animals and figures. He was inſtructed by his father; and having the advantage of a good example and a good director, added to his own great application, he continued his ſtudies with his father till he was 18 years of age. Among the variety of capital paintings which were at that time in the poſſeſſion of John de Wit at Antwerp, Breda fixed upon thoſe of Velvet Brueghel, which he copied with extraordinary ſucceſs; and he was alſo employed for nine years in copying the pictures of ſeveral other great maſters; which he performed with ſuch incredible exactneſs as ſcarcely to leave it in the power of any judicious perſon to diſtinguiſh the originals from the copies. Having at length eſtabliſhed his reputation in Holland, he went to London with Ryſbrack the ſculptor and there gradually roſe into ſuch eſteem that he was viſited by perſons of the higheſt rank, and particularly patroniſed by the unfortunate Earl of Derwentwater, who was beheaded for rebellion in 1715. He found ſo much encouragement in London, that he was employed by the court and the nobility, and could ſcarce execute the large demands for his performances. After a reſidence of ſome years in England, he returned to Antwerp loaded with riches, the honourable teſtimonies of Engliſh liberality, as well as of his own merit; and in the year 1746, when Louis XIV. arrived in that city, he ſo far honoured this maſter as to purchaſe four of his pictures. One repreſented Chriſt at the ſea of Tiberias; another, Chriſt performing miracles: and the other two were landſcapes, with a number of figures, ſo exquiſitely drawn and finiſhed that it would be difficult to diſtinguiſh them from thoſe of Velvet Brueghel. He certainly approached nearer to thoſe great maſters whoſe manner he imitated, namely, Brueghel and Wouwermans, than any other artiſt of his time. His landſcapes are in the ſtyle and taſte of the former, and his converſations, hiſtorical figures, fairs, ſkirmiſhes, or battles, are in the manner of the latter. His colouring is good; his touch neat; his ſkies and diſtances natural and beautiful; and his taſte of deſign agreeable. He had as much fire in his compoſition, and perhaps more genius, than Brueghel, in thoſe ſubjects which he painted in the ſtyle of that maſter; his figures are generally well placed, his grounds ſkilfully broken; every ſmall figure hath its particular character, and occupies its proper place; and, in ſhort, he is a painter of ſuch a rank, that the value and eſtimation of his works muſt always increaſe. He died in 1750.

Pilkington's Dict.

BREECH of a great gun, or cannon, the end next the touch-hole.

BREECHES, a garment worn by males, reaching from the girdle to the knees, and ſerving to cover the hips, thighs, &c.

The ancient Romans had nothing in their dreſs anſwering to our breeches and ſtockings; inſtead of which, under their lower tunics and waiſtcoats they ſometimes bound their thighs and legs round with ſilken ſcarves or faſciæ, called *tibialia* and *femoralia*. Breeches appear to be a habit peculiar to the barbarous nations, eſpecially thoſe inhabiting the colder countries of the north; whence Tacitus calls them *barbarum tegmen*. We find mention made of them among the ancient Getæ, Sarmatæ, Gauls, Germans, and Britons; they alſo obtained among the Medes and Perſians, as being a people of Scythian origin: they alſo afterwards got footing in Italy, ſome pretend as early as the time of Auguſtus; but without much foundation, that emperor's breeches, mentioned by Suetonius, being apparently only ſwaths tied over his thighs. However this be, breeches were at laſt received into Italy, and grew ſo highly into faſhion, that it was thought neceſſary under Honorius and Arcadius, to reſtrain them by law, and expel the *bracarii* or breeches-makers out of the city; it being thought unworthy of a nation that commanded the world, to wear the apparel of barbarians.

BREECHINGS, in the ſea-language, the ropes with which the great guns are laſhed or faſtened to the ſhip's ſide. They are thus called, becauſe made to paſs round the breech of the gun.

BREEDING, in a general ſenſe, the producing, nouriſhing, and educating, all manner of young animals.

BREEDING, in a moral ſenſe, denotes a perſon's deportment or behaviour in the external offices and decorums of ſocial life. In this ſenſe we ſay, *well-bred, ill-bred, a man of breeding, &c.* Good-breeding is hard to define; none can underſtand the ſpeculation but thoſe who have the practice. Good-breeding amounts to much the ſame with what is otherwiſe called *politeneſs*, among the ancient Romans *urbanity*. Good-breeding is near to virtue, and will of itſelf lead a man a great part of the way towards the ſame. It teaches him to rejoice in acts of civility, to ſeek out objects of compaſſion, and to be pleaſed with every occaſion of doing them good offices. Lord Shafteſbury compares the well-bred man with the real philoſopher: both characters aim at what is excellent, aſpire to a juſt taſte, and carry in view the model of what is beautiful and becoming. The conduct and manners of the one are formed according to the moſt perfect eaſe, and good entertainment of company; of the other, according to the ſtricteſt intereſt of mankind: the one according to his rank and quality in his private ſtation, the other according to his rank and dignity in nature. Horace ſeems to have united both characters,

> Quid verum atque decens curo et rogo, et omnis in hoc ſum.

See the article *Good-Manners*.

Breeding of Horſes. See Equus.

Breeding of Fiſh. The neceſſary qualities of a pond, to make it ſerve well for breeding fiſh, are very different from thoſe which are to make it ſerve for the feeding of them, inſomuch that ſome particular ponds ſerve only for one of theſe purpoſes, and others for the other; and ſcarce ever the ſame pond is found to anſwer for them both. In general, it is much more rare to find a good breeding pond than a good feeding one. The beſt indications for a good breeding pond are theſe; that there be a good quantity of ruſhes and graſs about its ſides, with gravelly ſhoals, ſuch as horſe-ponds uſually have: when a pond has this property, and takes to the breeding of fiſh, it is amazing what a progreſs will be made in a little time. The ſpawn of fiſh is prodigious in quantity; and where it ſucceeds, one is able to produce many millions: thus, in one of theſe breeding ponds, two or three melters, and as many ſpawners, will, in a very little time, ſtock the whole country. When theſe ponds are not meant entirely for breeding, but the owner would have the fiſh to grow to ſome ſize in them, the method is to thin the numbers, becauſe they would otherwiſe ſtarve one another, and to put in other fiſh that will prey upon the young, and thin them in the quickeſt manner. Eels and perch are the moſt uſeful on this account; becauſe they prey not only upon the ſpawn itſelf, but upon the young fry from the firſt hatching to the time they are of a conſiderable ſize.

Some fiſh are obſerved to breed indifferently in all kinds of waters, and that in conſiderable plenty; of this nature are the roach, pike, and perch.

BREENBERG (Bartholomew), an excellent painter, was born in 1620. He is beſt known by the name of *Bartolomeo*, an appellation beſtowed upon him, for diſtinction ſake, by the ſociety of Flemiſh painters at Rome called *Bentvogels*. He was born at Utrecht; but in the early part of his life went to Rome. His ſtudies in the art of painting were attended with ſuch ſucceſs, that his pictures were held in the higheſt eſtimation. He greatly excelled in landſcapes, and theſe he enriched with hiſtorical ſubjects. The figures and animals which he introduced were very ſpirited, and drawn in a maſterly manner; eſpecially when they were not larger than the ſize in which he uſually painted them. He died 1660, aged 40 years. He alſo etched from his own deſigns a ſet of 24 *Views and Landſcapes, ornamented with Ruins*.

BREEZE, a ſhifting wind that blows from ſea or land for ſome certain hours in the day or night; common in Africa and ſome parts of the Eaſt and Weſt Indies.

Breezes differ from *eteſiæ* or trade-winds, as the former are diurnal, or have their periods each day; and the latter are anniverſary, and blow at a diſtance from land. The ſea-breezes rule by day, and the land-breezes by night; ſo that, dividing their empire, they remain conſtant as the ſeaſons of the year, or courſe of the ſun, on which they ſeem to depend: not but that they appear ſooner or later, ſtronger or weaker, in ſome places than in others; and vary the alternative according to the ſeveral latitudes, ſituations, and ſoils, &c. of the countries where they are found. See the article WIND.

BREEZE-Fly. See TABANUS.

BREGENTZ, or BERGENTZ, a town of Tyrol in Germany, ſituated at the eaſt end of the lake of Conſtance, in E. Long. 9. 40. N. Lat. 47. 36.

BREGMA, in anatomy, the ſame with ſinciput. See ANATOMY, n° 11, 13.

BREHAR, one of the Scilly iſlands, lying almoſt directly weſt of the land's end in Cornwall, about the diſtance of 30 miles. It lies between the iſles of Micarlo, Guel, Treſcaw, and Samſon. It is the rougheſt and moſt mountainous of them all, and not many years ſince, there were only two families in it, but now there are 13. There are a few poor houſes, called the *town of Brehar*; and there are ſeveral BARROWS edged with ſtone, in which they buried conſiderable perſons in ancient times; beſides many monuments of the DRUIDS. Some are of opinion, that this with the reſt made but one iſland, which is the reaſon why ſo many antiquities are now found in moſt of them.

BREHONS, the provincial judges among the ancient Iriſh, by whom juſtice was adminiſtered, and controverſies decided. Theſe ſages were a diſtinct tribe or family, to whom competent lands were allowed in inheritance. In criminal caſes the brehon had the eleventh part of all the fines; which could uot but be conſiderable at a time when murders, rapes, robberies, and the like offences, were only ſubject to pecuniary commutations.

BREHON-Laws, or *Leges Brehonicæ*, denote the general maxims or rules of law obſerved by the brehons, and having the force of laws throughout all the provinces of Ireland. Several fragments of the *leges brehonicæ* are ſtill extant in public and private libraries. The moſt complete collection is that belonging to the duke of Chandos; containing 22½ ſheets cloſe written, full of abbreviated words, and not very legible. By the ſtatute of Kilkenny, made nnder Edward III. it is enacted that no Engliſh ſubject ſhall ſubmit to a trial by the *brehon* law, on the penalty of high treaſon. Notwithſtanding which, many were ſtill under a neceſſity of being concluded by the Iriſh laws and cuſtoms, till the whole kingdom was ſettled on an Engliſh bottom by king James I.

BREMEGARTON, a handſome and pretty conſiderable town of Swiſſerland, in the territory of Fyen-Aempter, between the cantons of Zurich and Bern. The inhabitants deal chiefly in paper; and their religion is the Roman-catholic. It is divided into the upper and larger towns, and is very advantageouſly ſeated on the river Ruſs. E. Long. 8. 25. N. Lat. 47. 20.

BREMEN, a large, populous, and very ſtrong town of Germany, capital of a duchy of the ſame name, with an archbiſhop's ſee, ſecularized in favour of the Swedes, but now belongs to the elector of Hanover. The river Weſer runs through the middle, and divides it into the old and new town. In September 1739, while the inhabitants were aſleep, the magazine of powder was ſet on fire by lightning; and all the houſes were ſhook, as if there had been a violent earthquake, which threw them into a terrible conſternation. This town is divided into four quarters, each of which has a burgomaſter; and in the middle there is a large market-place, with the ſtatue of Rolando. Bremen drives a very large trade for iron, flax, hemp, and linen, with France, England, Spain, and Portugal, and in return takes back other proviſions, with which it ſupplies Weſtphalia and the countries about Hanover. It alſo gets a great deal by its fiſheries; the trade for blubber with the ſouth of Germany is very conſiderable. E. Long. 8. 45. N. Lat. 53. 40.

BREMEN, a duchy of Germany, in the province of Lower Saxony, lying between the rivers Weſer and the Elbe; of which the former ſeparates it from the duchy of Oldenburg, and the other from that of Holſtein. The air is cold; but the country is fertile, and well peopled. It formerly belonged to the Swedes, but was afterwards ſold to the king of Great Britain, as elector of Hanover, in 1716. In the winter it is ſubject to inundations. In 1617, on Chriſtmas-day, ſeveral thouſand cattle were drowned, beſides ſeveral hundreds of men; and the country was ſo covered with water, that it has coſt immenſe ſums to repair the dykes. Bremen is the capital town.

BREMEN-Veerd, a town of Germany, in the circle of lower Saxony, and duchy of Bremen. It is an open town, ſeated on the river Ooſt, and was formerly the place of reſidence of the archbiſhop. E. Long. 8. 35. N. Lat. 53. 58.

BRENNAGE, BRENNAGIUM, in middle-age writers, a kind of tribute paid in lieu of bran, or bran itſelf, which the tenants were obliged to furniſh for the ſupport of the lord's hounds. The word is alſo written *brenage*, *brenagium*, and *brenaige*, *bernagium*, *brenaticum*, and *brennaticum*.

BRENNUS, a celebrated captain among the Gauls, who, about 388 years before the Chriſtian æra, entered

Italy with a powerful army; made great conqueſts there; defeated the Romans; and ſacked Rome. The capitol alone was defended; and Camillus coming to its relief, drove the Gauls not only out of Rome, but out of all Italy. See *(Hiſtory of)* ROME.

BRENT, a town of Devonſhire, with a market on Saturdays, and two fairs, on May 13th and October 10th, for horned cattle. It is but a ſmall place, and lies on the road from Exeter to Plymouth, being 26 miles ſouth-weſt from the former, and 198 weſt-by-ſouth of London. W. Long. 5. 7. N. Lat. 50. 30.

BRENT Gooſe, a ſpecies of gooſe with a black neck, and a white collar round; uſually confounded with the barnacle, tho' in reality a diſtinct ſpecies. See ANAS.

BRENTFORD, a town of Middleſex, in the great London road to the weſt. It is divided into old and new Brentford, in which laſt are the church and market-houſe, and where the country elections are held. It is a long place, well ſtocked with public houſes, and is ſeated on the river Thames, in W. Long. 0. 10. N. Lat. 51. 26.

BRENTWOOD, or BURNTWOOD, a town of Eſſex in England; it ſtands on a riſing ground in the road from London to Colcheſter, and has ſeveral good inns. E. Long. 0. 25. N. Lat. 51. 38.

BREREWOOD (Edward), a very learned Engliſh mathematician and antiquary, was the ſon of Robert Brerewood a tradeſman, who was thrice mayor of Cheſter; and born in that city in the year 1565. He was educated in grammar learning at the free ſchool in Cheſter; and afterwards admitted, in 1581, of Brazen-noſe-college in Oxford. In the year 1596, he became the firſt profeſſor of aſtronomy in Greſham-college in London; where he led the ſame private and retired courſe of life that he had before done in Oxford. He died there of a fever, upon the 4th of November 1613, much lamented. He was a great ſearcher into antiquity and curious knowledge; but is remarkable for having never publiſhed any thing during his lifetime. After his death came out the following works. 1. *De ponderibus et pretiis veterum nummorum.* 2. Inquiries touching the diverſities of languages and religion through the chief parts of the world. 3. *Elementa logicæ in gratiam ſtudioſæ juventutis in Acad. Oxon.* 4. *Tractatus quidam logici.* 5. 6. Two treatiſes on the Sabbath. 7. *Tractatus duo, quorum primus eſt de meteoris, ſecundus de oculo.* 8. *Commentarii in ethica Ariſtotelis.* Mr Wood tells us, that the original manuſcript of this, written with his own hand, is in the ſmalleſt and neateſt characters that his eyes ever beheld; and that it was finiſhed by him on the 27th of October 1586. 9. Patriarchal government of the ancient church.

BRESCIA, a ſtrong and handſome town of Italy, with a biſhop's ſee and a good citadel. It is the capital of Breſciano in the territory of Venice, and is ſeated in an agreeable plain on the river Garza, in E. Long. 10. 5. N. Lat. 45. 31.

BRESCIANO, a province of Italy in the territory of Venice; bounded on the north, by the Griſons and the biſhopric of Trent; on the eaſt, by the lake Garda, the Veroneſe, and the duchy of Mantua; on the ſouth, by the duchy of Mantua and the Cremoneſe; and on the weſt, by the Creſmaſco, the Burgomaſco, and the Valtelina. It is watered by ſeveral ſmall rivers, which render it very fertile; and is full of towns and villages, of which Breſcia is the capital.

BRESELLO, a ſmall town in Italy, of the duchy of Modena, ſeated on the river Po, in E. Long. 10. 25. N. Lat. 44. 55.

BRESCICATE, in commerce, a kind of bays, of which there is ſome trade carried on with the negroes, between the river Gambia and Sierra Leona. The beſt ſorts for that purpoſe are the blue and the red.

BRESLAU, a ſmall duchy of lower Sileſia, in Germany, lying between thoſe of Wolaw, Olſſe, Brieg, Schwednitz, and Lignitz. It is every where level and flat; is an excellent corn country, yielding alſo good paſture; abounding alſo with herds of cattle and flocks of ſheep; but deſtitute of wood, except in one diſtrict or circle; and the roads in general are very bad. It is an immediate principality; that is, one of which both the property and juriſdiction belong to the king, forming a part of one of the three bailiwics into which all the immediate principalities are divided.

BRESLAU, the chief town of the duchy of that name, and of all Sileſia, is ſituated at the conflux of the Oder and Ohlau, in E. Long. 17. 5. N. Lat. 51. 4. Including the ſuburbs, it is of great extent; having many large regular ſquares, broad ſtreets, ſtately public and private edifices; but the fortifications are of no great importance. Here are in particular a great many churches and convents belonging to the catholics; of the former are ſeveral alſo belonging to the Lutherans, one to the Calviniſts, and another to the Greeks. The Jews have likewiſe two ſynagogues, the biſhop a ſtately palace, and the Lutherans two gymnaſiums. The Popiſh univerſity is a noble ſtructure, nor is the exchange deſtitute of magnificence. This city is the ſeat of all the high colleges; and the third in rank, next to Berlin and Konigſberg, in all the Pruſſian dominions. The magiſtracy of it is Lutheran, and its trade and manufactures are very conſiderable. Several of the monaſteries and nunneries are very magnificent; and there are alſo ſome good public libraries in it, with two armouries, a college of phyſicians, and a mint. Breſlau is very populous, and much frequented by Hungarian, Bohemian, Poliſh, and other merchants, having ſeveral yearly fairs. The city was taken by the king of Pruſſia in 1741, and retaken by the Auſtrians in 1757; but the king of Pruſſia took it back again the ſame year, and gained a ſignal victory over the Auſtrians at Leuthen, a village not far from the capital.

BRESSE, a province of France, bounded on the north, by Burgundy and the Franche Compte; on the eaſt, by Savoy; on the ſouth, by Viennois; on the weſt, by the principality of Dombes and the Somme. It is 40 miles from north to ſouth, and 23 from eaſt to weſt. It is fertile in corn and hemp, has fine paſtures, and ſeveral lakes with plenty of fiſh. It is divided into the higher and lower; the firſt is on the ſide of Bourges, and the ſecond towards St Trivier and the river Sonne. The French got poſſeſſion of it in 1601. The principal places are Bourgen, Breſſe, Montluel, Pont de Vaux, and Coligny.

BRESSICI, in geography. See BRESTE.

BREST, a maritime town of France, in lower Brittany, ſeated on the declivity of a hill on the ſide of its port, which is the largeſt in the kingdom, and will hold

500 ſhips at a time. There is an arſenal with ſea-ſtores, which was placed there on account of its nearneſs to the woods, mines of iron, and other things proper for the building of ſhips. It was entirely conſumed by fire in 1744, which was an irreparable loſs to France. The entrance into the port is guarded by a ſtrong caſtle ſeated on a rock, which cannot be attempted on the ſea ſide, becauſe it is craggy, and is defended on the land ſide by a large ditch and other fortifications. The ſtreets of Breſt are very narrow, ill contrived, few in number, and have all a deſcent. A great quay ſurrounds this ſide of the port, which is above a mile in length, and 200 paces broad; and there are magazines on the quay full of all foreign merchandizes. On the other ſide of the port the fine church of Notre Dame is ſituated; and in a ſuburb which is as big as half the city, there is a ſtrong tower oppoſite to the caſtle, at the entrance of the port; there is alſo a great quay on this ſide, bordered with large magazines, partly within the rock, which has been cut away to enlarge the place. Theſe are extended almoſt as far as the bottom of the harbour, where there are two docks very commodious for the building of large ſhips: the ſhops and houſes of the workmen are all around them: the ropewalks are ſeparated from the city by one of theſe docks. The entrance into the harbour is called the *gullet*, and is a paſſage extremely difficult on account of the ſunk rocks on both ſides of the ſhore; but there are experienced pilots who carry ſhips in very ſafely. The Engliſh attempted to take poſſeſſion of this harbour in 1694, but were diſappointed. W. Long. 4. 26. N. Lat. 48. 23.

BREST, or *Breaſt*, in architecture, a term ſometimes uſed for the member of a column, more uſually called *torus*. See TORUS.

BREST-Summers, in timber buildings, are pieces in the outward thereof, into which the girders are framed: this, in the ground-floor, is called a *cell*; and, in the garret-floor, a *beam*.—As to their ſize, it is the ſame with that of girders. See GIRDERS.

BRESTE, the palatinate of, is one of the provinces of Cujava, in Poland. It lies between the palatinates of Ploeſko, Rava, and Lencici Wiadiſlaw. It is divided into four chatelanies, and Breſte is the capital of the whole.

BRESTE, or *Breſſici*, the capital of the palatinate of Breſſici, and of Poleſia, in Poland, ſeated on the river Bog, 80 miles eaſt of Warſaw, and ſubject to Poland. It is a fortified town, and has a caſtle built upon a rock. Here is a famous ſynagogue, reſorted to by the Jews from all the countries in Europe. E. Long. 24. 0. N. Lat. 41. 35.

BRET, a name the people on the coaſts of Lincolnſhire give to the common turbot, a fiſh extremely plentiful with them, and taken in vaſt abundance. The way of catching them is in a net trailed on the ground by two horſes; the one going up to the middle of his body in water, the other on ſhore.

BRETESSE, in heraldry denotes a line embattled on both ſides.

BRETHREN AND SISTERS OF THE FREE SPIRIT, in Eccleſiaſtical Hiſtory, an appellation aſſumed by a new ſect which ſprung up towards the cloſe of the thirteenth century, and gained many adherents in Italy, France and Germany. They took their denomination from the words of St Paul, Rom. chap. viii. ver. 2, 14, and maintained that the true children of God were inveſted with the privilege of a full and perfect freedom from the juriſdiction of the law. They were enthuſiaſts to a degree of diſtraction, both in their principles and practice. They reſembled the *Beghards*, by which name they were ſometimes called, in their aſpect, apparel, and manner of living. Some of their profeſſed principles reſembled thoſe of the Pantheiſts; for they held, that all things flowed by emanation from God; that rational ſouls were portions of the Deity, and that the univerſe was God; and that, by the power of contemplation, they were united to the Deity, and acquired hereby a glorious and ſublime liberty, both from the ſinful luſts and the common inſtincts of nature: and hence they conclude, that the perſon, who was thus abſorbed in the abyſs of the Deity, became a part of the Godhead, and was the ſon of God, in the ſame ſenſe and manner that Chriſt was, and that he was freed from the obligation of all laws human and divine. They treated with contempt all Chriſtian ordinances, and all external acts of religion, as unſuitable to the ſtate of perfection at which they were arrived. Some of them were honeſt but deluded enthuſiaſts; and they endured the torments inflicted upon them by the inquiſitors with aſtoniſhing calmneſs and triumph. Others proceeded to the moſt extravagant licentiouſneſs of conduct. They held their ſecret aſſemblies ſtark naked, and lay in the ſame beds with their ſpiritual ſiſters, and indiſcriminately with other women, without the leaſt ſcruple or heſitation: modeſty and decency being, according to their creed, marks of inward corruption. And ſome of them proceeded ſtill farther, and maintained, that the *divine man*, or believer could not ſin, let his conduct be ever ſo horrible or atrocious. Many edicts were publiſhed againſt them; but notwithſtanding the ſeverities they ſuffered, they continued till about the middle of the fifteenth century. They were called by ſeveral other names, ſuch as Schweſtriones, Picards, Adamites, and Turlupins.

BRETHREN and Clerks of the Common Life, a denomination aſſumed by a religious fraternity towards the latter end of the fifteenth century. They lived under the rule of St Auguſtin, and were eminently uſeful in promoting the cauſe of religion and learning. Their ſociety was firſt formed, in the preceding century, by Gerard de Groote, a native of Deventer; but did not flouriſh till about the period abovementioned, when it obtained the approbation of the council of Conſtance, and became very reſpectable in Holland, the Lower Germany, and the adjacent provinces. It was divided into two claſſes; the *lettered brethren* or *clerks*, and the *illiterate*: they lived in ſeparate habitations, but maintained the cloſeſt fraternal union. The former applied to the ſtudy of polite literature, and the education of youth; whilſt the latter were employed in manual labour, and the mechanic arts. They were frequently called *Beghards* and *Lollards*, by way of reproach.

White BRETHREN, *fratres albati*, were the followers of a leader about the beginning of the fifteenth century, who was arrayed in a white garment; and as they were alſo clothed in white linen, they were diſtinguiſhed by this title. Their leader was a prieſt from the

Alps, who carried about a croſs, like a ſtandard, and whoſe apparent ſanctity and devotion drew together a number of followers. This deluded enthuſiaſt practiſed many acts of mortification and penance, endeavoured to preſuade the European nations to renew the holy war, and pretended that he was favoured with divine viſions. Boniface IX. ordered him to be apprehended and committed to the flames, upon which his followers diſperſed.

BRETON, or Cape-Britain, an iſland near the eaſtern continent of North-America lying between 45 and 47 degrees of north latitude. It is ſeparated from Nova Scotia by a narrow ſtrait called *Canſo*, and is about 100 miles in length and 50 in breadth. It is ſurrounded with little ſharp-pointed rocks, ſeparated from each other by the waves, above which ſome of their tops are viſible. All its harbours are open to the eaſt, turning towards the ſouth. On the other parts of the coaſt their are but a few anchoring places for ſmall veſſels, in creeks, or between iſlets. Except in the hilly parts, the ſurface of the country has but little ſolidity, being every where covered with a light moſs and with water. The dampneſs of the ſoil is exhaled in fogs without rendering the air unwholeſome. In other reſpects, the climate is very cold; owing either to the prodigious quantity of lakes, which cover above half the iſland, and remain frozen a long time; or to the number of foreſts, that totally intercept the rays of the ſun; the effect of which is beſides decreaſed by prepetual clouds.

Though ſome fiſhermen had long reſorted to this iſland every ſummer, not more than 20 or 30 had ever fixed there. The French, who took poſſeſſion of it in Auguſt 1713, were properly the firſt inhabitants. They changed its name into that of *Iſle Royale*, and fixed upon Fort Dauphin for their principal ſettlement. This harbour was two leagues in circumference. The ſhips came to the very ſhore, and were ſheltered from winds. Foreſts affording oak ſufficient to fortify and build a large city, were near at hand; the ground appeared leſs barren than in other parts, and the fiſhery was more plentiful. This harbour might have been rendered impregnable at a trifling expence; but the difficulty of approaching it (a circumſtance that had at firſt made a ſtronger impreſſion than the advantages reſulting from it) occaſioned it to be abandoned, after great labour had been beſtowed upon the undertaking. They then turned their views to Louiſburg, the acceſs to which was eaſier; and convenience was thus preferred to ſecurity: the fortification of Louiſbourg, howver, was not begun till 1720.

In the year 1714, ſome fiſhermen, who till then had lived in Newfoundland, ſettled in this iſland. It was expected that their number would ſoon have been increaſed by the Acadians, who were at liberty, from the treaties that had been granted them, to remove with all their effects, and even to diſpoſe of their eſtates; but theſe hopes were diſappointed. The Acadians choſe rather to retain their poſſeſſions under the dominion of Britain, than to give them up for any precarious advantage they might derive from their attachment to France. Their place was ſupplied by ſome diſtreſſed adventurers from Europe, who came over from time to time to Cape Breton, and the number of inhabitants gradually increaſed to 4000. They were ſettled at Louiſbourg, Fort Dauphin, Port Toulouſe, Nerucka, and on all the coaſts where they found a proper beach for drying the cod. The inhabitants never applied themſelves to agriculture, the ſoil being unfit for it. They often ſowed corn, but it ſeldom came to maturity; and when it did thrive ſo much as to be worth reaping, it had degenerated ſo conſiderably, that it was not fit for ſeed for the next harveſt. They have only continued to plant a few pot-herbs that are tolerably well-taſted, but muſt be renewed every year from abroad. The poorneſs and ſcarcity of paſtures has likewiſe prevented the increaſe of cattle. In a word, the ſoil of Cape Breton ſeemed calculated to invite none but fiſhermen and ſoldiers.

Though the iſland was entirely covered with foreſts before it was inhabited, its wood has ſcarce ever been an object of trade. A great quantity, however, of ſoft wood was found there fit for firing, and ſome that might be uſed for timber; but the oak has always been ſcarce, and the fir never yielded much reſin. The peltry trade was a very inconſiderable object. It conſiſted only in the ſkins of a few lynxes, elks, muſk-rats, wild cats, bears, otters, and foxes both of a red and ſilver-grey colour. Some of theſe were procured from a colony of Mickmac Indians who had ſettled on the iſland with the French, and never could raiſe more than 60 men able to bear arms. The reſt came from St John's, or the neighbouring continent. Greater advantages might poſſibly have been derived from the coal-mines which abound in the iſland. They lie in a horizontal direction; and being no more than ſix or eight feet below the ſurface, may be worked without digging deep, or draining off the waters. Notwithſtanding the prodigious demand for this coal from New England, from the year 1745 to 1749, theſe mines would probably have been forſaken, had not the ſhips which were ſent out to the French iſlands, wanted ballaſt. In one of theſe mines a fire has been kindled, which could never yet be extinguiſhed.

The people of Cape Breton did not ſend all their fiſh to Europe. They ſend part of it to the French ſouthern iſlands, on board 20 or 25 ſhips from 70 to 140 tuns burden. Beſides the cod, which made at leaſt half their cargo, they exported to the other colonies timber, planks, thin oak boards, ſalted ſalmon and mackarel, train-oil and ſea-coal. All theſe were paid for in ſugar and coffee, but chiefly in rum and molaſſes.

The iſland could not conſume all theſe commodities. Canada took off but a ſmall part of the overplus; it was chiefly bought by the people of New England, who gave in exchange, fruits, vegetables, wood, brick, and cattle. This trade of exchange was allowed; but a ſmuggling trade was added to it, carried on in flour, and ſalt fiſh.

This iſland, the key of Canada, was attacked by the Engliſh in 1745; and the event is of ſo ſingular a nature, that it deſerves a particular detail. The plan of this firſt invaſion was laid at Boſton, and New England bore the expence of it. A merchant named *Pepperel*, who had excited, encouraged, and directed the enterprize, was entruſted with the command of an army of 6000 men, which had been levied for this expedition.

Though theſe forces, conveyed by a ſquadron from Jamaica, brought the firſt news to Cape Breton of the danger that threatened it; though the advantage of a ſurpriſe would have ſecured the landing without oppoſition; though they had but 600 regular troops to encounter, and 800 inhabitants haſtily armed; the ſucceſs of the undertaking was ſtill precarious. What great exploits, indeed, could be expected from a militia ſuddenly aſſembled, who had never ſeen a ſiege or faced an enemy, and were to act under the direction of ſea-officers only. Theſe unexperienced troops ſtood in need of the aſſiſtance of ſome fortunate incident, which they were indeed favoured with in a ſingular manner.

The conſtruction and repairs of the fortifications had always been left to the care of the garriſon of Louiſbourg. The ſoldiers were eager of being employed in theſe works, which they conſidered as conducive to their ſafety, and as the means of procuring them a comfortable ſubſiſtence. When they found that thoſe who were to have paid them, appropriated to themſelves the profit of their labours, they demanded juſtice. It was denied them, and they were determined to aſſert their right. As theſe depradations had been ſhared between the chief perſons of the colony and the ſubaltern officers, the ſoldiers could obtain no redreſs. Their indignation againſt theſe rapacious extortioners roſe to ſuch a height, that they deſpiſed all authority. They had lived in an open rebellion for ſix months, when the Britiſh appeared before the place.

This was the time to conciliate the minds of both parties, and to unite in the common cauſe. The ſoldiers made the firſt advances; but their commanders miſtruſted a generoſity of which they themſelves were incapable. It was firmly believed that the ſoldiers were only deſirous of ſallying out, that they might have an opportunity of deſerting; and their own officers kept them in a manner priſoners, till a defence ſo ill managed had reduced them to the neceſſity of capitulating. The whole iſland ſhared in the fate of Louiſbourg, its only bulwark.

This valuable poſſeſſion, reſtored to France by the treaty of Aix la Chapelle, was again attacked by the Britiſh in 1758. On the 2d of June, a fleet of 23 ſhips of the line and 18 frigates, carrying 16,000 well diſciplined troops, anchored in Gabarus bay, within half a league of Louiſbourg. As it was evident it would be to no purpoſe to land at a great diſtance, becauſe it would be impoſſible to bring up the artillery and other neceſſaries for a conſiderable ſiege, it had been attempted to render the landing impracticable near the town. In the prudent precautions that had been taken, the beſiegers ſaw the dangers and difficulties they had to expect; but, far from being deterred by them, they had recourſe to ſtratagem, and while by extending their line they threatened and commanded the whole coaſt, they landed by force of arms at the creek of Cormorant.

This place was naturally weak. The French had fortified it with a good parapet planted with cannon. Behind this rampart they had poſted 2000 excellent ſoldiers and ſome Indians. In front they had made ſuch a cloſe hedge with branches of trees, that would have been very difficult to penetrate, even if it had not been defended. This kind of palliſade, which concealed all the preparations for defence, appeared at a diſtance to be nothing more than a verdant plain.

This would have preſerved the colony, had the aſſailants been ſuffered to complete their landing, and to advance with the confidence that they had but few obſtacles to ſurmount. Had this been the caſe, overpowered at once by the fire of the artillery and the ſmall arms, they would infallibly have periſhed on the ſhore or in the hurry of embarking; eſpecially as the ſea was juſt then very rough. This unexpected loſs might have interrupted the whole project.

But all the prudent precautions that had been taken were rendered abortive by the impetuoſity of the French, The Engliſh had ſcarce begun to move towards the ſhore, when their enemies haſtened to diſcover the ſnare they had laid for them. By the briſk and haſty fire that was aimed at their boats, and ſtill more by the premature removal of the boughs that maſked the forces, which it was ſo much the intereſt of the French to conceal, they gueſſed at the danger they were going to ruſh into. They immediately turned back, and ſaw no other place to effect their landing but a rock, which had been always deemed inacceſſible. General Wolf, though much taken up in reimbarking his troops, and ſending off the boats, gave the ſignal to major Scot to repair thither. That officer immediately removed to the ſpot with his men. His own boat coming up firſt, and ſinking at the very inſtant he was ſtepping out, he climbed up the rock alone. He was in hopes of meeting with 100 of his men who had been ſent thither ſome hours before. He found only ten. With theſe few, however, he gained the ſummit of the rock. Ten Indians and 60 Frenchmen killed two of his men, and mortally wounded three. In ſpite of his weakneſs, he ſtood his ground under cover of a thicket, till his brave countrymen, regardleſs of the boiſterous waves and the fire of the cannon, came up to him, and put him in full poſſeſſion of that important poſt, the only one that could ſecure their landing. The French, as ſoon as they ſaw that the enemy had got a firm footing on land, betook themſelves to the only remaining refuge, and ſhut themſelves up in Louiſbourg. The fortifications were in a bad condition, becauſe the ſea ſand, which they had been obliged to uſe, is by no means fit for works of maſonry. The revetments of the ſeveral curtains were entirely crumbled away. There was only one caſemate and a ſmall magazine that were bomb-proof. The garriſon which was to defend the place conſiſted only of 2900 men.

Notwithſtanding all theſe diſadvantages, the beſieged were determined to make an obſtinate reſiſtance. It is ſcarce credible that the French were confirmed in their reſolution by the courage of a woman. Madame de Drucourt was continually upon the ramparts, with her purſe in her hand; and firing herſelf three guns every day, ſeemed to diſpute with the governor her huſband the glory of his office. The beſieged were not diſmayed at the ill ſucceſs of their ſeveral ſallies, or the maſterly operations concerted by Admiral Boſcawen and general Amherſt. It was but at the eve of an aſſault, which it was impoſſible to ſuſtain, that they talked of ſurrendering. They made an honourable capitulation; and the conqueror ſhowed more reſpect for his enemy and for himſelf, than to ſully his glory by any act of barbarity or avarice—The poſſeſſion was confirmed to Great Britain by the peace 1763; ſince which the fortifications have been blown up and the town of Louiſbourg diſmantled.

BRETTIGAW, a territory or valley of the Griſons, lying between the Rhine and the county of Tyrol, and along the river Lanquet. The fortreſs of Caſtels is the principal town.

BREVE, in law, is any writ directed to the chancellor, judges, ſheriffs, or other officers, whereby a perſon is ſummoned, or attached, to anſwer in the king's court, &c.

Breve Perquirere, the purchaſing of a writ or licence for trial in the king's courts; whence comes the preſent uſe in Britain, of paying 6 s. 8 d. fine to the king in ſuit, for money due on bond, where the debt is L. 40, and of 10s. where it is L. 100, &c.

Breve de Recto, is a writ of right or licence, for a perſon ejected, to ſue for the poſſeſſion of the eſtate detained from him.

Breve, in muſic, a note or character of time, in the form of a diamond or ſquare, without any tail, and equivalent to two meaſures or minims.

BREVET, in the French cuſtoms, denotes the grant of ſome favour or donation from the king; in which ſenſe it partly anſwers to our warrant, and partly to letters-patent.

Brevet, more particularly denotes the commiſſion of a ſubaltern officer, being only written on parchment, and without ſeal. A brevet officer is one whoſe rank in the army is above his pay: for inſtance, a brevet major ſerves only as a captain, and receives pay as ſuch.

BREUGEL (Peter), an eminent painter, commonly called *Old Breugel*, to diſtinguiſh him from his ſon, was born at a village of the ſame name near Breda, in the year 1565; and was the firſt pupil of Peter Cock, whoſe daughter he married. It was cuſtomary with him to dreſs like a country-man, in order to be more eaſily admitted into the company of country-people, and be allowed to join in their frolics, by which means he became perfectly acquainted with their manners and geſtures, of which he made excellent uſe in his pictures. He travelled to France and Italy, and for a long time ſtudied landſcapes on the mountains of Tyrol. His humorous turn of mind diſplayed itſelf in all his pictures, which generally conſiſted of country-dances, marriages, ſports, and diverſions; though he ſometimes performed pieces from the hiſtorical parts of the holy Scriptures. At his return from Italy, he ſettled at Antwerp, and in his laſt illneſs cauſed his wife to gather together all his immodeſt pieces and burn them before his face. He died at Antwerp about the year 1570. Of the works of old Breugel, the great duke of Tuſcany has, Chriſt carrying his croſs, with a great number of figures; and a country feaſt. The emperor has the tower of Babel, the maſſacre of the Innocents, and the converſion of St Paul, of his painting: the elector Palatine, a landſcape, with St Philip baptizing queen Candace's eunuch; and St John preaching in the wilderneſs, with a great many figures. Old Breugel alſo, for his amuſement, is ſaid to have engraved ſome few plates of landſcapes and groteſque ſubjects.

Breugel (Peter), the younger, was the ſon of the abovementioned artiſt, and named *Helliſh Breugel*, from the horrible ſubjects he delighted to repreſent. He engraved alſo, according to M. Heineken; but his works are not ſpecified. He died 1642.

Breugel (John), commonly called *Velvet Breugel*, from his generally wearing velvet clothes, was the ſon of Peter Breugel, and born about the year 1575. He firſt applied himſelf to painting flowers and fruit, in which he excelled; and afterwards had great ſucceſs in drawing landſcapes, and views of the ſea, ſet off with ſmall figures. He lived long at Cologn, where he acquired great reputation. He travelled to Italy, where his fame had got before him; and where his fine landſcapes, adorned with ſmall figures ſuperior to thoſe of his father, gave very great ſatisfaction. If a good judgment may be formed from the great number of pictures he left behind him, all highly finiſhed, he muſt have been exceedingly induſtrious. Nor did he ſatisfy himſelf with embelliſhing his own works only, but was very uſeful in this reſpect to his friends. Even Reubens made uſe of Breugel's hand in the landſcape part of ſeveral of his ſmall pictures, ſuch as his Vertumnus and Pomona; the ſatyr viewing the ſleeping nymph; and the terreſtrial paradiſe, which is looked upon as his maſter-piece. He died in 1642. —Several of his works are to be ſeen in the archbiſhop's gallery at Milan; particularly a hunting-piece with a vaſt many figures; a landſcape repreſenting a deſart, with the picture of St Hierom painted by Cerano, alias Gro Baptiſta Creſpi. In the Ambroſian library are 20 pieces of this maſterly hand; particularly Daniel in the lion's den, the inſide of the great church at Antwerp, the four ſeaſons on copper, and the burning of Gomorrha. In the poſſeſſion of the elector Palatine at Duſſeldorp, Chriſt preaching on the ſea-ſhore; a country-dance; a ſea-port, with a great many figures; a coach and two chariots, with a multitude of figures and animals; a landſcape, wherein Flora is crowned by a nymph; St John preaching in the wilderneſs; a ſmall ſea-landſcape, and ſeveral other pieces. In the poſſeſſion of the king of France, a woman playing with a dog, the battle between Alexander and Darius, both in wood; Orpheus in hell, &c.

BREVIARY, a daily office, or book of divine ſervice, in the Romiſh church. It is compoſed of matins, lauds, firſt, third, ſixth, and ninth veſpers, and the compline or poſt communio.

The breviary of Rome is general, and may be uſed in all places; but on the model of this various others have been built, appropriated to each dioceſe, and each order of religious.

The breviary of the Greeks is the ſame in almoſt all churches and monaſteries that follow the Greek rites: the Greeks divide the pſalter into 20 parts. In general, the Greek breviary conſiſts of two parts; the one containing the office for the evening, the other that of the morning, divided into matins, lauds, firſt, third, ſixth, and ninth veſpers, and the compline; that is, of ſeven different hours, on account of that ſaying of David, *Septies in die laudem dixi tibi.*

The inſtitution of the breviary is not very ancient: there have been inſerted in it the lives of the ſaints, full of ridiculous and ill-atteſted ſtories, which gave occaſion to ſeveral reformations of it, by ſeveral councils, particularly thoſe of Trent and Cologn; by ſeveral popes, particularly Pius V. Clement VIII. and Urban VIII.; and alſo by ſeveral cardinals and biſhops, each lopping off ſome extravagancies, and bringing it nearer to the ſimplicity of the primitive offices. Originally, every body was obliged to recite the breviary every day; but by degrees the obligation was reduced to the clergy only, who are enjoined, under penalty of mortal ſin and eccleſiaſtical cenſures, to recite it at home, when they cannot attend in public. In the 14th century, there was particular reſerve granted in favour of biſhops, who were allowed on extraordinary occaſions, to paſs three days without rehearſing the breviary.

This office was originally called *curſus*; and afterwards the *breviarum*; which latter name imports that the old office was abridged; or rather, that this collection is a kind of abridgment of all the prayers.

The breviaries now in uſe are innumerable; the difference between them conſiſts principally in the number and order of the pſalms, hymns, pater-noſters, ave-Maries, creeds, magnificates, cantemus's, benedictus's, canticamus's, nunc dimittis's, miſerere's, hallelujah's, gloria patri's, &c.

Breviary, in Roman antiquity, a book firſt introduced by Auguſtus, containing an account of the application of the public money.

BREVIATOR, an officer under the eaſtern empire, whoſe buſineſs its was to write and tranſlate briefs.—At Rome, thoſe are ſtyled *breviators*, or *abbreviators*, who dictate and draw up the pope's briefs.

BREVIBUS A ROTULIS LIBERANDIS, a writ or command to a ſheriff to deliver to his ſucceſſor the county, with the appurtenances, and the rolls, writs, and other things to his office belonging.

RREVIER, among printers, a ſmall kind of type or letter between bourgeois and minion.

BREVITY, in a general ſenſe, that which denominates a thing brief or ſhort.

Brevity is more particularly uſed in ſpeaking of the ſtyle or compoſition of diſcourſe. Brevity of diſcourſe is by ſome called *brachylogia* and *breviloquentia*; ſometimes *laconiſmus*. Tacitus and Perſius are remarkable for the brevity of their ſtyle. There are two kinds of brevity, one ariſing from dryneſs, poverty, and narrowneſs of genius; the other from judgment and reflection; which latter alone is laudable. Brevity is ſo eſſential to a tale, a ſong, and an epigram, that without it they neceſſarily languiſh and become dull. Rhetoricians make brevity one of the principal marks or conditions of eloquence; but the rules they preſcribe for attaining it, are difficult to apply, ſo as ſtill to keep the due medium between too much and too little. A juſt brevity is attained by uſing all the words which are neceſſary, and none but thoſe which are neceſſary. Sometimes it may alſo be had, by chooſing a word which has the force of ſeveral. It is this laſt kind which Quintilian admires ſo much in Salluſt; and the imitation of which, by other writers, has cauſed ſo much obſcurity.

BREVIUM CUSTOS. See CUSTOS.

BREVORDT, a town of Guelderland, in the United Netherlands, ſituated in E. Long. 6. 35. N. Lat. 52.

BREWER (Anthony), a dramatic poet who flouriſhed in the reign of king Charles I. and appears to have been held in high eſtimation by the wits of that time, as may be more particularly gathered from an elegant compliment paid to him in a poem called *Steps to Parnaſſus*, wherein he is ſuppoſed to have a magic power to call the muſes to his aſſiſtance, and is even ſet on an equality with the immortal Shakeſpeare himſelf. There are however, great diſputes among the ſeveral writers as to the number of his works. Thoſe which have been aſcribed to him with any certainty are, 1. The country girl, a comedy. 2. The love-ſick king, a comedy. And, 3. *Lingua*: a piece in regard to which Winſtanley records a remarkable anecdote, which points it out to have been in ſome meaſure the innocent cauſe of thoſe troubles that diſturbed the peace of Britain in the middle of the 17th century. He tells us, that when this play was acted at Cambridge, Oliver Cromwell (then a youth) acted a part in it. The ſubſtance of the piece is a contention among the Senſes for a crown which Lingua had laid for them to find. The part allotted to young Cromwell was that of *Tactus*, or Touch; who having obtained the conteſted coronet, makes this ſpirited declamation:

> Roſes and bays, pack hence! this crown and robe
> My brows and body circles and inveſts:
> How gallantly it fits me! ſure the ſlave
> Meaſur'd my head who wrought this coronet.—
> They lie that ſay complexions cannot change!
> My blood's ennobled, and I am transform'd
> Unto the ſacred temper of a king.
> Methinks I hear my noble paraſites
> Styling me *Cæſar*, or Great *Alexander*,
> Licking my feet, &c.

It is ſaid that he felt the whole part ſo warmly, and more eſpecially the above-quoted ſpeech, that it was what firſt fired his ſoul with ambition, and excited him from the poſſeſſion of an imaginary crown to ſtretch his views to that of a real one; for the accompliſhment of which he was content to wade through ſeas of blood.

Brewer, a perſon who profeſſes the art of brewing.

There are companies of brewers in moſt capital cities: That of London was incorporated in 1427 by Henry VI. and that of Paris is ſtill older.

The apparatus and utenſils of a brewer, or a brewhouſe, are, A furnace made cloſe and hollow for ſaving fuel, and with a vent for the ſmoke leaſt it taint the liquor; a copper, which is preferable to lead; a maſk-vat near the head; a cooler near the maſk-vat; and a guile-vat under the cooler: adjoining to all are ſeveral clean tubs, to receive the worts and liquors.

Brewers-Haven, a good harbour at the north end of the iſland of Chiloe on the coaſt of Chili, in South America, and in the South Sea. The Dutch landed forces here in 1643, deſigning to get poſſeſſion of ſome part of Chili; but they were driven from thence by the Spaniards and the natives. W. Long. 82. S. Lat. 42.

BREWING, the operation of preparing ale or beer from MALT.

1
No ſettled theory of brewing.

Though the art of brewing is undoubtedly a part of chemiſtry, and certainly depends upon fixed and invariable principles as well as every other branch of that ſcience, theſe principles have never yet been thoroughly inveſtigated. For want of a ſettled theory, therefore, the practice of this art is found to be precarious; and to ſucceed unaccountably with ſome, and miſgive as unaccountably with others. Some few hints, however, have been thrown out, in order to eſtabliſh a regular theory of brewing; the principal of which we ſhall lay before our readers.

The uſual proceſs of brewing is as follows: A quan-

2 Common proceſs deſcribed.

tity of water being boiled, is left to cool till the height of the ſteam be over; when ſo much is poured to a quantity of malt in the maſhing tub, as makes it of a conſiſtence ſtiff enough to be juſt well rowed up: after ſtanding thus a quarter of an hour, a ſecond quantity of the water is added, and rowed up as before: laſtly, the full quantity of water is added; and that in proportion as the liquor is intended to be ſtrong or weak.—This part of the operation is called *maſking*.—The whole now ſtands two or three hours, more or leſs, according to the ſtrength of the wort or the difference of weather, and is then drawn off into a receiver; and the maſhing repeated for a ſecond wort, in the ſame manner as for the firſt, only the water muſt be cooler than before, and muſt not ſtand above half the time. The two worts are then to be mixed, the intended quantity of hops added, and the liquor cloſe covered up, gently boiled in a copper for the ſpace of an hour or two; then let into the receiver, and the hops ſtrained from it into the coolers. When cool, the barm or yeſt is applied; and it is left to work or ferment till it be fit to tun up. For ſmall beer there is a third maſhing with the water near cold, and not left to ſtand above three quarters of an hour; to be hopped and boiled at diſcretion. For double beer or ale, the liquors reſulting from the two firſt maſhings muſt be uſed as liquor for a third maſhing of freſh malt

3 Difficulties attending it.

From conſidering this proceſs, and the multiplicity of circumſtances to be attended to in it, we may eaſily ſee that it muſt be a very precarious one. The ſucceſs of the operation, *i. e.* the goodneſs of the beer, muſt depend upon the quality of the malt from which it is made; on that of the water with which it is infuſed; on the degree of heat applied in the infuſion; on the length of time the infuſion is continued; on the proper degree of boiling, the quantity and quality of the hops employed; on the proper degree of fermentation, &c.: all which, as already obſerved, have never yet been thoroughly inveſtigated and aſcertained.

4 Sir Robert Murray's method of malt-making.

The manner of making malt Sir Robert Murray deſcribes as follows.—Take good barley newly threſhed, &c.; put about ſix Engliſh quarters in a ſtone trough full of water, where let it ſteep till the water be of a bright reddiſh colour; which will be in about three days, more or leſs, according to the moiſture or dryneſs, ſmallneſs or bigneſs, of the grain, the ſeaſon of the year, or the temperature of the weather. In ſummer, malt never makes well; in winter it requires longer ſteeping than in ſpring or autumn. It may be known when it is ſteeped enough by other marks beſides the colour of the water; as by the exceſſive ſwelling of the grain if it be over-ſteeped, and by too much ſoftneſs; being, when it is in a right temper, like the barley prepared to make broth of. When it is ſufficiently ſteeped, take it out of the trough, and lay it in heaps to let the water drain from it; then, after two or three hours, turn it over with a ſcoop, and lay it in a new heap, 20 or 24 inches deep. This is called the *coming heap*, in the right management whereof lies the principal ſkill. In this heap it may lie 40 hours, more or leſs, according to the forementioned qualities of the grain, &c. before it come to the right temper of malt; which that it may do equally, is mainly deſired. While it lies in this heap, it muſt be carefully looked to after the firſt 15 or 16 hours: for about that time the grains begin to put forth roots; which when they have equally and fully done, the malt muſt, within an hour after, be turned over with a ſcoop; otherwiſe the grains will begin to put forth the blade and ſpire alſo, which muſt by all means be prevented. If all the malt do not come equally, but that which lies in the middle, being warmeſt, came the ſooneſt; the whole muſt be turned, ſo that what was outmoſt may be inmoſt; and thus it is managed till it be all alike. As ſoon as the malt is ſufficiently come, turn it over, and ſpread it to a depth not exceeding five or ſix inches; and by that time it is all ſpread out, begin and turn it over again three or four times. Afterwards turn it over in like manner once in four or five hours, making the heap deeper by degrees; and continue to do ſo for the ſpace of 48 hours at leaſt. This frequent turning it over, cools, dries, and deadens the grain; whereby it becomes mellow, melts eaſily in brewing, and ſeparates entirely from the huſk. Then throw up the malt into a heap as high as you can; where let it lie till it grow as hot as your hand can endure it, which uſually happens in about the ſpace of 30 hours. This perfects the ſweetneſs and mellowneſs of the malt. After it is ſufficiently heated, throw it abroad to cool, and turn it over again about ſix or eight hours after; and then lay it on a kiln with a hair-cloth or wire ſpread under it; where, after one fire which muſt laſt 24 hours, give it another more ſlow, and afterwards, if need be, a third: for if the malt be not thoroughly dried, it cannot be well ground, neither will it diſſolve well in the brewing; but the ale it makes will be red, bitter, and unfit for keeping.

5 Mr Combrune's experiments on the drying of malt; *Eſſay on Brewing*.

From this account of the proceſs of malting, it appears, that, beſides the proper management in wetting, turning, &c. the drying is an article of the utmoſt conſequence; and concerning the proper degrees of heat to be employed for this purpoſe, M. Combrune has related the following experiments. "In an earthen pan, of about two feet diameter, and three inches deep, I put as much of the paleſt malts, very unequally grown, as filled it on a level to the brim. This I placed over a little charcoal lighted in a ſmall ſtove, and kept continually ſtirring it from bottom to top; at firſt it did not feel ſo damp as it did about half an hour after.

"In about an hour more, it began to look of a bright orange colour on the outſide, and appeared more ſwelled than before. Every one is ſenſible how long-continued cuſtom alone makes us ſufficient judges of colours. Then I macerated ſome of the grains, and found they were nearly ſuch as are termed *brown malts*. On ſtirring and making a heap of them towards the middle, I placed therein at about half depth the bulb of my thermometer, and found it roſe to 140 degrees: here the malt felt very damp, and had but little ſmell.

"At 165 degrees I examined it in the ſame manner as before, and could perceive no damp: the malt was very brown; and, on being macerated, ſome few black ſpecks appeared.

"Now many corns, neareſt the bottom, were become black and burnt: with all the diligence I could uſe, I placed my thermometer nearly there, and it roſe to 175 degrees. But the particles of fire, ariſing from the ſtove, act on the thermometer in proportion to the diſtance of the ſituation it is placed in; for which, through the whole experiment, an abatement of 5 degrees ſhould be allowed, as near as I could eſtimate; ſo a little after, putting my thermometer in the ſame poſition, where nearly half the corns were black, it ſhowed 180 degrees. I now judged that the water was nearly all evaporated, and the heap grew black apace.

"Again, in the centre of the heap raiſed in the middle of the pan, I found the thermometer at 180 degrees; the corn taſted burnt; and the whole, at top, appeared about one half part a full brown, the reſt black: on being macerated, ſtill ſome white ſpecks appeared; which I obſerved to proceed from thoſe barley-corns which had not been thoroughly germinated, and whoſe parts cohering more together, the fire, at this degree of heat, had not penetrated them: their taſte was inſipid, the malt brittle, and readily parting from the ſkin: but the thermometer was now more various, as it was nearer to or farther from the bottom; and here I judged all the true malt to be charred.

"However, I continued the experiment; and at 190 degrees ſtill found ſome white ſpecks on macerating the grain; the acroſpire always appearing of a deeper black or brown than the outward ſkin: the corn now fried at the bottom of the pan.

"I next increaſed the fire; the thermometer, placed in the mean between the bottom of the pan and the upper edge of the corn, ſhowed 210 degrees. The malt hiſſed, fried, and ſmoked abundantly; though, during the whole proceſs, the grain had been kept ſtirring, yet, on examination, the whole had not been equally affected with the fire. I found a great part thereof reduced to perfect cinders, eaſily crumbling to duſt between the fingers, ſome of a very black hue without gloſs, ſome very black with oil ſhining on the outſide. Upon the whole, two-third parts of the corn were perfectly black; the reſt were of a deep brown, more or leſs ſo, as they were hard, ſteely, or imperfectly germinated; which was eaſily diſcovered by the length of the ſhoot. Moſt of them ſeemed to have loſt their coheſion, and had a taſte reſembling that of high roaſted coffee.

"In the laſt ſtage of charring the malt, I ſet thereon a wine-glaſs inverted, into which aroſe a pinguious oily matter, which taſted very ſalt. Perhaps it may not be unneceſſary to ſay, that the length of time this experiment took up was four hours, and that the effect it had both on myſelf and the perſon who attended me was ſuch as greatly reſembled the caſe of inebriation.

"Though, from hence, it is not poſſible to fix the exact degree of heat in which malts charr, yet we ſee ſome black appeared when the thermometer was at 165 degrees, that ſome were entirely black at 175 and at 180 degrees, that the grains thus affected were ſuch as had been perfectly germinated, and that thoſe which bore a greater heat were defective in that point; whence we may conclude with an exactneſs that will be ſufficient for the purpoſes of brewing, that true germinated malts are charred in heats between 175 and 180 degrees; and that, as theſe correſpond to the degrees in which pure alcohol, or the fineſt ſpirit of the grain itſelf boils, or diſengages itſelf therefrom, they may point out to us the reaſon of barley being the fitteſt grain for the purpoſes of brewing."

From theſe experiments, our author has conſtructed the following table of the different degrees of the dryneſs of malt, with the colour occaſioned by its degree.

Deg.	
119	White.
124	Cream colour.
129	Light yellow.
134	Amber.
138	High amber.
143	Pale brown.
148	Brown.
152	High brown.
157	Brown inclining to black.
162	High brown ſpeckled with black.
167	Blackiſh brown with black ſpecks.
171	Colour of burnt coffee.
176	Black.

"The above table (ſays he) not only ſhows us how to judge of the dryneſs of malt from its colour, but alſo when a griſt is compoſed of ſeveral ſorts of malt, what effect the whole will have when blended together by extraction; and although poſſibly ſome ſmall errors may ariſe in judgments thus formed by our ſenſes, yet as malts occupy different volumes in proportion to their dryneſs in the practice of brewing, if the reſult of the water coming in contact with the malt ſhow the degree expected, ſuch parcel of malt may be ſaid to have been judged of rightly in the degree of dryneſs it was eſtimated to; ſo that the firſt trial either confirms, or ſets us numerically right as to our opinion thereof."

6
Mr Richardſon's obſervations.

It is found by experience, that the leſs heat employed in drying the malt, the ſhorter time will be required before the beer is fit to be uſed; and of this our author has given the following table.

Deg.	
119	2 weeks.
124	a month.
129	3 months.
134	4 months.
138	6 months.
143	6 months.
148	10 months.
152	15 months.
157	20 months.
162	two years.

Laſtly, Mr Combrune hath given the following table ſhowing the tendency beers have to become fine, when properly brewed from malts of different degrees of dryneſs.

Deg.	Colour of malt.	
119	White.	Theſe, when properly brewed, become ſpontaneouſly fine, even as far as 138°; when brewed for amber by repeated fermentations, they become pellucid.
124	Cream colour.	
129	Light yellow.	
134	Amber colour.	
138	High amber,	By precipitation theſe grow bright in a ſhort time.
143	Pale brown.	
148	Brown.	With precipitation theſe require 8 or 10 months to be bright.
152	High brown.	
157	Brown inclining to black.	With precipitation theſe may be fined, but will never become bright.
162	Brown ſpeckled with black.	
167	Blackiſh brown ſpeckled with black.	Theſe with difficulty can be brewed without ſetting the goods, and will by no means become bright, not even with the ſtrongeſt acid menſtruum.
171	Colour of burnt coffee.	
176	Black.	

6 Mr Richardſon's obſervations.

In a pamphlet entitled "Theoretic hints on an improved practice of brewing malt liquors, &c. by John Richardſon," we have the following obſervations on the nature and properties of malt.

"The proceſs of making malt is an artificial or forced vegetation, in which the nearer we approach the footſteps of nature in her ordinary progreſs, the more certainly ſhall we arrive at that perfection of which the ſubject is capable. The farmer prefers a dry ſeaſon to ſow his corn in, that the common moiſture of the earth may but gently inſinuate itſelf into the pores of the grain, and thence gradually diſpoſe it for the reception of the future ſhower, and the action of vegetation. The maltſter cannot proceed by ſuch ſlow degrees, but makes an immerſion in water a ſubſtitute for the moiſture of the earth, where a few hours infuſion is equal to many days employed in the ordinary courſe of vegetation; and the corn is accordingly removed as ſoon as it appears fully ſaturated, leſt a ſolution, and conſequently a deſtruction of ſome of its parts, ſhould be the effect of a longer continuance in water, inſtead of that ſeparation which is begun by this introduction of aqueous particles into the body of the grain.

"Were it to be ſpread thin after this removal, it would become dry, and no vegetation would enſue: but being thrown into the couch, a kind of vegetative fermentation commences, which generates heat, and produces the firſt appearance of germination. This ſtate of barley is nearly the ſame with that of many days continuance in the earth after ſowing: but being in ſo large a body, it requires occaſionally to be turned over, and ſpread thinner; the former to give the outward parts of the heap their ſhare of the required warmth and moiſture, both of which are leſſened by expoſure to the air; the latter to prevent the progreſs of the vegetative to the putrefactive fermentation, which would be the conſequence of ſuffering it to proceed beyond a certain degree.

"To ſupply the moiſture thus continually decreaſing by evaporation and conſumption, an occaſional but ſparing ſprinkling of water ſhould be given to the floor, to recruit the languiſhing powers of vegetation, and imitate the ſhower upon the corn field. But this ſhould not be too often repeated; for, as in the field, too much rain, and too little ſun, produce rank ſtems and thin ears, ſo here would too much water, and of courſe too little dry warmth, accelerate the growth of the malt, ſo as to occaſion the extraction and loſs of ſuch of its valuable parts, as by a ſlower proceſs would have been duly ſeparated and left behind.

"By the ſlow mode of conducting vegetation here recommended, an actual and minute ſeparation of the parts takes place. The germination of the radicles and acroſpire carries off the coheſive properties of the barley, thereby contributing to the preparation of the ſaccharine matter, which it has no tendency to extract or otherwiſe injure, but to increaſe and meliorate, ſo long as the acroſpire is confined within the huſk; and by how much it is wanting of the end of the grain, by ſo much does the malt fall ſhort of perfection, and in proportion as it has advanced beyond, is that purpoſe defeated.

This is very evident to the moſt common obſervation, on examining a kernel of malt in the different ſtages of its progreſs. When the acroſpire has ſhot but half the length of the grain, the lower part only is converted into that yellow ſaccharine flour we are ſolicitous about, whilſt the other half affords no other ſigns of it than the whole kernel did at its firſt germination. Let it advance to two-thirds of the length, and the lower end will not only have increaſed its ſaccharine flavour, but will have proportionally extended its bulk, ſo as to have left only a third part unmalted. This, or even leſs than this, is contended for by many maltſters, as a ſufficient advance of the acroſpire, which they ſay has done its buſineſs as ſoon as it has paſſed the middle of the kernel. But we need ſeek no further for their conviction of error, than the examination here alluded to.

"Let the kernel be ſlit down the middle, and taſted at either end, whilſt green; or let the effects of maſtication be tried when it is dried off; when the former will be found to exhibit the appearances juſt mentioned, the latter to diſcover the unwrought parts of the grain, in a body of ſtony hardneſs, which has no other effect in the maſh-tun than that of imbibing a large portion of the liquor, and contributing to the retention of thoſe ſaccharine parts of the malt which are in contact with it: whence it is a rational inference, that three buſhels of malt, imperfect in this proportion, are but equal to two of that which is carried to its utmoſt perfection. By this is meant the fartheſt advance of the acroſpire, when it is juſt burſting from its confinment, before it has effected its enlargement. The kernel is then uniform in its internal appearance, and of a rich ſweetneſs in flavour, equal to any thing we can conceive obtainable from imperfect vegetation. If the acroſpire be ſuffered to proceed, the mealy ſubſtance melts into a liquid ſweet, which ſoon paſſes into the blade, and leaves the huſk entirely exhauſted.

"The ſweet thus produced by the infant efforts of vegetation, and loſt by its more powerful action, revives and makes a ſecond appearance in the ſtem, but is then too much diſperſed and altered in its form to anſwer any of the known purpoſes of art.

"Were we to inquire, by what means the ſame barley, with the ſame treatment, produces unequal portions of the ſaccharine matter in different ſituations, we ſhould perhaps find it principally owing to the different qualities of the water uſed in malting. Hard water is very unfit for every purpoſe of vegetation, and ſoft will vary its effects according to the predominating qualities of its impregnations. Pure elementary water is in itſelf ſuppoſed to be only the vehicle of the nutriment of plants, entering at the capillary tubes of the roots, riſing into the body, and there diſperſing its acquired virtues, perſpiring by innumerable fine pores at the ſurface, and thence evaporating by the pureſt diſtillation into the open atmoſphere, where it begins anew its round of collecting freſh properties, in order to its preparation for freſh ſervice.

"This theory leads us to the conſideration of an attempt to increaſe the natural quantity of the ſaccharum of malt by adventitious means; but it muſt be obſerved on this occaſion, that no addition to water will riſe into the veſſels of plants, but ſuch as will paſs the filter; the pores of which appearing ſomewhat ſimilar to the fine ſtrainers or abſorbing veſſels employed by nature in her nicer operations, we by analogy conclude, that properties ſo intimately blended with water as to paſs the one, will enter and unite with the œconomy of the other, and *vice verſa*.

“ Suppoſing the malt to have obtained its utmoſt perfection, according to the criterion here inculcated, to prevent its farther progreſs and ſecure it in that ſtate, we are to call in the aſſiſtance of a heat ſufficient to deſtroy the action of vegetation, by evaporating every particle of water, and thence leaving it in a ſtate of preſervation, fit for the preſent or future purpoſe of the brewer.

“ Thus having all its moiſture extracted, and being by the previous proceſs deprived of its coheſive property, the body of the grain is left a mere lump of flour ſo eaſily diviſible, that, the huſk being taken off, a mark may be made with the kernel, as with a piece of ſoft chalk. The extractible qualities of this flour are,' a ſaccharum cloſely united with a large quantity of the farinaceous mucilage peculiar to bread corn, and a ſmall portion of oil enveloped by a fine earthy ſubſtance, the whole readily yielding to the impreſſion of water applied at different times and different degrees of heat, and each part predominating in proportion to the time and manner of its application.

“ In the curing of malt, as nothing more is requiſite than a total extrication of every aqueous particle, if we had in the ſeaſon proper for malting, a ſolar heat ſufficient to produce perfect dryneſs, it were practicable to reduce beer nearly colourleſs; but that being wanting, and the force of cuſtom having made it neceſſary to give our beers various tinctures and qualities reſulting from fire, for the accommodation of various taſtes, we are neceſſitated to apply ſuch heats in the drying as ſhall not only anſwer the purpoſe of preſervation, but give the complexion and property required.

“ To effect this with certainty and preciſion, the introduction of the thermometer is neceſſary; but the real advantages of its application are only to be known by experiment, on account of the different conſtruction of different kilns, the irregularity of the heat in different parts of the ſame kiln, the depth of the malt, the diſtance of the bulb of the thermometer from the floor, &c. &c. for though ſimilar heats will produce ſimilar effects in the ſame ſituation, yet is the diſperſion of heat in every kiln ſo irregular, that the medium ſpot muſt be found for the local ſituation of the thermometer ere a ſtandard can be fixed for aſcertaining effects upon the whole. That done, the ſeveral degrees neceſſary for the purpoſes of porter, amber, pale beers, &c. are eaſily diſcovered to the utmoſt exactneſs, and become the certain rule of future practice.

“ Though cuſtom has laid this arbitrary injunction of variety in our malt liquors, it may not be amiſs to imitate the loſſes we often ſuſtain, and the inconveniences we combat, in obedience to her mandate.

“ The further we purſue the deeper tints of colour by an increaſe of heat beyond that which ſimple preſervation requires, the more we injure the valuable qualities of the malt. It is well known that ſcorched oils turn black, and that calcined ſugar aſſumes the ſame complexion. Similar effects are producible in malts, in proportion to the increaſe of heat, or the time of their continuing expoſed to it. The parts of the whole being ſo united by nature, an injury cannot be done to the one, without affecting the other; accordingly we find, that ſuch parts of the ſubject, as might have been ſeverally extracted for the purpoſes of a more intimate union by fermentation, are, by great heat in curing, burnt and blended ſo effectually together, that all diſcrimination is loſt, the unfermentable are extracted with the fermentable, the integrant with the conſtituent, to a very great loſs both of ſpirituoſity and tranſparency. In paler malts, the extracting liquor produces a ſeparation which cannot be effected in brown, where the parts are ſo incorporated, that unleſs the brewer is very well acquainted with their ſeveral qualities and attachments, he will bring over, with the burnt mixture of ſaccharine and mucilaginous principles, ſuch an abundance of the ſcorched oils, as no fermentation can attenuate, no precipitants remove; for, being in themſelves impediments to the action of fermentation, they leſſen its efficacy, and being of the ſame ſpecific gravity with the beer, they remain ſuſpended in, and incorporated with the body of it, an offence to the eye, and a nauſea to the palate to the lateſt period.”

7
Quality of the water to be employed in brewing.

The next conſideration is the quality of the water to be employed in brewing; and here ſoft water is univerſally allowed to be preferable to hard, both for the purpoſes of maſhing and fermentation. Tranſparency is, however, more eaſily obtained by the uſe of hard than ſoft water: firſt, from its inaptitude to extract ſuch an abundance of that light mucilaginous matter, which, floating in the beer for a long time, occaſions its turbidity; ſecondly, from its greater tendency to a ſtate of quietude after the vinous fermentation is finiſhed, by which thoſe floating particles are more at liberty to ſubſide; and, laſtly, from the mutual aggregation of the earthy particles of the water with thoſe of the materials, which by their greater ſpecific gravity thus aggregated, not only precipitate themſelves, but carry down alſo that lighter mucilage juſt mentioned. For theſe reaſons, hard water is not well adapted to the brewing of porter and ſuch beers as require a fulneſs of palate, when drawn to the great lengths of the London brewery, and of ſome country ſituations.

The purity of water is determined by its lightneſs; and in this, diſtilled water only can claim any material degree of perfection. Rain water is the pureſt of all naturally produced: but by the perpetual exhalations of vegetables, and other fine ſubſtances floating in the atmoſphere, it does not come down to us entirely free from thoſe qualities which pond and river waters poſſeſs in a greater degree. Theſe, eſpecially of rivers running through fens and moraſſes, from the quantity of graſs and weeds growing therein, imbibe an abundance of vegetable ſolutions which occaſions them to contain more fermentable matter, and conſequently to yield a greater portion of ſpirit; but at the ſame time induces ſuch a tendency to acidity as will not eaſily be conquered. This is more to be apprehended towards the latter end of the ſummer than at any other time; becauſe theſe vegetable ſubſtances are then in a ſtate of decay, and thence more readily impart their pernicious qualities to the water which paſſes over them.

At ſuch an unfavourable time, ſhould the brewer be neceſſitated to purſue his practice, it will behove him to pay the utmoſt attention to the cauſe of this diſpoſition in his liquor, and thence endeavour to prevent the ill conſequences, by conducting his proceſs to the extraction and combination of ſuch parts of the materials as his judgment informs him will beſt counteract its effects.

Where there is the liberty of choice, we would recommend the uſe of that water which, from natural purity, equally free of the auſterity of imbibed earths, and the rankneſs of vegetable ſaturation, has a ſoft fulneſs upon the palate, is totally flavourleſs, inodorous, and colourleſs; whence it is the better prepared for the reception and retention of ſuch qualities as the proceſs of brewing is to communicate and preſerve.

The next thing to be conſidered is the proper degree of heat to be employed in making the infuſion: and here it is evident, that though this muſt be an object of the utmoſt importance to the ſucceſs of the operation, it is extremely difficult, perhaps impoſſible, to fix upon a preciſe ſtandard that ſhall at all times fully anſwer the purpoſe. On this ſubject Mr Richardſon preſents us with the following obſervations.

8 Mr Richardſon's obſervations on the degree of heat.

“ The quality of the ſaccharine part of malt reſembles that of common ſugar, to which it is practicable to reduce it; and its characteriſtical properties are entirely owing to its intimate connection with the other parts of the malt, from which ſuch diſtinguiſhing flavours of beers are derived as are not the immediate reſult of the hop. Were it not for theſe properties, the brewer might adopt the uſe of ſugar, molaſſes, honey, or the ſweet of any vegetable to equal advantage; which cannot now be done, unleſs an eligible ſuccedaneum be found to anſwer that purpoſe. As we are at preſent circumſtanced, a ſearch on the other ſide would turn more to the brewer's account. We have in malt a ſuperabundance of the groſſer principles, and would government permit the introduction of a foreign addition to the ſaccharine, which is too deficient, many valuable improvements might be made from it; as we could, by a judicious application of ſuch adventitious principle, produce a ſecond and third wort, of quality very little inferior to the firſt.

“ But in theſe experiments a very particular attention would be neceſſary to the ſolvent powers of the water at different degrees of heat, and to the inquiry how far a menſtruum ſaturated with one principle may be capable of diſſolving another. Such a conſideration is the more neceſſary on this occaſion to direct us clear of two extremes equally diſagreeable: the firſt is, that of applying the menſtruum pure, and at ſuch a heat as to bring off an over proportion of the oleaginous and earthy principles, which would occaſion in the beer, thus wanting its natural ſhare of ſaccharum, a harſhneſs and auſterity which ſcarce any time the brewer could allow would be able to diſſipate; the other is, that of previouſly loading the menſtruum with the adopted ſweet in ſuch an abundance as to deſtroy its ſolvent force upon the characteriſtical qualities we wiſh to unite with it, and thereby leave it a mere ſolution of ſugar. The requiſite mean is that of conſidering what portion of the ſaccharine quality has been extracted in the firſt wort, acccording to the quantity of water and degree of heat applied; and then to make ſuch a previous addition of artificial ſweet as will juſt ſerve to counterbalance the deficiency, and aſſimilate with that portion of the remaining principles we are taught to expect will be extracted with the ſucceeding wort.

“ From the nature of the conſtituent principles of malt, it is eaſy to conceive, that the former, or ſaccharine or mucilaginous parts, yield moſt readily to the impreſſion of water, and that at ſo low a degree of heat as would have no viſible effect upon the latter. If, therefore, we are to have a certain proportion of every part, it is a rational inference, that the means of obtaining it reſts in a judicious variation of the extracting heat according to the ſeveral proportions required.

“ A low degree of heat, acting principally upon the ſaccharum, produces a wort replete with a rich ſoft ſweet, fully impregnated with its attendant mucilage, and in quantity much exceeding that obtainable from increaſed heat; which by its more powerful inſinuation into the body of the malt acting upon all the parts together, extracts a conſiderable portion of the oleaginous and earthy principles, but falls ſhort in ſoftneſs, fulneſs, ſweetneſs, and quantity. This is occaſioned by the coagulating property of the mucilage, which, partaking of the nature of flour, has a tendency to run into paſte in proportion to the increaſe of heat applied; by which means it not only locks up a conſiderable part of the ſaccharum contained therein, but retains with it a proportionate quantity of the extracting liquor, which would otherwiſe have drawn out the impriſoned ſweet, thence leſſening both the quantity and quality of the worts. And this has ſometimes been known to have had ſo powerful an effect, as to have occaſioned the *ſetting of the goods*, or the uniting the whole into a paſty maſs; for though heat increaſes the ſolvent powers of water in moſt inſtances, there are ſome in which it totally deſtroys them. Such is the preſence of flour, which it converts into paſte; beſides thoſe of blood, eggs, and ſome other animal ſubſtances, which it invariably tends to harden.

“ From a knowledge of theſe effects, we form our ideas of the variations neceſſary in the heat of the extracting liquor; which are of more extenſive utility than has yet been intimated, though exceedingly limited in their extent from one extreme to the other.

“ The moſt common effects of too low a heat, beſides ſometimes producing immediate acidity, are an inſipidity of the flavour of the beer, and a want of early tranſparency from the ſuperabundance of mucilaginous matter extracted by ſuch heats, which, after the utmoſt efforts of fermentation, will leave the beer turbid with ſuch a cloud of its lighter feculencies as will require the ſeparation and precipitation of many months to diſperſe.

“ The contrary application, of too much heat, at the ſame time that it leſſens the mucilage, has, as we have ſeen before, the effect of diminiſhing the ſaccharum alſo; whence that lean thin quality obſervable in ſome beers; and, by extracting an over proportion of oleaginous and earthy particles, renders the buſineſs of fermentation difficult and precarious, and impreſſes an auſterity on the flavour of the liquor which will not eaſily be effaced.

“ Yet the true medium heat for each extract cannot be univerſally aſcertained. An attention not only to the quality of the malt, but to the quantity wetted, is abſolutely neceſſary to the obtaining every due advantage;

tage; nor muſt the period at which the beer is intended for uſe be omitted in the account. The quality of the water alſo claims a ſhare in the conſideration, in order to ſupply that deficient thinneſs and want of ſolvent force in hard, and to allow for the natural fulneſs and fermentative quality of ſoft; a particular to which London in a great meaſure owes the peculiar mucilaginous and nutritious quality of its malt liquors.

"Although the variations above alluded to are indiſpenſable, it is eaſy to conceive from the ſmall extent of the utmoſt variety, that they cannot be far diſtant. If, therefore, we know that a certain degree extracts the firſt principles in a certain proportion, we need not much conſideration to fix upon another degree that ſhall produce the required proportion of the remaining qualities, and effect that equal diſtribution of parts in the extract which it is the buſineſs of fermentation to form into a conſiſtent whole."

9 Of boiling worts.

The principal uſe of boiling, as it reſpects the worts particularly, is to ſeparate the groſſer or more palpable parts of the extract, preparatory to that more minute ſeparation which is to be effected in the gyle tun. The eye is a very competent judge of this effect; for the concretions into which the continued action of boiling forms thoſe parts are obvious to the ſlighteſt inſpection, whilſt the perfect tranſparency of the interſtices of the worts points out its utility in promoting that deſirable quality in the beer. Theſe coagulable parts are formed from the ſuperabundant mucilage already mentioned; and hence they are found in greater proportion in the firſt worts than in thoſe that come after; at the ſame time, they are in theſe laſt ſo mingled with a quantity of oleaginous matter, that they become much more difficultly coagulable in the weak worts than in ſuch as are ſtronger, and hence theſe require to be much longer boiled than the others.

During this operation the hops are generally added, which are found to be abſolutely neceſſary for preventing the too great tendency of beer to acidity. The fine eſſential oil of hops being moſt volatile and ſooneſt extracted, we are thence taught the advantage of boiling the firſt wort no longer than is ſufficient to form the extract, without expoſing it to the action of the fire ſo long as to diſſipate the finer parts of this moſt valuable principle, and defeat the purpoſe of obtaining it. To the ſubſequent worts we can afford a larger allowance, and purſue the means of preſervation ſo long as we can keep in view thoſe of flavour; to which no rules can poſitively direct, the proceſs varying with every variety of beer, and differing as eſſentially in the production of porter and pale ale as the modes of producing wine and vinegar.

The conſequence of not allowing a ſufficient time for the due ſeparation of the parts of the wort and extraction of the requiſite qualities of the hop muſt be obvious. If we proceed to the other extreme, we have every thing to apprehend from the introduction of too large a quantity of the groſſer principles of the hop, which are very inimical to fermentation; and from impairing the fermentative quality of the worts themſelves, by ſuffering their too long expoſure to the action of the fire paſſing through them, whereby they are reduced to a more denſe conſiſtence, and their parts too intimately blended to yield to the ſeparating force of fermentation with that eaſe the perfection of the product requires.

10 Of fermentation.

The laſt ſtep in the proceſs of brewing is to ferment the liquor properly; for if this is not done, whatever care and pains have been taken in the other parts, they will be found altogether inſufficient to produce the liquor deſired. The firſt thing to be done here is to procure a proper ferment; for though all fermentable liquors would in time begin to ferment of themſelves, yet, being alſo ſuſceptible of putrefaction, the vinous and putrefactive ferments would both take place at the ſame time in ſuch a manner that the product would be entirely ſpoiled. There are only two kinds of artificial ferments procurable in large quantity, and at a low price, *viz.* beer-yeſt and wine-lees. A prudent management of theſe might render the buſineſs of the brewery for diſtillation, as in the buſineſs of the malt-diſtiller, &c. much more eaſy and advantageous.* Brewers have always found it a conſiderable difficulty to procure theſe ferments in ſufficient quantities, and preſerve them conſtantly ready for uſe; and this has been ſo great a diſcouragement to the buſineſs, that ſome have endeavoured to produce other ferments, or to form mixtures or compounds of particular fermentable ingredients: but this has been attempted without any great ſucceſs, all theſe mixtures falling ſhort even of common baker's leaven in their uſe. Whoever has a turn for making experiments and attempting improvements of this kind, will find it much eaſier and more advantageous to preſerve and raiſe nurſeries of the common ones, than to deviſe mixtures of others. Yeſt may be preſerved by freeing it from its moiſter parts. This may be done by the ſun's heat, but ſlowly and imperfectly. The beſt method is by gently preſſing it in canvas bags: thus the liquid part, in which there is ſcarce any virtue, will be thrown off, and the ſolid will remain behind in form of a cake, which may be packed in a barrel or box, and will keep for a long time ſweet and fragrant, and fit for the fineſt uſes; and the ſame method may be taken either with wine-lees or the flowers of wine. The former may be brought from abroad with great eaſe in this manner: the latter may be made with us from the lees, by only diſſolving them in water, and ſtirring them about with a ſtick; by this means, the lighter, more moveable, and more active part of the lees will be thrown up to the top, and may be taken off and preſerved, in the manner abovementioned, in any quantity deſired. By this means, an eaſy method is found of raiſing an inexhauſtible fund; or a perpetual ſupply of the moſt proper ferments may be readily formed in the way of ſucceſſive generation, ſo as to cut off all future occaſion of complaint for want of them in the buſineſs of diſtillation. It muſt be obſerved, that all ferments abound in eſſential oil much more than the liquors which produce them; whence they very ſtrongly retain the particular flavour and ſcent of the ſubject from whence they were made. It is requiſite, therefore, before the ferment is applied, to conſider what flavour ought to be introduced, and accordingly what ſpecies of ferment is moſt ſuited to the liquor. The alteration thus cauſed by ferments is ſo conſiderable, as to determine or bring over any naturally fermentable liquor of a neutral kind to be of the ſame kind with that which yielded the ferment. The benefit of this,

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* See *Diſtillation.*

however, does not extend to malt, or to any other matter that does not naturally yield a tolerably pure and taſtleſs ſpirit, as it otherwiſe makes not a ſimple, pure and uniform flavour, but a compound and mixed one.

The greateſt circumſpection and care are neceſſary in regard to the quality of the ferment. It muſt be choſen perfectly ſweet and freſh: for all ferments are liable to grow muſty and corrupt; and if in this caſe they are mixed with the fermentable liquor, they will communicate their nauſeous and filthy flavour to it in ſuch a manner as never to be got off. If the ferment is ſour, it muſt by no means be uſed for any liquor; for it will communicate its flavour to the whole, and even prevents its riſing to a head, and give it an acetous, inſtead of a vinous, tendency. When the proper quantity is got ready, it muſt be put to the liquor in a ſtate barely tepid, or ſcarce luke-warm. The beſt method of putting them together, ſo as to make the fermentation ſtrong and quick, is as follows. When the ferment is ſolid, it muſt be broken to pieces, and gently thinned with ſome of the warm liquor; but a complete or uniform ſolution of it is not to be expected or deſired, as this would weaken its efficacy for the future buſineſs. The whole intended quantity being thus looſely mixed in ſome of the luke-warm liquor, and kept near the fire or elſewhere in a tepid ſtate, free from too rude commerce with the external air, more of the inſenſibly warm liquor ought at proper intervals to be brought in, till thus by degrees the whole quantity is ſet at work together. When the whole is thus ſet at work, ſecured in a proper degree of warmth, and kept from a too free intercourſe with the external air, it becomes as it were the buſineſs of nature to finiſh the operation.

In the operation of fermentation, however, the degree of heat employed is of the utmoſt conſequence. In forming the extracts of the malt, the variation of a few degrees of heat produces an important difference in the effect. In the heat of fermentation, ſimilar conſequences reſult from ſimilar variety. Under a certain regulation of the proceſs, we can retain in the beer, as far as art is capable, the finer mucilage, and thereby preſerve that fulneſs upon the palate which is by many ſo much admired: on the other hand, by a ſlight alteration we can throw it off, and produce that evenneſs and uniformity of flavour which has ſcarce any characteriſtical property, and is preferred by ſome only for want of that heavineſs which they complain of in full beers. If a more vinous racy ale be required, we can, by collecting and confining the operation within the body of the wort, cauſe the ſeparation and abſorption of ſuch an abundant portion of the oleaginous and earthy principles, as to produce a liquor in a perfect ſtate at the earlieſt period, and ſo highly flavorous as to create a ſuſpicion of an adventitious quality. But though all this may be done, and often hath been done, the proper management of fermenting liquors depends ſo much upon a multiplicity of ſlight and ſeemingly unimportant circumſtances, that it hath never yet been laid down in an intelligible manner; and no rules, drawn from any thing hitherto publiſhed on the ſubject of brewing, can be at all ſufficient to direct any perſon in this matter, unleſs he hath had conſiderable opportunities of obſerving the practice of a brewhouſe.

BREY, a town of Germany, on the frontiers of Brabant, ſeated on a rivulet, in E. Lon. 5. 35. N. Lat. 51. 6.

BREYNIA, in botany, a ſynonime of the capparis. See CAPPARIS.

BRIANCON, a town of France, in upper Dauphiny, capital of the Briançonnois. E. Long. 6. 45. N. Lat. 44. 46.

BRIANCONNOIS, a territory of France, in Dauphiny bounded by Grenoblois, Gapenzois, Ambrunois, Piedmont, and Savoy. It comprehends ſeveral valleys, which lie among the mountains of the Alps; and though it is extremely cold, yet it is fertile in corn and paſtures. The inhabitants have a great deal of wood; yet they chooſe to be in the ſtables with their cattle ſix months in the year, to keep themſelves warm. Briançon is the capital town.

BRIAR, in botany, the Engliſh name of a ſpecies of roſa. See ROSA.

BRIARE, a town of France, in the Gatinois, ſeated on the river Loire. It is remarkable for nothing but a long ſtreet full of inns and farriers, it being on the great road to Lyons; and the canal of Briare, which is 33 miles in length, and maintains a communication between the Loire and the Seine, by means of the Loing. E. Long. 2. 45. N. Lat. 47. 40.

BRIAREUS, in fabulous hiſtory, a giant; the ſon of Æther, Titan, or Cœlus, and Terra. This was his name in heaven; on earth he was called *Ægeon*. He was of ſingular ſervice to Jupiter, when Juno, Pallas, Neptune, and the reſt of the gods, endeavoured to bind him in chains and dethrone him. Afterwards, however, he conſpired with the reſt of his gigantic brethren to dethrone Jupiter. Virgil, on this occaſion, deſcribes him as having 100 hands, 50 heads, and breathing out fire.† The fable ſays that Jupiter, to puniſh him, threw him under mount Ætna, which, as often as he moves, belches out fire. See ÆTNA.

† Æn. x. 365.

BRIBE, a reward given to pervert the judgment. See the next article.

The word is French, *bribe*, which originally denotes a bit, fragment, or relic of meat taken off the table; on which footing, bribe imports as much as *panis mendicatus*, and ſtill keeps up the idea of the matter whereof bribes anciently conſiſted. Hence alſo the Spaniards uſe *bribar* and *brivar* for *begging*; and *brivia brivoneria*, and *brivoniſmo*, for *beggary*. In middle-age writers, a bribe given a judge is called *quato litis*, and the receiver *campi particeps*, or *cambi particeps*; becauſe the ſpoils of the field, i. e. the profits of the cauſe, were thus ſhared with the giver.

BRIBERY, in law, is a high offence, where a perſon in a judicial place takes any fee, gift, reward, or brockage, for doing his office, but of the government only. But, taken largely, it ſignifies the receiving or offering any undue reward to or by any perſon concerned in the adminiſtration of public juſtice, whether judge, officer, &c. to act contrary to his duty; and ſometimes it ſignifies the taking or giving a reward for a public office.

In the Eaſt it is the cuſtom never to petition any ſuperior for juſtice, not excepting their kings, without a preſent. This is calculated for the genius of deſpotic countries; where the true principles of government are never underſtood, and it is imagined that there is no ob-

Blackſtone's Comment.

obligation due from the ſuperior to the inferior, no relative duty owing from the governor to the governed. The Roman law, though it contained many ſevere injunctions againſt bribery, as well for ſelling a man's vote in the ſenate or other public aſſembly, as for the bettering of common juſtice; yet, by a ſtrange indulgence in one inſtance, it tacitly encouraged this practice; allowing the magiſtrate to receive ſmall preſents, provided they did not on the whole exceed 100 crowns a-year: not conſidering the inſinuating nature and gigantic progreſs of this vice, when once admitted. Plato, therefore, in his ideal republic, orders thoſe who take preſents for doing their duty to be puniſhed in the ſevereſt manner: and by the laws of Athens, he that offered a bribe was alſo proſecuted, as well as he that received a bribe. In England this offence of taking bribes is puniſhed, in inferior officers, with fine and impriſonment; and in thoſe that offer a bribe, though not taken, the ſame. But in judges, eſpecially the ſuperior ones, it has been always looked upon as ſo heinous an offence, that the chief juſtice Thorpe was hanged for it in the reign of Edward III. By a ſtatute 11 Henry IV. all judges and officers of the king convicted of bribery, ſhall forfeit treble the bribe, be puniſhed at the king's will, and be diſcharged from his ſervice for ever. And ſome notable examples have been made in parliament, of perſons in the higheſt ſtations, and otherwiſe very eminent and able, but contaminated with this ſordid vice. Thus in the reign of king James I. the earl of M. lord treaſurer of England, being impeached by the commons, for refuſing to hear petitions referred to him by the king, till he had received bribes, &c. was, by ſentence of the lords, deprived of all his offices, and diſabled to hold any for the future, or to ſit in parliament; he was alſo fined 50,000l. and impriſoned during the king's pleaſure. In the 11th year of king George I. the lord chancellor M—— had a ſomewhat milder puniſhment: he was impeached by the commons, with great zeal, for bribery, in ſelling the places of maſters in chancery for exhorbitant ſums, and other corrupt practices, tending to the great loſs and ruin of the ſuitors of that court, and the charge being made good againſt him, being before diveſted of his office, he was ſentenced to pay a fine of 30,000l. and impriſoned till it was paid. It is ſaid that one of the peers, if not two, who voted againſt him, had been poſſeſſed of the office of chancellor, and ſold the places of maſters in chancery whenever vacant.

BRIBERY *in Elections*. See ELECTIONS.

BRICIANI, thoſe of the order of that name. This was a military order, inſtituted by St Bridget, queen of Sweden, who gave them the rules and conſtitutions of thoſe of Malta and St Auguſtin. This order was approved by pope Urban V. They were to fight for the burying of the dead, to relieve and aſſiſt widows, orphans, the lame, ſick, &c.

BRICK, a fat reddiſh earth, formed into long ſquares, four inches broad, and eight or nine long, by means of a wooden mould, and then baked or burnt in a kiln, to ſerve the purpoſes of building.

Bricks are of great antiquity, as appears by the ſacred writings, the tower and walls of Babylon being built with them.

The Greeks chiefly uſed three kinds of bricks; the firſt whereof was called [*didóron*], i. e. of two palms; the ſecond [*tetradóron*], of four palms; the third [*pentadóron*], of five palms. They had alſo other bricks, juſt half each of thoſe, to render their works more ſolid, and alſo more agreeable to the ſight, by the diverſities of the figures and ſizes of the bricks.

The dimenſions of the brick chiefly uſed by the Romans, according to Pliny, were a foot and a half long, and a foot broad; which meaſures agree with thoſe of ſeveral Roman bricks in England, which are about 17 inches long, and 11 broad, of our meaſure. Sir Henry Wotton ſpeaks of a ſort of bricks at Venice, of which ſtately columns were built; they were firſt formed in a circular mould, and cut, before they were burnt, into four or more quarters or ſides; afterwards, in laying, they were jointed ſo cloſe, and the points concentered ſo exactly, that the pillars appeared one entire piece*. The ordinary Paris brick is eight inches long, four broad, and two thick, French meaſure, which makes ſomething more than ours. But this ſmallneſs is an advantage to a building, the ſtrength of which conſiſts much in the multitude of angles and joints, at leaſt if well laid, and having a good bond.

Supplement to Chambers.

Bricks among us are various, according to their various forms, dimenſions, uſes, method of making, &c. The principal are, compaſs-bricks, of a circular form, uſed in ſteyning of walls: concave, or hollow bricks, on one ſide flat like a common brick, on the other hollowed, and uſed for conveyance of water: feather-edged bricks, which are like common ſtatute-bricks, only thinner on one edge than the other, and uſed for penning up the brick pannels in timber buildings: cogging bricks are uſed for making the indented works under the caping of walls built with great bricks: caping bricks, formed on purpoſe for caping of walls: Dutch or Flemiſh bricks, uſed to pave yards, ſtables, and for ſoap-boilers vaults and ciſterns: clinkers, ſuch bricks as are glazed by the heat of the fire in making: ſandel or ſamel-bricks, are ſuch as lie outmoſt in a kiln or clamp, and conſequently are ſoft and uſeleſs, as not being thoroughly burnt: great bricks are thoſe twelve inches long, ſix broad, and three thick, uſed to build fence-walls: plaſter or buttreſs bricks, have a notch at one end, half the breadth of the brick; their uſe is to bind the work which is built of great bricks: ſtatute-bricks, or ſmall common bricks, ought, when burnt, to be nine inches long, four and a quarter broad, and two and a half thick; they are commonly uſed in paving cellars, ſinks, hearths, &c.

Worlidge, and others after him, have endeavoured to excite brickmakers to try their ſkill in making a new kind of brick, or a compoſition of clay and ſand, whereof to form window-frames, chimney-pieces, door-caſes, and the like. It is to be made in pieces faſhioned in moulds, which, when burnt, may be ſet together with a fine red cement, and ſeem as one entire piece, by which may be imitated all manner of ſtone-work. The thing ſhould ſeem feaſible, by the earthen pipes made fine, thin, and durable, to carry water under-ground at Portſmouth, England; and by the earthen backs and grates for chimneys, formerly made by Sir John Winter, of a great bigneſs and thickneſs. If chimney-pieces thus made in moulds, and dried and burnt, were not found ſmooth enough, they might be poliſhed with ſand and water; or were care taken, when they were half dry in the air, to have them poliſhed with an inſtrument of copper or iron, then leave them till they were dry enough to burn, it is evident they would not want much poliſhing afterwards. The work might even be glazed, as potters do their fine earthen ware, either white, or of any other colour; or it might be veined in imitation of marble, or be painted with figures of various colours, which would be much cheaper, perhaps equally durable, and as beautiful as marble itſelf.

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* Wotton. Elem. of Architecture l. ii.

Bricks are commonly red; though there are ſome alſo of a white colour, for which ſort Walpit in Suffolk is famous. Bricks may be made of any earth that is clear of ſtones, even ſea-ouſe; but all will not burn red, a property peculiar to earths which contain ferruginous particles. In England, bricks are chiefly made of a hazely, yellowiſh-coloured, fatty earth, ſomewhat reddiſh, vulgarly called *loam*. The earth, according to Leibourn, ought to be dug before winter, but not made into bricks before ſpring. For the making of ſuch bricks as will ſtand the fierceſt fires, Sturbridge clay or Windſor loam are eſteemed the beſt. In general, the earth whereof bricks are made ought not to be too ſandy, which would render them heavy and brittle; nor too fat, which would make them crack in drying.

The firſt ſtep in the proceſs of brickmaking is caſting the clay, or earth. The next ſtep is to tread or temper it, which ought to be performed doubly of what is uſually done; ſince the goodneſs of the bricks depends chiefly upon this firſt preparation. The earth itſelf, before it is wrought, is generally brittle and duſty; but adding ſmall quantities of water gradually to it, and working and incorporating it together, it opens its body, and tinges the whole with a tough, gluey band or ſubſtance. If, in the tempering, you overwater them, as the uſual method is, they become dry and brittle, almoſt as the earth they are made of; whereas, if duly tempered, they become ſmooth and ſolid, hard and durable. A brick of this laſt ſort takes up near as much earth as a brick and a half made the contrary way: in which the bricks are ſpongy, light, and full of cracks, partly through want of due working, and partly by mixing of aſhes and light ſandy earth to make it work eaſy and with greater diſpatch; as alſo to ſave culm or coals in the burning. We may add, that for bricks made of good earth, and well tempered, as they become ſolid and ponderous, ſo they take up a longer time in drying and burning than the common ones; and that the well drying of bricks before they are burned, prevents their cracking and crumbling in the burning.

Bricks are burnt either in a kiln or clamp. Thoſe that are burnt in a kiln, are firſt ſet or placed in it; and then the kiln being covered with pieces of bricks, they put in ſome wood to dry them with a gentle fire; and this they continue till the bricks are pretty dry, which is known by the ſmoke's turning from a darkiſh colour to tranſparent ſmoke: they then leave off putting in wood, and proceed to make ready for burning; which is performed by putting in bruſh, furze, ſpray, heath, brake, or fern faggots: but before they put in any faggots, they dam up the mouth or mouths of the kiln with pieces of bricks (which they call *ſhinlog*) piled up one upon another, and cloſe it up with wet brick-earth inſtead of mortar. The ſhinlog they make ſo high, that there is but juſt room above it to thruſt in a faggot: then they proceed to put in more faggots, till the kiln and its arches look white, and the fire appears at the top of the kiln; upon which they ſlacken the fire for an hour, and let all cool by degrees. This they continue to do, alternately heating and ſlacking, till the ware be thoroughly burnt, which is uſually effected in 48 hours.

About London they chiefly burn in *clamps*, built of the bricks themſelves, after the manner of arches in kilns, with a vacancy between each brick, for the fire to play through; but with this difference, that inſtead of arching, they ſpan it over by making the bricks project one over another on both ſides of the place, for the wood and coals to lie in till they meet, and are bounded by the bricks at the top, which cloſe all up. The place for the fuel is carried up ſtraight on both ſides, till about three feet high; then they almoſt fill it with wood, and over that lay a covering of ſea-coal, and then overſpan the arch; but they ſtrew ſea-coal alſo over the clamp, betwixt all the rows of bricks; laſtly, they kindle the wood, which gives fire to the coal; and when all is conſumed, then they conclude the bricks are ſufficiently burnt.

In Dr Percival's eſſays*, we have the following experiment of the effects of bricks on water. "Two or three pieces of common brick were ſteeped four days in a baſon full of diſtilled water. The water was then decanted off, and examined by various chemical teſts. It was immiſcible with ſoap, ſtruck a lively green with ſyrup of violets, was rendered ſlightly lacteſcent by the volatile alcali, and quite milky by the fixed alcali and by a ſolution of ſaccharum ſaturni. The infuſion of tormentil root pruduced no change in it." This experiment, he obſerves, affords a ſtriking proof of the impropriety of lining wells with brick, a practice very common in many places, and which cannot fail of rendering the water hard and unwholeſome. Clay generally contains a variety of heterogeneous matters. The coloured loams often participate of bitumen, and the ocre of iron. Sand and calcareous earth are ſtill more common ingredients in their compoſition; and the experiments of Mr. Geoffry and Mr Pott prove, that the earth of alum alſo may in large quantity be extracted from clay. Now as clay is expoſed to the open air for a long ſpace of time, is then moulded into bricks, and burnt, this proceſs reſembles in many reſpects that by which the alum-ſtone is prepared. And it is probable that the white efflореſcence which is frequently obſervable on the ſurface of new bricks, is of an aluminous nature. The long expoſure of clay to the air before it is moulded into bricks, the ſulphureous exhalations of the pit-coal uſed for burning it, together with the ſuffocating and bituminous vapour which ariſes from the ignited clay itſelf, ſufficiently account for the combination of a vitriolic acid with the earth of alum.

Oil of BRICKS, olive oil imbibed by the ſubſtance of bricks, and afterwards diſtilled from it. This oil was once in great repute for curing many diſeaſes, but is now juſtly laid aſide.

BRICK-*Layer*, an artificer, whoſe buſineſs is to build with bricks, or make brick work.

Bricklayers work, or buſineſs, in London, includes tyling, walling, chimney-work, and paving with bricks and tyles. In the country it alſo includes the maſon's and plaſterer's buſineſs.

The materials uſed by brick-layers are bricks, tyles, mortar, laths, nails, and tyle-pins. Their tools are a brick trowel, wherewith to take up mortar; a brick-ax, to cut bricks to the determined ſhape; a ſaw, for ſawing bricks; a rub-ſtone, on which to rub them; alſo a ſquare, wherewith to lay the bed or bottom, and face or ſurface of the brick, to ſee whether they are at right angles; a bevel, by which to cut the under ſides of bricks to the angles required; a ſmall trannel of iron, wherewith to mark the bricks; a float-ſtone, with which to rub a moulding of brick to the pattern deſcribed; a banker, to cut the bricks on; line-pins, to lay their rows or courſes by; plumb-rule, whereby to carry their work upright; level, to conduct it horizontal; ſquare, to ſet off right angles; ten-foot-rood, wherewith to take dimenſions; jointer, wherewith to run the long joints; rammer, wherewith to beat the foundation; crow and pick-ax, wherewith to dig through walls.

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* Vol. I. p. 302.

The London brick-layers make a regular company, which was incorporated in 1568; and conſiſts of a maſter, two wardens, 20 aſſiſtants, and 78 on the livery.

Brick-Laying, the art of framing edifices of bricks.

Moxon hath an expreſs treatiſe on the art of brick-laying; in which he deſcribes the materials, tools, and method of working, uſed by brick-layers.

Great care is to be taken, that bricks be laid joint on joint in the middle of the walls as ſeldom as may be; and that there be good bond made there, as well as on the outſides. Some brick-layers, in working a brick and half wall, lay the header on one ſide of the wall perpendicular on the header on the other ſide, and ſo all along the whole courſe; whereas, if the header on one ſide of the wall were toothed as much as the ſtretcher on the other ſide, it would be a ſtronger toothing, and the joints of the headers of one ſide would be in the middle of the headers of the courſe they lie upon of the other ſide. If bricks be laid in winter, let them be kept as dry as poſſible; if in ſummer, it will quit coſt to employ boys to wet them, for that they will then unite with the mortar better than if dry, and will make the work ſtronger. In large buildings, or where it is thought too much trouble to dip all the bricks ſeparately, water may be thrown on each courſe after they are laid, as was done at the building the phyſician's college, by order of Dr Hooke. If bricks are laid in ſummer, they are to be covered; for if the mortar dries too haſtily, it will not bind ſo firmly to the bricks as when left to dry more gradually. If the bricks be laid in winter, they ſhould alſo be covered well, to protect them from rain, ſnow and froſt; which laſt is a mortal enemy to mortar, eſpecially to all ſuch as has been wetted juſt before the froſt aſſaults it.

Brick-Maker, is he who undertakes the making of Bricks. This is moſtly performed at ſome ſmall diſtance from cities and towns; and though ſome, thro' ignorance, look upon it as a very mean employ, becauſe laborious, yet the maſters about London, and other capital cities, are generally men of ſubſtance.

BRICKING, among builders, the counterfeiting of a brick-wall on plaſter: which is done by ſmearing it over with red ochre, and making the joints with an edged tool; theſe laſt are afterwards filled with a fine plaſter.

BRIDE, a woman newly married. Among the Greeks, it was cuſtomary for the bride to be conducted from her father's houſe to her huſband's in a chariot, the evening being choſen for that purpoſe, to conceal her bluſhes; ſhe was placed in the middle, her huſband ſitting on one ſide, and one of her moſt intimate friends on the other; torches were carried before her, and ſhe was entertained in the paſſage with a ſong ſuitable to the occaſion. When they arrived at their journies end, the axle-tree of the coach they rode in was burnt, to ſignify that the bride was never to return to her father's houſe.—Among the Romans the bride was to ſeem to be raviſhed by force from her mother, in memory of the rape of the Sabines under Romulus; ſhe was to be carried home in the night-time to the bridegroom's houſe, accompanied by three boys, one whereof carried a torch, and the other two led the bride; a ſpindle and diſtaff being carried with her: ſhe brought three pieces of money called aſſes, in her hand to the bridegroom, whoſe doors on this occaſion were adorned with flowers and branches of trees: being here interrogated who ſhe was, ſhe was to anſwer *Caia*, in memory of Caia Cecilia, wife of Tarquin the Elder, who was an excellent *laniſica* or ſpinſtreſs; for the like reaſon, before her entrance, ſhe lined the door-poſts with wool, and ſmeared them with greaſe. Fire and water being ſet on the threſhold, ſhe touched both; but ſtarting back from the door, refuſed to enter, till at length ſhe paſſed the threſhold, being careful to ſtep over without touching it: here the keys were given her, a nuptial ſupper was prepared for her, and minſtrels to divert her; ſhe was ſeated on the figure of a priapus, and here the attendant boys reſigned her to the *pronubæ*, who brought her into the nuptial chamber and put her to bed. This office was to be performed by matrons who had only been once married, to denote that the marriage was to be for perpetuity.

BRIDEGROOM, a man newly married, the ſpouſe of the bride.

The Spartan bridegrooms committed a kind of rape upon their brides. For matters being agreed on between them two, the woman that contrived and managed the match, having ſhaved the bride's hair cloſe to her ſkin, dreſſed her up in man's clothes, and left her upon a mattreſs: this done, in came the bridegroom, in his uſual dreſs, having ſupped as ordinary, and ſtealing as privately as he could to the room where the bride lay, and untying her virgin girdle, took her to his embraces; and having ſtayed a ſhort time with her, returned to his companions, with whom he continued to ſpend his life, remaining with them by night as well as by day, unleſs he ſtole a ſhort viſit to his bride, which could not be done without a great deal of circumſpection, and fear of being diſcovered. Among the Romans, the bridegroom was decked to receive his bride; his hair was combed and cut in a particular form; he had a coronet or chaplet on his head, and was dreſſed in a white garment.

By the ancient canons, the bridegroom was to forbear the enjoyment of his bride the firſt night, in honour of the nuptial benediction given by the prieſt on that day*. In Scotland, and perhaps alſo ſome parts of England, a cuſtom called *marchet*, obtained; by which the lord of the manor was intitled to the firſt night's habitation with his tenants brides†.

BRIDEWELL, a work-houſe, or place of correction for vagrants, ſtrumpets, and other diſorderly perſons.—Theſe are made to work, being maintained with

* *Johnſ. Eccl. Law.* an. 740. §88

† See *Marchet.*

clothing and diet; and when it ſeems good to their governors, they are ſent by paſſes into their native countries; however, while they remain here, they are not only made to work, but, according to their crimes, receive once a-fortnight ſuch a number of ſtripes as the governor commands.

BRIDEWELL, in London, near Fleet-ſtreet, is a foundation of a mixt and ſingular nature, partaking of the hoſpital, the priſon, and workhouſe; it was founded in 1553, by Edward VI. who gave the place where king John had formerly kept his court, and which had been repaired by Henry VIII. to the city of London, with 700 merks of land, bedding, and other furniture. Several youths are ſent to this hoſpital as apprentices to manufacturs, who reſide there; they are clothed in blue doublets and breeches, with white hats. Having faithfully ſerved their time of ſeven years, they have their freedom, and a donation of L. 10 each, for carrying on their reſpective trades.

BRIDGE, a work of maſonry or timber, conſiſting of one or more arches built over a river, canal, or the like, for the conveniency of paſſing the ſame. See ARCHITECTURE, nº 122; and CANAL.

The firſt inventor of bridges, as well as of ſhips and crowns, is by ſome learned men ſuppoſed to be Janus: their reaſon is, that on ſeveral ancient Greek, Sicilian, and Italian coins, there are repreſented on one ſide a Janus, with two faces, and on the other a bridge, or a crown, or a ſhip.

Bridges are a ſort of edifices very difficult to execute, on account of the inconvenience of laying foundations and walling under water. The earlieſt rules and inſtructions relating to the building of bridges are given by Leon Baptiſta Alberti, *Archit.* l. viii. Others were afterwards laid down by Palladio, l. iii. Serlio, l. iii. c. 4. and Scammozzi, l. v. all of which are collected by M. Blondel, *Cours d' Archit.* p. 629, *ſeq.* The beſt of them are alſo given by Goldman, *Baukhurſt*, l. iv. c. 4. p. 134, and Hawkeſmoor's Hiſtory of London bridge, p. 26, *ſeq.* M. Gautier has a piece expreſs on bridges, ancient and modern; *Trait des Ponts*, Paris 1716, 12mo.

The parts of a bridge are, The piers; the arches; the pavement, or way over for cattle and carriages; the foot-way on each ſide, for foot-paſſengers; the rail or parapet, which incloſes the whole; and the butments or ends of the bridges on the bank.

The conditions required in a bridge are, That it be well-deſigned, commodious, durable, and ſuitably decorated. The piers of ſtone-bridges ſhould be equal in number, that there may be one arch in the middle, where commonly the current is ſtrongeſt; their thickneſs is not to be leſs than a ſixth part of the ſpan of the arch, nor more than a fourth; they are commonly guarded in the front with angular ſterlings, to break the force of the current: the ſtrongeſt arches are thoſe whoſe ſweep is a whole ſemicircle; as the piers of bridges always diminiſh the bed of a river, in caſe of inundations, the bed muſt be ſunk or hollowed in proportion to the ſpace taken by the piers, as the waters gain in depth what they loſe in breadth, which otherwiſe conduce to waſh away the foundation and endanger the piers: to prevent this, they ſometimes diminiſh the current, either by lengthening its courſe, or by making it more winding; or by ſtopping the bottom with rows of planks, ſtakes, or piles, which break the current.

Among the Romans, the building and repairing of bridges was firſt committed to the pontifices or prieſts; then to the cenſors, or curators of the roads; laſtly, the emperors took the care of bridges into their own hands. Thus Antoninus Pius built the Pons Janiculenſis of marble; Gordian reſtored the Pons Ceſtius; and Adrian built a new one denominated from him. In the middle-age, bridge-building was reckoned among the acts of religion; and a regular order of Hoſpitallers was founded by St Benezet, towards the end of the 12th century, under the denomination of *pontifices*, or bridge-builders, whoſe office it was to be aſſiſtant to travellers, by making bridges, ſettling ferries, and receiving ſtrangers in hoſpitals, or houſes built on the banks of rivers. We read of one hoſpital of this kind at Avignon, where the hoſpitallers dwelt under the direction of their firſt ſuperior St Benezet. The Jeſuit Raynaldus has a treatiſe expreſs on St John the bridge-builder.

Among the bridges of antiquity, that built by Trajan over the Danube is allowed to be the moſt magnificent.

Among modern bridges, that of Weſtminſter, built on the river Thames, may be accounted one of the fineſt in the world: it is 44 feet wide, a commodious foot-way being allowed for paſſengers, on each ſide, of about ſeven feet broad, raiſed above the road allowed for carriages, and paved with broad moor-ſtones, while the ſpace left between them is ſufficient to admit three carriages and two horſes to go a-breaſt, without any danger. Its extent from wharf to wharf is 1220 or 1223 feet, being full 300 feet longer than London-bridge. The free water-way under the arches of this bridge is 870 feet, being four times as much as the free water-way left between the ſterlings of London-bridge; this diſpoſition, together with the gentleneſs of the ſtream, are the chief reaſons why no ſenſible fall of water can ever ſtop, or in the leaſt endanger, the ſmalleſt boats in their paſſage through the arches.

It conſiſts of 13 large and 2 ſmall arches, together with 14 intermediate piers.

Each pier terminates with a ſaliant right angle againſt either ſtream: the two middle piers are each 17 feet in thickneſs at the ſpringing of the arches, and contain 3000 cubic feet, or near 200 tons, of ſolid ſtone; and the others decreaſe in width equally on each ſide by one foot.

All the arches of this bridge are ſemicircular; they all ſpring from about two feet above low-water mark; the middle arch is 76 feet wide, and the others decreaſe in breadth equally on each ſide by 4 feet.

This bridge is built of the beſt materials; and the ſize and diſpoſition of theſe materials are ſuch, that there is no falſe bearing, or ſo much as a falſe joint in the whole ſtructure; beſides that it is built in a neat and elegant taſte, and with ſuch ſimplicity and grandeur, that, whether viewed from the water, or by the paſſengers who walk over it, it fills the mind with an agreeable ſurprize. The ſemioctangular towers which form the receſſes of the foot-way, the manner of placing the lamps, and the height of the baluſtrade, are at once the moſt beautiful, and, in every other reſpect, the beſt contrived.

London-bridge conſiſts of 20 locks or arches, 19 of which are open, and one filled up or obſcured. It is 900 feet long, 60 high, and 74 broad, with almoſt 20 feet aperture in each arch. It is ſupported by 18 piers, from 25 to 34 feet thick; ſo that the greateſt water-way when the tide is above the ſterlings is 470 feet, ſcarcely half the width of the river; and below the ſterlings, the water-way is reduced to 194 feet. Thus a river 900 feet wide is here forced through a channel of 194 feet. London-bridge was firſt built of timber, ſome time before the year 994, by a college of prieſts, to whom the profits of the ferry of St Mary Overy's had deſcended; it was repaired, or rather new built of timber, in 1163. The ſtone-bridge was begun by king Henry in 1176, and finiſhed by king John in 1209. The architect was Peter of Colechurch, a prieſt *. For the keeping it in repair, a large houſe is allotted, with a great number of offices, and a vaſt revenue in land, &c. The chief officers are two bridge-maſters, choſen yearly out of the body of the livery. The defects of this bridge are the narrowneſs and irregularity of the arches, and the largeneſs of the piers, which, together with the ſterlings, turn the current of the Thames into many frightful cataracts, which muſt obſtruct and endanger the navigation through the bridge. The ſterlings have been added, to hinder the piers from being undermined by the rotting of the piles on which they are built: for by means of theſe ſterlings the piles are kept conſtantly wet; and thus the timber is kept from decaying, which always happens when it is ſuffered to be alternately wet and dry.

Blackfriars bridge, ſituated near the centre of the city, and built according to a plan drawn by Mr Robert Mylne, is an exceeding light and elegant ſtructure. The arches are only nine in number; but very large, and of an elliptical form. The centre-arch is 100 feet wide; thoſe on the ſides decreaſe in a regular gradation; and the width of that near the abutment at each end is 70 feet. It has an open baluſtrade at the top, and a foot-way on each ſide, with room for three carriages abreaſt in the middle. It has alſo receſſes on the ſides for the foot paſſengers, each ſupported by two lofty Ionic columns.

The longeſt bridge in England is that over the Trent at Burton, built by Bernard abbot of Burton, in the 12th century; it is all of ſquared free ſtone, ſtrong, and lofty, 1545 feet in length, and conſiſting of 34 arches. Yet this comes far ſhort of the wooden bridge over the Drave, which according to Dr Brown is at leaſt five miles long.

But the moſt ſingular bridge in Europe is that built over the river Tave in Glamorganſhire. It conſiſts of one ſtupendous arch, the diameter of which is 175 feet, the chord 140, the altitude 35, and the abutments 32. This magnificent arch was built by William Edward, a poor country maſon, in the year 1756.

The famous bridge of Venice, called the *Rialto*, conſiſts of but a ſingle arch, and that a flat or low one, and paſſed for a maſterpiece of art. It was built in 1591, on the deſign of Michael Angelo; the ſpan of the arch is 98½ feet, and its height above the water only 23.—Poulet mentions a bridge of a ſingle arch in the city of Munſter in Bothnia, much bolder than that of the Rialto at Venice. But theſe are nothing to a bridge in China, built from one mountain to another, conſiſting of a ſingle arch 400 cubits long and 500 in height, whence it is called the *flying bridge*; a figure of it is given in the Philoſophical Tranſactions. Kircher alſo ſpeaks of a bridge in the ſame country 360 perches long, ſupported by 300 pillars.

Ruſhen Bridge, Pont de jonc, is made of large ſheaves of ruſhes growing in marſhy grounds, which they cover with boards or planks; they ſerve for croſſing ground that is boggy, miry, or rotten. The Romans had alſo a ſort of ſubitaneous bridges made by the ſoldiers, of boats, or ſometimes of caſks, leathern bottles, or bags, or even of bullocks bladders blown up and faſtened together, called *aſcogaſri*. M. Couplet gives the figure of a portable bridge 200 feet long, eaſily taken aſunder and put together again, and which 40 men may carry. Frezier ſpeaks of a wonderful kind of bridge at Apurima in Lima, made of ropes formed of the bark of a tree.

Pendent or Hanging BRIDGES, called alſo *Philoſophical Bridges*, are thoſe not ſupported either by poſts or pillars, but hung at large in the air, only ſupported at the two ends or butments. Inſtances of ſuch bridges are given by Palladio and others. Dr Wallis gives the deſign of a timber bridge 70 feet long, without any pillars, which might be uſeful in ſome places where pillars cannot be conveniently erected. Dr Plot aſſures us, that there was formerly a large bridge over the caſtle-ditch at Tutbury in England, made of pieces of timber, none much above a yard long, and yet not ſupported underneath either with pillars or archwork, or any ſort of prop whatever.

Draw-BRIDGE, one that is faſtened with hinges at one end only, ſo that the other may be drawn up; in which caſe the bridge ſtands upright, to hinder the paſſage of a ditch or moat.

Flying-BRIDGE or *Pons ductorius*, an appellation given to a bridge made of pontoons, leather boats, hollow beams, caſks, or the like, laid on a river, and covered with planks, for the paſſage of an army.

Flying-BRIDGE *(pont volant)* more particularly denotes a bridge compoſed of one or two boats joined together by a ſort of flooring, and ſurrounded with a rail or baluſtrade; having alſo one or more maſts, to which is faſtened a cable, ſupported, at proper diſtances, by boats, and extended to an anchor, to which the other end is faſtened, in the middle of the water: by which contrivance, the bridge becomes moveable, like a pendulum from one ſide of the river to the other, without any other help than the rudder.—Such bridges ſometimes alſo conſiſt of two ſtories, for the quicker paſſage of a great number of men, or that both infantry and cavalry may paſs at the ſame time.

In Plate CVIII. is repreſented a flying-bridge of this kind. Fig. 2. is a perſpective view of the courſe of a river, and its two banks. *a*, *b*, *c*, *d*, Two long boats or batteaux, which ſupport the flying-bridge. GH, KL, two maſts joined at their tops by two tranſverſe pieces, or beams, and a central arch, and ſupported in a vertical poſition by two pair of ſhrowds and two chains LN, HR. M, a horſe, or croſs piece, over which the rope or cable M, F, *e*, *f*, that rides or holds the bridge againſt the current, paſſes. E, a roll or windlaſs round which the rope M, F, *e*, *f*, is wound. *a*, *b*, The rudders. AB, and CD, two portions of bridges of boats faſtened to the bank on each ſide, and between which the flying-bridge moves in paſſing from one ſide of the river to the other. *e*, *f*, Chains ſupported by two punts, or ſmall flat-bottomed boats: there are five or ſix of theſe punts at about 40 fathoms from one another. The firſt, or fartheſt from the bridge, is moored with anchors in the middle of the bed of the river.

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* *Hawkſw. Hiſt. of London bridge*, p. 6.

Fig. 3. Is a plan of the ſame bridge. *a*, *b*, *c*, *d*, The two boats that ſupport it. K and G, the two maſts. KFG, the tranſverſe piece or beam over which the cable paſſes. E, the roll, or windlaſs, round which the rope or cable is wound. *a*, *b*, The rudders. O, a boat. *e*, One of the punts, or ſmall flat-bottomed boats that ſupport the chain. N, N, pumps for extracting the water out of the boats. P, P, capſtans.

Fig. 4. Lateral elevation of the bridge. *a*, *c*, One of the boats. *b*, The rudder. E, The roll, or windlaſs. M, The horſe, or croſs-piece. G H, one of the maſts. E, M, H, F, The cable. In this view the baluſtrade running along the ſide of the bridge is plainly exhibited.

Fig. 5. Elevation of the hinder or ſtern part of the bridge. *a*, *b*, The two boats. G H, KL, The two maſts. HL, The upper tranſverſe beam. *p*, *q*. The lower tranſverſe beam, or that over which the cable paſſes, and on which it ſlides from one maſt to the other; this beam is therefore always kept well greaſed. *p*, *k*, *q*, *g*, Shrowds extending from the ſides of the bridge to the tops of the maſts. M, The horſe or croſs-piece over which the cable paſſes to the roll or windlaſs E.

BRIDGES of Boats are either made of copper or wooden boats, faſtened with ſtakes or anchors, and laid over with planks. One of the moſt notable exploits of Julius Cæſar was the expeditious making a bridge of boats over the Rhine. Modern armies carry copper or tin boats, called *pontoons*, to be in readineſs for making bridges; ſeveral of theſe being joined ſide by ſide till they reach acroſs the river, and planks laid over them, make a plane for the men to march on. There are fine bridges of boats at Beaucaire and Rouen, which riſe and fall with the water; and that at Seville is ſaid to exceed them both. The bridge of boats at Rouen, built in lieu of the ſtately ſtone-bridge erected there by the Romans, is repreſented by a modern writer as the wonder of the preſent age. It always floats, and riſes and falls with the tide, or as the land-waters fill the river. It is near 300 yards long, and is paved with ſtone, juſt as the ſtreets are; carriages with the greateſt burdens go over it with eaſe, and men and horſes with ſafety, though there are no rails on either hand. The boats are very firm, and well moored with ſtrong chains, and the whole well looked after and conſtantly repaired, though now very old.

BRIDGE of Communication, is that made over a river, by which two armies or forts, which are ſeparated by that river, have a free communication with one another.

Floating-BRIDGE, is ordinarily made of two ſmall bridges, laid one over the other, in ſuch manner as that the uppermoſt ſtretches and runs out, by the help of certain cords running through pullies placed along the ſides of the under-bridge, which puſh it forwards till the end of it joins the place it is deſigned to be fixed on. When theſe two bridges are ſtretched out to their full length, ſo that the two middle ends meet, they are not to be above four or five fathoms long; becauſe, if longer, they will break. Their chief uſe is for ſurpriſing out-works, or poſts, that have but narrow moats. In the memoirs of the royal academy of ſciences we find an ingenious contrivance of a floating-bridge, which lays itſelf on the other ſide of the river.

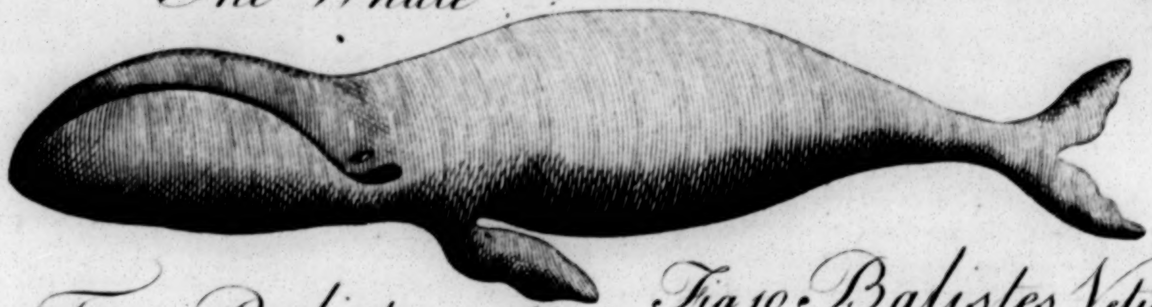
BRIDGE, natural, implies a bridge not conſtructed by art, but the reſult of ſome operation of nature.

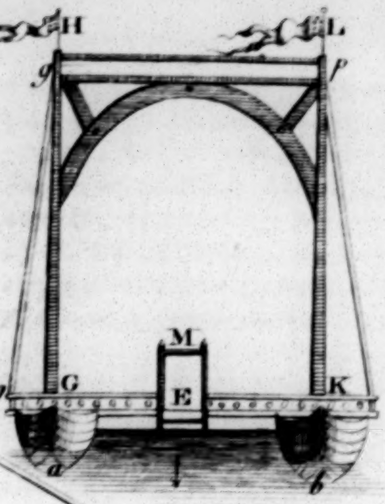
A moſt wonderful work of this kind is deſcribed by Mr Jefferſon in his *State of Virginia*. It is on the aſcent of a hill, which ſeems to have been cloven through its length by ſome great convulſion. The fiſſure, juſt at the bridge, is, by ſome admeaſurements, 270 feet deep, by others only 205. It is about 45 feet wide at the bottom, and 90 feet at the top, this of courſe determines the length of the bridge, and its height from the water. Its breadth in the middle is about 60 feet, but more at the ends, and the thickneſs of the maſs at the ſummit of the arch about 40 feet. A part of this thickneſs is conſtituted by a coat of earth, which gives growth to many large trees. The reſidue, with the hill on both ſides, is one ſolid rock of limeſtone. The arch approaches the ſemi-elliptical form; but the larger axis of the ellipſis, which would be the cord of the arch, is many times longer than the tranſverſe. Though the ſides of this bridge are provided in ſome parts with a parapet of fixed rocks, yet few men have reſolution to walk to them and look over into the abyſs. You involuntarily fall on your hands and feet, creep to the parapet, and peep over it. Looking down from this height about a minute gave our author a violent headach. If the view from the top be painful and intolerable, that from below is delightful in an equal extreme. It is impoſſible for the emotions ariſing from the ſublime to be felt beyond what they are here: ſo beautiful an arch, ſo elevated, ſo light, and ſpringing as it were up to heaven, the rapture of the ſpectator is really indeſcribable! The fiſſure continuing narrow, deep, and ſtraight for a conſiderable diſtance above and below the bridge, opens a ſhort but very pleaſing view of the North-mountain on one ſide and Blue-ridge on the other, at the diſtance each of them of about five miles. This bridge is in the county of Rockbridge, to which it has given name, and affords a public and commodious paſſage over a valley, which cannot be croſſed elſewhere for a conſiderable diſtance. The ſtream paſſing under it is called *Cedar-creek*. It is a water of James River, and ſufficient in the drieſt ſeaſons to turn a griſt-mill, though its fountain is not more than two miles above.

Don Ulloa mentions a break, ſimilar to this, in the province of Angaraez, in South-America. It is from 16 to 22 feet wide, 111 feet deep, and of 1.3 miles continuance, Engliſh meaſure. Its breadth at top is not ſenſibly greater than at bottom. Don Ulloa inclines to the opinion, that this channel has been effected by the wearing of the water which runs through it, rather than that the mountain ſhould have been broken open by any convulſion of nature. But if it had been worn by the running of water, would not the rocks which form the ſides have been worn plane? or if, meeting in ſome parts with veins of harder ſtone,

Plate CVIII

Fig. 1 Balæna Mysticetus
The Whale




H
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a
b

Fig. 5

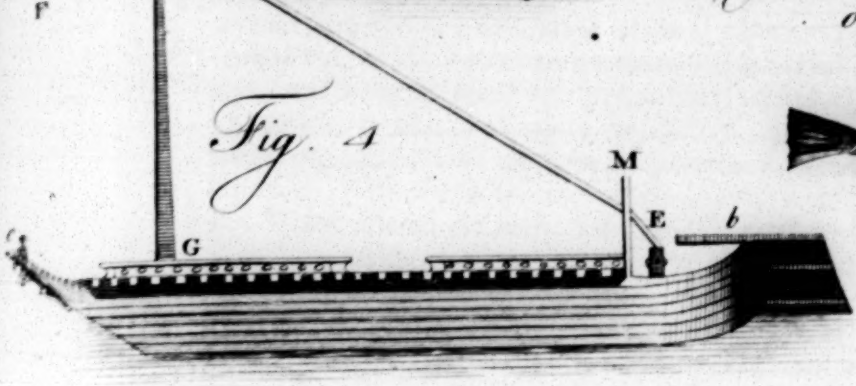

Fig. 4

Fig. 9 Balistes Monceros
or Unicorn Fish

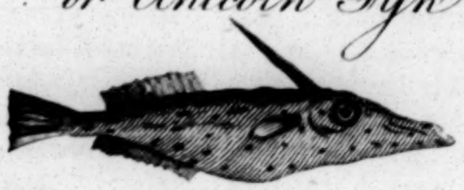

Fig. 10 Balistes Vetula
or Old Wife

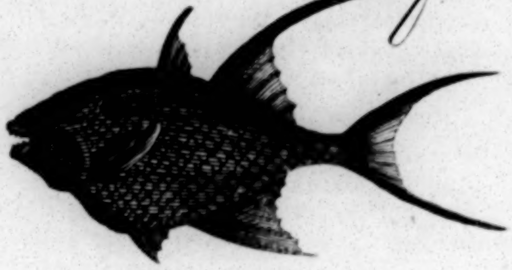

Fig. 2 Flying BRIDGE

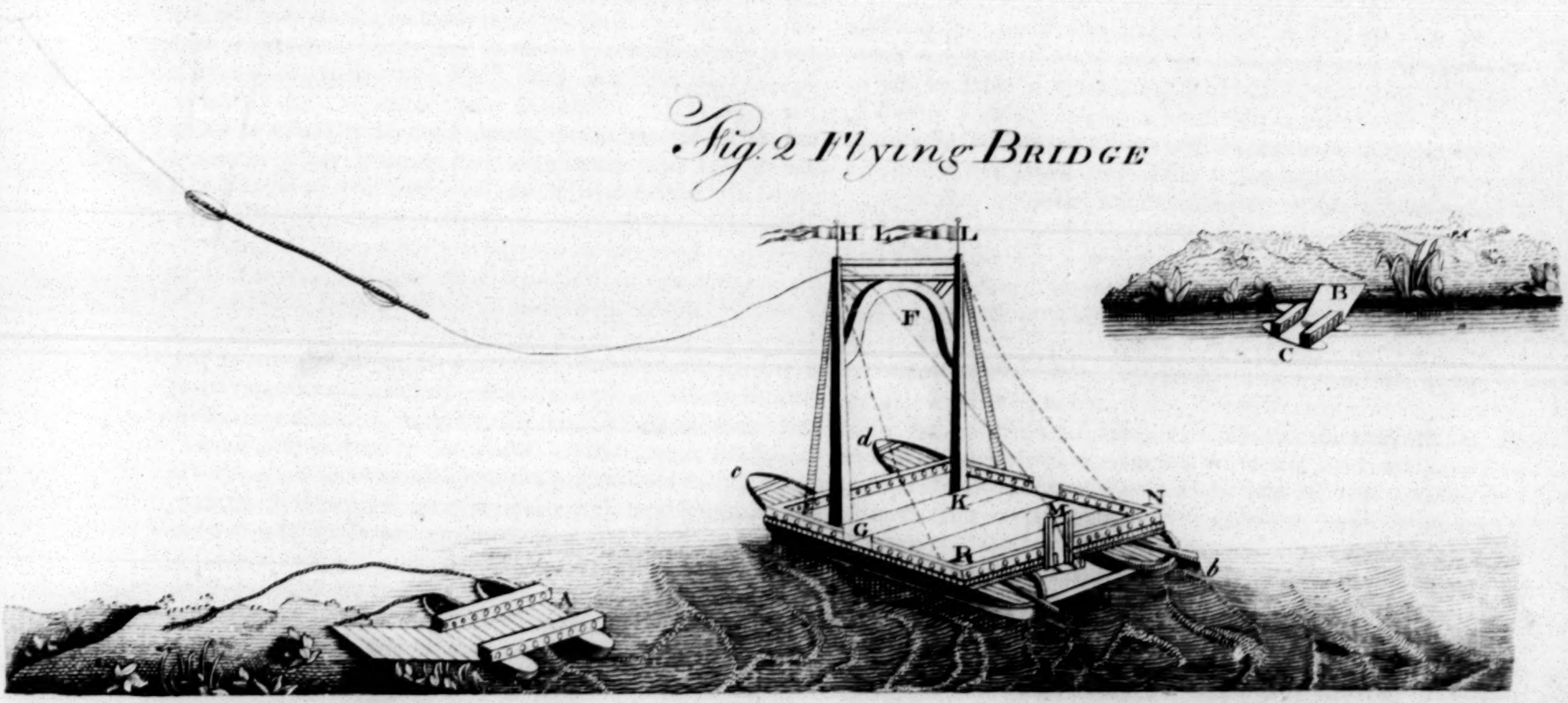
H
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Fig. 6

Fig. 3

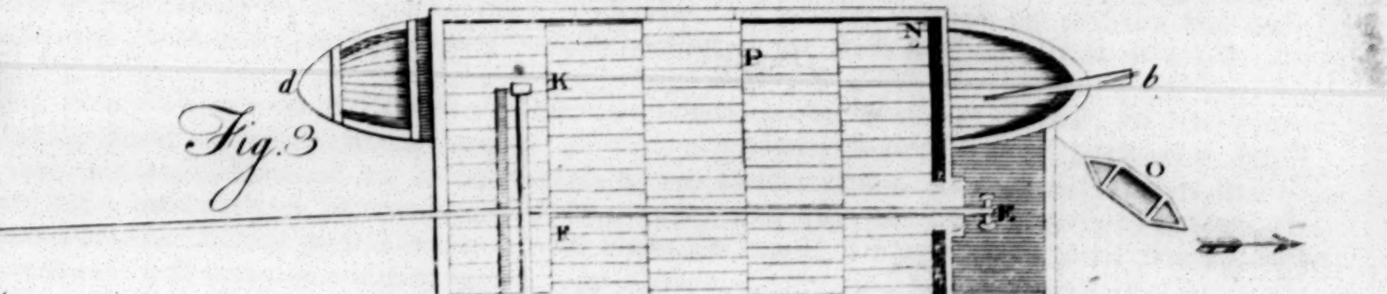
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Fig. 7

Scot Philad^a

BRITISH MUSEUM

the water had left prominences on the one ſide, would not the ſame cauſe have ſometimes, or perhaps generally, occaſioned prominences on the other ſide alſo? Yet Don Ulloa tells us, that on the other ſide there are always correſponding cavities, and that theſe tally with the prominences ſo perfectly, that, were the two ſides to come together, they would fit in all their indentures, without leaving any void. In fact, this does not reſemble the effect of running water, but looks rather as if the two ſides had parted aſunder. The ſides of the break, over which is the Natural bridge of Virginia, conſiſting of a veiny rock which yields to time, the correſpondence between the ſalient and reentering inqualities, if it exiſted at all, has now diſappeared. This break has the advantage of the one deſcribed by Don Ulloa in its fineſt circumſtance; no portion in that inſtance having held together, during the ſeparation of the other parts, ſo as to form a bridge over the abyſs.

Bridge, in gunnery, the two pieces of timber which go between the two tranſums of a gun-carriage, on which the bed reſts.

Bridge, in muſic, a term for that part of a ſtringed inſtrument, over which the ſtrings are ſtretched. The bridge of a violin is about one inch and a quarter high, and near an inch and a half long.

Bridge-Town, the capital of the iſland of Barbadoes, ſituated in W. Long. 61. N. Lat. 13. It ſtands in the inmoſt part of Carliſle bay. This originally was a moſt unwholeſome ſituation, and was choſen entirely for its convenience for trade; but is now deemed to be as healthy as any place in the iſland. The town itſelf would make a figure in any European kingdom. It is ſaid to contain 1500 houſes, and ſome contend that it is the fineſt the Britiſh poſſeſs in America. The houſes in general are well built and finiſhed, and their rents as high as ſuch houſes would let for in London. The wharfs and quays are well defended from the ſea, and very convenient. The harbour is ſecure from the north-eaſt wind, which is the conſtant trade-wind there; and Carliſle-bay is capable of containing 500 ſhips, and is formed by Needham and Pelican points. But what renders Bridge-town the fineſt and moſt deſirable town in the Weſt Indies is its ſecurity againſt any attacks from foreign enemies. It is defended on the weſtward by James-fort, which mounts 18 guns. Near this is Willoughby's fort, which is built upon a tongue of land running into the ſea, and mounts 12 guns. Needham's fort has three batteries, and is mounted with 20 guns; and St Anne's fort, which is the ſtrongeſt in the iſland, ſtands more within land. In ſhort, according to Mr Douglaſs, there is all along the lee-ſhore a breaſtwork and trench, in which, at proper places, were 29 forts and batteries, having 308 cannon mounted, while the windward ſhore is ſecured by high rocks, ſteep cliffs, and foul ground. Such was the ſtate of the fortifications in 1717; but ſince that time they have been much ſtrengthened. Bridge-town is deſtitute of few elegancies or conveniences of life that any city of Europe can afford. The church of St Michael exceeds many Engliſh cathedrals in beauty, largeneſs, and conveniency; and has a fine organ, bells, and clock. Here alſo is a free-ſchool for the inſtruction of poor boys, an hoſpital, and a college. The latter was erected by the ſociety for propagating the Chriſtian religion, in purſuance of the will of Colonel Chriſtopher Codrington, who left about L.2000 a-year for its endowment, for maintaining profeſſors and ſcholars to ſtudy and practiſe divinity, ſurgery, and phyſic. See **Codrington**.

BRIDGENORTH, a town of Shropſhire in England, ſeated on the river Severn, which divides it into two parts; but they are united by a handſome ſtone bridge, and theſe are called the *upper* and the *lower town*. It is ſaid to have been built by Ethelfleda, widow of Ethelred king of the Mercians, about the year 675. Robert de Belizma, ſon of Robert de Montgomery, built the caſtle, and maintained it againſt king Henry I. by which means it was forfeited to the crown, and remained ſo till the reign of Richard III. who gave it to John Sutton lord Dudley. This town has undergone ſeveral ſieges; and in the civil war it ſuffered very much, many fine buildings and the whole town, being almoſt deſtroyed by fire, when Sir Lewis Kirke defended the citadel for king Charles. There are now no other remains of the caſtle than a ſmall part of the towers, and a place yet called the *caſtle*, within the walls of the old one; within which ſtands one of the churches dedicated to St Mary Magdalen, which was made a free chapel, and exempted from epiſcopal juriſdiction. The other church is at the north end of the town, on the higheſt part of the hill, near to whoſe church-yard ſtood a college, which was deſtroyed by fire in the civil wars, together with the church juſt mentioned; which has been ſince rebuilt by the inhabitants. On the weſt bank of the river are the remains of an ancient and magnificent convent, under which was ſeveral remarkable vaults and caverns running to a great length. Part of the cow-gate ſtreet is a rock, riſing perpendicularly, in which are ſeveral houſes and tenements that make a very agreeable though groteſque appearance. In many other places there are alſo caves and dwellings for families, in the rocks; and indeed the whole town has an appearance ſurpriſingly ſingular. W. Long. 2. 30. N. Lat. 52. 40.

BRIDGEWATER, a town of Somerſetſhire in England, ſeated on the river Parret, over which there is a ſtone bridge, near which ſhips of 100 tons burden may ride with eaſe. It is a large, well frequented place, with the title of a duchy, and ſends two members to parliament. There are in it ſeveral large inns, and the market is well ſupplied with proviſions. W. Long. 3. 0. N. Lat. 51. 15.

BRIDLE, in the manege, a contrivance made of ſtraps or thongs of leather and pieces of iron, in order to keep a horſe in ſubjection and obedience.

The ſeveral parts of a bridle are the bit, or ſnaffle; the head-ſtall, or leathers from the top of the head to the rings of the bit; the fillet over the fore-head and under the fore-top; the throat-band, which buttons from the head-band under the throat; the reins, or long thongs of leather that come from the rings of the bit, and being caſt over the horſe's head, the rider holds them in his hand; the noſe-band, going through loops at the back of the head-ſtall, and buckled under the cheeks; the trench; the caveſan; the martingal; and the chaff halter.

Pliny aſſures us that one Pelethronius firſt invented the bridle and ſaddle; though Virgil aſcribes the invention to the Lapithæ, to whom he gives the epithet *Pelethronii*, from a mountain in Theſſaly named *Pelethronium*,

Pelethronium, where horſes were firſt begun to be broken.

The firſt horſemen, not being acquainted with the art of governing horſes with bridles, managed them only with a rope or a ſwitch, and the accent of the voice. This was the practice of the Numidians, Getulians, Libyans, and Maſſilians. The Roman youth alſo learned the art of fighting without bridles, which was an exerciſe or leſſon in the manege; and hence it is, that on the Trajan column, ſoldiers are repreſented riding at full ſpeed without any bridles on.

Scolding-BRIDLE. See BRANK.

BRIDON, or SNAFFLE, after the Engliſh faſhion, is a very ſlender bit-mouth without any branches. The Engliſh make much uſe of them, and ſcarcely uſe any true bridles except in the ſervice of war. The French call them *bridons*, by way of diſtinction from bridles.

BRIDLINGTON, a ſea-port town in the eaſt riding of Yorkſhire in England. It is ſeated on a creek of the ſea near Flamborough-head, having a commodious quay for ſhips to take in their lading. It has a ſafe harbour, and is a place of good trade. It is more generally known by the name of *Burlington*, as it gave title to an earl of that name, though the earldom is now extinct. E. Long. 0. 10. N. Lat. 54. 15.

BRIDPORT, a town of Dorſetſhire in England. It has a low dirty ſituation between two rivers, which, at a little diſtance, joining a ſmall ſtream, formerly made a convenient harbour; but is now quite choaked up with ſand. It ſends two members to parliament, who are choſen by the inhabitants who are houſekeepers. It is noted for making of ropes and cables for ſhipping; whence ariſes a proverb of a man that is hanged, that he is *ſtabbed with a Bridport dagger.* W. Long. 3. 0. N. Lat. 50. 40.

BRIEF, in law, an abridgment of the client's caſe, made out for the inſtruction of council on a trial at law; wherein the caſe of the plaintiff, &c. is to be briefly but fully ſtated: the proofs muſt be placed in due order, and proper anſwers made to whatever may be objected to the client's cauſe by the oppoſite ſide; and herein great care is requiſite, that nothing be omitted, to endanger the cauſe.

BRIEF, in Scots law, a writ iſſued from the chancery, directed to any judge ordinary, commanding and authoriſing that judge to call a jury to inquire into the caſe mentioned in the brief, and upon their verdict to pronounce ſentence.

Apoſtolical BRIEFS, letters which the pope diſpatches to princes, or other magiſtrates, relating to any public affair.—The briefs are diſtinguiſhed from bulls, in regard the latter are more ample, and always written on parchment, and ſealed with lead or green wax; whereas briefs are very conciſe, written on paper, ſealed with red wax, and with the ſeal of the fiſherman, or St Peter in a boat.

BRIEG, a town of Sileſia in Germany, ſituated in E. Long. 17. 35. N. Lat. 50. 40. It might have paſſed for a handſome place before the laſt ſiege; the caſtle, the college, and the arſenal, being very great ornaments, and moſt of the houſes very well built. But the Pruſſians, who beſieged it in 1741, threw 2172 bombs into it, and 4714 cannon bullets, which reduced a great part of the town to aſhes, and quite ruined a wing of the caſtle. It was obliged to ſurrender, after ſuſtaining ſeven days continual fire. The Pruſſians, to whom this place was ceded by the peace, have augmented the fortifications, and built a new ſuburb.—The town ſtands upon the Oder; on the other ſide of which there are plenty of fallow-deer, and large foreſts of beech and oak trees. They have a yearly fair, at which they ſell above 12000 horned cattle. Since 1728, they have begun to manufacture fine cloth.

BRIEL, a maritime town of the United Provinces, and capital of the iſland of Vuorn. It was one of the cautionary towns which was delivered into the hands of queen Elizabeth, and garriſoned by the Engliſh during her reign and part of the next. The Dutch took it from the Spaniards in 1572, which was the foundation of their republic. It is ſeated at the mouth of the river Meuſe, in E. Long. 3. 56. N. Lat. 51. 53.

BRIESCIA, a palatinate in the duchy of Lithuania, in Poland. The name given to it by ſome is *Poleſia.* It is bounded on the north, by Novogrode and Troki; on the weſt, by thoſe of Bielſk and Lublin; on the ſouth, by that of Chelm and Upper Volhinia; and on the eaſt, by the territory of Rziczica. This province is of conſiderable extent from eaſt to weſt, and is watered by the rivers Bug and Pripeſe: it is full of woods and marſhes; and there are lakes that yield large quantities of fiſh, that are ſalted by the inhabitants, and ſent into the neighbouring provinces.

BRIEUX (St), a town of France, in Upper Brittany, with a biſhop's ſee. It is ſeated in a bottom, ſurrounded with mountains, which deprive it of a proſpect of the ſea, though it is not above a mile and a quarter from it, and there forms a ſmall port. The churches, ſtreets, and ſquares, are tolerably handſome; but the town is without walls and ditches. The church of Michael is in the ſuburb of the ſame name, and is the largeſt in the place. The convent of the Cordeliers is well built, and the garden is ſpacious. The college, which is very near, is maintained by the town for the inſtruction of youth. W. Long. 2. 58. N. Lat. 48. 33.

BRIG, or BRIGANTINE, a merchant-ſhip with two maſts. This term is not univerſally confined to veſſels of a particular conſtruction, or which are maſted and rigged in a manner different from all others. It is variouſly applied by the mariners of different European nations, to a peculiar ſort of veſſel of their own marine. Amongſt Britiſh ſeamen this veſſel is diſtinguiſhed by having her mainſails ſet nearly in the plane of her keel; whereas the mainſails of larger ſhips are hung athwart, or at right angles with the ſhip's length, and faſtened to a yard which hangs parallel to the deck: but in a brig, the foremoſt edge of the mainſail is faſtened in different places to hoops which encircle the mainmaſt, and ſlide up and down it as the ſail is hoiſted or lowered: it is extended by a gaff above and a boom below.

BRIGADE, in the military art, a party or diviſion of a body of ſoldiers, whether horſe or foot, under the command of a brigadier.—An army is divided into brigades of horſe and brigades of foot: a brigade of horſe is a body of eight or ten ſquadrons; a brigade of foot conſiſts of four, five, or ſix battalions. The eldeſt brigade has the right of the firſt line, and the ſecond the right of the ſecond; the two next take the left of the two lines, and the youngeſt ſtand in the centre.

Brigade-Major, is an officer appointed by the brigadier, to aſſiſt him in the management and ordering of his brigade.

BRIGADIER, is the general officer who has the command of a brigade. The eldeſt colonels are generally advanced to this poſt. He that is upon duty is brigadier of the day. They march at the head of their own brigades, and are allowed a ſerjant and ten men of their own brigade for their guard.—But the rank of brigadier general in the Britiſh ſervice is now aboliſhed.

Brigadiers, or *Sub-brigadiers*, are poſts in the horſe-guards.

BRIGANDINE, a coat of mail, a kind of ancient defenſive armour, conſiſting of thin jointed ſcales of plate, pliant and eaſy to the body.

BRIGANTES, (Tacitus), a people of Britain, reaching from ſea to ſea, the whole breadth of the iſland, (Ptolemy). Now Yorkſhire, Lancaſhire, Durham, Weſtmoreland, and Cumberland, (Camden). Alſo a people of Ireland, of uncertain poſition.

BRIGANTIA, or Brigantium, (anc. geog.), a town of Vindelicia; now *Bregentz*, in Tyrol, at the eaſt end of the lake of Conſtance.—Another *Brigantium* in the Alpes Cottiæ; which laſt is probably Briançon, a town on the borders of Dauphiny.

BRIGANTINE. See Brig.

BRIGANTINUS lacus, (anc. geog.), a lake of Rhætia, or Vindelicia which Tacitus includes in Rhætia. Ammian calls the lake *Brigantia*. It took its name either from the Brigantii, the people inhabiting on it, or from the adjoining town. Now the lake of *Conſtance*, or *Bodenzee*.

Brigantinus Portus, (anc. geog.), a port of the hither Spain; ſo called from Flavium Brigantium. Now *El Puerto de la Corunna*, commonly the *Groyne*.

BRIGG, by ſome called *Clamford Bridges*, a town of England, in Lincolnſhire, ſeated on the river Ankam. W. Long. 0. 20. N. Lat. 53. 40.

BRIGGS (Henry), one of the greateſt mathematicians in the 16th century, was born at Warley Wood in the pariſh of Halifax in Yorkſhire, in 1550. In 1592, he was made examiner and lecturer in mathematics, and ſoon after reader of the phyſic lecture founded by Dr Linacer. When Greſham college in London was eſtabliſhed, he was choſen the firſt profeſſor of geometry there, about the beginning of March 1596. In 1609. Mr Briggs contracted an intimacy with the learned Mr James Uſher afterwards archbiſhop of Armagh, which continued many years by letters, two of which, written by our author, are yet extant. In one of theſe letters, dated in Auguſt 1610, he tells his friend he was engaged in the ſubject of eclipſes; and in the other, dated March 10th 1615, he acquaints him with his being wholly employed about the noble invention of logarithms, then lately diſcovered, in the improvement of which he had afterwards a large ſhare. In 1619, he was made Savilian profeſſor of geometry at Oxford; and reſigned his profeſſorſhip of Greſham college on the 25th of July 1620. Soon after his going to Oxford, he was incorporated maſter of arts in that univerſity; where he continued till his death, which happened on the 26th of January 1630. Dr Smith gives him the character of a man of great probity; a contemner of riches, and contented with his own ſtation; preferring a ſtudious retirement to all the ſplendid circumſtances of life. He wrote, 1. *Logarithmorum chilias prima*. 2. *Arithmetica logarithmica*. 3. *Trigonometria Britannica*. 4. A ſmall tract on the north-weſt paſſage; and ſome other works,

Briggs (William), an eminent phyſician in the latter end of the 17th century, was the ſon of Auguſtin Briggs, Eſq; four times member for the city of Norwich, where our author was born. He ſtudied at the univerſity of Cambridge; and his genius leading him to the ſtudy of phyſic, he travelled into France, where he attended the lectures of the famous anatomiſt M. Vieuſſens, at Montpelier. After his return, he publiſhed his *Ophthalmographia* in 1676. The year following he was created doctor of medicine at Cambridge, and ſoon after was made fellow of the college of phyſicians at London. In 1682, he quitted his fellowſhip to his brother; and the ſame year, his *theory of viſion* was publiſhed by Hooke. The enſuing year he ſent to the royal ſociety a continuation of that diſcourſe, which was publiſhed in their tranſactions; and the ſame year, he was by King Charles II. appointed phyſician to St Thomas's hoſpital. In 1684, he communicated to the royal ſociety two remarkable caſes relating to viſion, which were likewiſe printed in their Tranſactions; and in 1685 he publiſhed a Latin verſion of his *Theory of viſion*, at the deſire of Mr Newton, afterwards Sir Iſaac, profeſſor of mathematics at Cambridge, with a recommendatory epiſtle from him prefixed to it. He was afterwards made phyſician in ordinary to king William, and continued in great eſteem for his ſkill in his profeſſion till he died September 4th 1704.

BRIGHTHELMSTONE, a ſea-port town of Suſſex in England. It is a pretty large and populous town, though ill built, and has a pretty good harbour. W. Long. 0. 10. N. Lat. 50. 50. It was at this place king Charles II. embarked for France, 1651, after the battle of Worceſter. It had lately been conſiderably extended and embelliſhed, in conſequence of its having become a place of great reſort for ſea-bathing.

BRIGITTINS, or Bridgetins, more properly *Brigittins*, a religious order, denominated from their founder St Bridgit or *Birgit*, a Swediſh lady in the 14th century: whom ſome repreſent as a queen; but Fabricius, on better grounds, as a princeſs, the daughter of king Bergenes, legiſlator of Upland, and famous for her revelations. The Brigittins are ſometimes alſo called the *Order of our Saviour*; it being pretended, that Chriſt himſelf dictated the rules and conſtitutions obſerved by them to St Bridget. In the main, the rule is that of St Auguſtin; only with certain additions ſuppoſed to have been revealed by Chriſt, whence they alſo denominate it the *Rule of our Saviour*.—The firſt monaſtery of the Bridgetin order was erected by the foundreſs about the year 1344, in the dioceſe of Lincopen; on the model of which all the reſt were formed. The conſtitution of theſe houſes was very ſingular: though the order was principally intended for nuns, who were to pay a ſpecial homage to the holy Virgin, there are alſo many friars of it, to miniſter to them ſpiritual aſſiſtance. The number of nuns is fixed at 60 in each monaſtery, and that of friars to 13, an-

anſwerable to the number of apoſtles, of whom St Paul made the 13th; beſides which there are to be four deacons, to repreſent the four doctors of the church, St Ambroſe, St Auguſtin, St Gregory, and St Jerome; and eight lay-brothers; making together, ſays our author, the number of Chriſt's 72 diſciples.—The order being inſtituted in honour of the Virgin, the direction is committed to an abbeſs, who is ſuperior not only of the nuns, but alſo of the friars, who are obliged to obey her. Each houſe conſiſts of two convents or monaſteries, ſeparately incloſed, but having one church in common; the nuns being placed above, and the friars on the ground. The Bridgetins profeſs great mortification, poverty, and ſelf-denial, as well as devotion; and they are not to poſſeſs any thing they can call their own, not ſo much as an halfpenny; nor even to touch money on any account. This order ſpread much thro' Sweden, Germany, the Netherlands, &c. In England we read but of one monaſtery of Brigittins, and this built by Henry V. in 1413, oppoſite to Richmond, now called *Sion-houſe*; the ancient inhabitants of which, ſince the diſſolution, are ſettled at Liſbon. The revenues were reckoned at 1495 l. per annum.

BRIGNOLES, a town of France, in Provence, famous for its prunes. It is ſeated among mountains, in a pleaſant country, 275 miles S. S. E. of Paris. E. Long. 6. 15. N. Lat. 43. 24.

BRIHUEGA, a town of Spain, in New Caſtile, where general Stanhope with the Engliſh army were taken priſoners, after they had ſeparated themſelves from that commanded by count Straremberg. It is ſeated at the foot of the mountain Tajuna, 43 miles north-eaſt of Madrid. W. Long. 3. 20. N. Lat. 41. 0.

BRIL (Matthew and Paul), natives of Antwerp, and good painters.—Matthew was born in the year 1550, and ſtudied for the moſt part at Rome. He was eminent for his performances in hiſtory and landſcape, in the galleries of the Vatican; where he was employed by Pope Gregory XIII. He died in 1584, being no more then 34 years of age.—Paul was born in 1554; followed his brother Matthew to Rome; painted ſeveral things in conjunction with him; and, after his deceaſe, brought himſelf into credit by his landſcapes, but eſpecially by thoſe which he compoſed in his latter time. The invention of them was more pleaſant, the diſpoſition more noble; all the parts more agreeable, and painted with a better guſto, than his earlier productions in this way; which was owing to his having ſtudied the manner of Hanibal Carrache, and copied ſome of Titian's works in the ſame kind. He was much in favour with Pope Sixtus V.; and for his ſucceſſor Clement VIII. painted the famous piece, about 68 feet long, wherein the ſaint of that name is repreſented caſt into the ſea with an anchor about his neck. He died at Rome in the year 1626, aged 72.

Pilkington's Dict.

BRILLIANT, in a general ſenſe, ſomething that has a bright and lucid appearance.

Brilliant, in the manege. A briſk, high mettled, ſtately horſe is called *brilliant*, as having a raiſed neck; a fine motion; and excellent haunches, upon which he riſes, though ever ſo little put on.

Brilliants, a name given to diamonds of the fineſt cut. See **Diamond**.

BRIM, denotes the outmoſt verge or edge, eſpecially of round things. The brims of veſſels are made to project a little over, to hinder liquors, in pouring out, from running down the ſide of the veſſel. The brimming of veſſels was contrived by the ancient potters, in imitation of the ſupercilium or drip of the cornices of columns: it is done by turning over ſome of the double matter when the work is on the wheel.

Brim, in country affairs. A ſow is ſaid to *brim*, or *to go to brim*, when ſhe is ready to take the boar.

BRIMSTONE. See **Sulphur**.

Brimstone, Medals, Figures, &c. may be caſt in the following manner. Melt half a pound of brimſtone over a gentle fire: with this mix half a pound of fine vermilion; and when you have cleared the top, take it off the fire, ſtir it well together, and it will diſſolve like oil; then caſt it into the mould, which ſhould be firſt anointed with oil. When cool, the figure may be taken out; and in caſe it ſhould change to a yellowiſh colour, you need only wipe it over with aqua fortis, and it will look like the fineſt coral.†

BRIN, a ſtrong town of Bohemia, in Moravia. It is pretty large, and well built: the aſſembly of the ſtates is held alternately there and at Olmutz. The caſtle of Spilberg is on an eminence, out of the town, and is its principal defence. It was inveſted by the king of Pruſſia in 1742, but he was obliged to raiſe the ſiege. It is near the river Swart, in E. Long. 7. 8. N. Lat. 49. 8.

BRINDISI, an ancient celebrated town of Italy, in the Terra d'Otranto, and kingdom of Naples, with an archbiſhop's ſee. Its walls are ſtill of great extent, but the inhabited houſes do not fill above half the encloſure. The ſtreets are crooked and rough; the buildings poor and ruinous; no very remarkable church or edifice. The cathedral, dedicated to St Theodore, is a work of king Roger, but not equal in point of architecture to many churches founded by that monarch, who had a ſtrong paſſion for building. Little remains of ancient Brunduſium, except innumerable broken pillars, fixed at the corners of ſtreets to defend the houſes from carts; fragments of coarſe Moſaic, the floors of former habitations; the column of the light-houſe; a large marble baſon, into which the water runs from brazen heads of deer; ſome inſcriptions, ruins of aqueducts, coins, and other ſmall furniture of an antiquary's cabinet. Its caſtle, built by the emperor Frederick II. to protect the northern branches of the harbour, is large and ſtately. Charles V. repaired it. The port is double, and the fineſt in the Adriatic. The outer part is formed by two promontories, which ſtretch off gradually from each other as they advance into the ſea, leaving a very narrow channel at the baſe of the angle. The iſland of St Andrew, on which Alphonſus I. built a fortreſs, lies between the capes, and ſecures the whole road from the fury of the waves. In this triangular ſpace, large ſhips may ride at anchor. At the bottom of the bay the hills recede in a ſemicircular ſhape, to leave room for the inner haven; which, as it were, claſps the city in its arms, or rather encircles it, in the figure of a ſtag's head and horns. This form is ſaid to have given riſe to the name of *Brunduſium*, which, in the old Meſſapian language, ſignified *the head of a deer*. In ancient days, the communication between the two havens was marked by lights placed upon columns of the Corinthian order, ſtanding on a riſing ground, in a direct line with the channel.

Of theſe one remains entire upon its pedeſtal. Its capitals is adorned with figures of Syrens and Tritons, intermingled with the acanthus leaf, and upon it a circular vaſe, which formerly held the fire. A modern inſcription has been cut upon the plinth. Near it is another pedeſtal of ſimilar dimenſions, with one piece of the ſhaft lying on it. The ſpace between theſe pillars anſwered to the entrance of the harbour. "The whole kingdom of Naples (ſays Mr Swinburne) cannot ſhow a more complete ſituation for trade than Brindiſi. Here goodneſs of ſoil, depth of water, ſafety of anchorage, and a centrical poſition, are all united; yet it has neither commerce, huſbandry, nor populouſneſs. From the obſtructions in the channel, which communicates with the two havens, ariſes the tribe of evils that afflict and deſolate this unhappy town. Julius Cæſar may be ſaid to have begun its ruin, by attempting to block up Pompey's fleet. He drove piles into the neck of land between the two ridges of hills; threw in earth, trees, and ruins of houſes; and had nearly accompliſhed the blockade, when Pompey ſailed out and eſcaped to Greece. In the 15th century, the prince of Taranto ſunk ſome ſhips in the middle of the paſſage, to prevent the royaliſts from entering the port, and thereby provided a reſting place for ſea-weeds and ſand, which ſoon accumulated, choked up the mouth, and rendered it impracticable for any veſſels whatſoever. In 1752 the evil was increaſed, ſo as to hinder even the waves from beating through; and all communication was cut off, except in violent eaſterly winds or rainy ſeaſons, when an extraordinary quantity of freſh water raiſes the level. From that period the port became a fetid green lake, full of infection and noxious inſects; no fiſh but eels could live in it, nor any boat ply except canoes made of a ſingle tree. They can hold but one perſon, and overſet with the leaſt irregularity of motion. The low grounds at each end were overflowed and converted into marſhes, the vapours of which created every ſummer a real peſtilence; and in the courſe of very few years, ſwept off or drove away the largeſt portion of the inhabitants. From the number of eighteen thouſand, they were reduced in 1766 to that of five thouſand livid wretches, tormented with agues and malignant fevers. In 1775 above fifteen hundred perſons died during the autumn; a woful change of climate! Thirty years ago, the air of Brindiſi was eſteemed ſo wholeſome and balſamic, that the convents of Naples were wont to ſend their conſumptive friars to this city for the recovery of their health. This ſtate of miſery and deſtruction induced the remaining citizens to apply for relief to Don Carlo Demarco, one of the king's miniſters, and a native of Brindiſi. In conſequence of this application, Don Vito Caravelli was ordered to draw up plans, and fix upon the means of opening the port afreſh: Don Andrea Pigonati was ſent to execute his projects; and, by the help of machines and the labour of the galley-ſlaves, has ſucceeded in ſome meaſure. The channel has been partly cleared, and has now two fathom of water. It can admit large boats, a great ſtep towards the revival of trade; but what is of more immediate importance, it gives a free paſſage to the ſea, which now ruſhes in with impetuoſity, and runs out again at each tide; ſo that the water of the inner port is ſet in motion, and once more rendered wholeſome. The canal or gut is to be ſeven hundred yards long, and drawn in a ſtraight line from the column. At preſent its parapets are defended by piles and faſcines; but if the original plan be purſued, ſtone piers will be erected on both ſides. When the canal ſhall be ſcooped out to a proper depth, and its piers ſolidly eſtabliſhed, veſſels of any burden may once more enter this land-locked port, which affords room for a whole navy. Docks wet and dry may be dug, goods may be ſhipped at the quay, and convenient watering places be made with great eaſe. If merchants ſhould think it a place of riſing trade, and worthy of their notice, there is no want of ſpace in the town for any factory whatever. Circulation of caſh would give vigour to huſbandry, and proviſions would ſoon abound in this market. The ſands at the foot of the hills, which form the channel, are to be laid out in beds for muſcles and oyſters. Some eccleſiaſtics are raiſing nurſeries of orange and lemon trees; and other citizens intend introducing the cultivation of mulberry-trees, and breeding of ſilk-worms. The engineer would have done very little for the health of Brindiſi, had he only opened a paſſage, and given a free courſe to the waters; the marſhes at each extremity of the harbour would ſtill have infected the air: he, therefore, at the expence of about a thouſand ducats, had the fens filled up with earth, and a dam raiſed to confine the waters, and prevent their flowing back upon the meadows. The people of Brindiſi, who are ſenſible of the bleſſings already derived from theſe operations, who feel a return of health, and ſee an opening for commerce and opulence, ſeem ready to acknowledge the obligation. They intend to erect a ſtatue to the king, with inſcriptions on the pedeſtal in honour of the miniſter and agents. The workmen, in cleaning the channel, have found ſome medals and ſeals, and have drawn up many of the piles that were driven in by Cæſar. They are ſmall oaks ſtripped of their bark, and ſtill as freſh as if they had been cut only a month, though buried above eighteen centuries ſeven feet under the ſand. The ſoil about the town is light and good. It produces excellent cotton, with which the Brindiſians manufacture gloves and ſtockings.

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† *Smith's Laboratory*, p. 3.

"It is impoſſible to determine who were the founders of Brunduſium, or when it was firſt inhabited. The Romans took early poſſeſſion of a harbour ſo convenient for their enterpriſes againſt the nations dwelling beyond the Adriatic. In the year of Rome 509, they ſent a colony hither. Pompey took refuge here; but finding his poſt untenable, made a precipitate retreat to Greece. In this city Octavianus firſt aſſumed the name of *Cæſar*, and here he concluded one of his ſhort-lived peaces with Antony. Brunduſium had been already celebrated for giving birth to the tragic poet Pacuvius, and about this time became remarkable for the death of Virgil. The barbarians, who ravaged every corner of Italy, did not ſpare ſo rich a town; and, in 836, the Saracens gave a finiſhing blow to its fortunes. The Greek emperors, ſenſible of the neceſſity of having ſuch a port as this in Italy, would have reſtored it to its ancient ſtrength and ſplendor, had the Normans allowed them time and leiſure. The Greeks ſtruggled manfully to keep their ground; but, after many varieties of ſucceſs, were finally driven out of Brindiſi by William I. The frenzy for expeditions to Paleſtine, though it drained other kingdoms of their wealth and ſubjects, contributed powerfully to the re-eſtabliſhment of this city, one of the ports where pilgrims and warriors took ſhipping. It alſo benefited by the reſidence of the emperor Frederick, whoſe frequent armaments for the Holy Land required his preſence at this place of rendezvous. The loſs of Jeruſalem, the fall of the Grecian empire, and the ruin of all the Levant trade after the Turks had conquered the Eaſt, reduced Brindiſi to a ſtate of inactivity and deſolation, from which it has never been able to emerge." E. Long. 18. 5. N. Lat. 40. 52.

BRINLEY (James), a moſt uncommon genius for mechanical inventions, and particularly excellent in planning and conducting inland navigations, was born, 1716, at Tunſted in Derbyſhire, England. Through the miſmanagement of his father (for there was ſome little property in his houſe) his education was totally neglected; and, at ſeventeen, he bound himſelf apprentice to a mill-wright, near Macclesfield, in Cheſhire. He ſerved his apprenticeſhip; and, afterwards, ſetting up for himſelf, advanced the mill-wright buſineſs, by inventions and contrivances of his own, to a degree of perfection which it had not attained before. His fame, as a moſt ingenious mechanic, ſpreading widely, his genius was no longer confined to the buſineſs of his profeſſion: for, in 1752, he erected a very extraordinary water-engine at Clifton, in Lancaſhire, for the purpoſe of draining coal-mines; and, 1755, was employed to execute the larger wheels for a new ſilk-mill, at Congleton, in Cheſhire. The potteries of Staffordſhire were alſo about this time, indebted to him for ſeveral valuable additions in the mills uſed by them for grinding flint-ſtones. In 1756, he undertook to erect a ſteam-engine near Newcaſtle under Line upon a new plan; and it is believed that he would have brought this engine to a great degree of perfection, if ſome intereſted engineers had not oppoſed him.

His attention, however, was ſoon afterwards called off to another object, which, in its conſequences, hath proved of high importance to trade and commerce; namely the projecting and executing "Inland navigations." By theſe navigations the expence of carriage is leſſened; a communication is opened from one part of the kingdom to another, and from each of theſe parts to the ſea; and hence products and manufactures are afforded at a moderate price. The duke of Bridgwater hath, at Worſley, about ſeven miles from Mancheſter; a large eſtate abounding with coal, which had hitherto lain uſeleſs, becauſe the expence of land-carriage was too great to find a market for conſumption. The duke, wiſhing to work theſe mines, perceived the neceſſity of a canal from Worſley to Mancheſter; upon which occaſion Brinley, now become famous was conſulted; and declaring the ſcheme practicable, an act for this purpoſe was obtained in 1758 and 1759. It being, however, afterwards diſcovered, that the navigation would be more beneficial, if carried over the river Irwell to Mancheſter, another act was obtained to vary the courſe of the canal agreeably to the new plan, and likewiſe to extend a ſide-branch to Longford-bridge in Stretford. Brinley, in the mean time, had begun theſe great works, being the firſt of the kind ever attempted in England, with navigable ſubterraneous tunnels and elevated aqueducts; and as, in order to preſerve the level of the water, it ſhould be free from the uſual obſtructions of locks, he carried the canal over rivers, and many large and deep vallies. When it was completed as far as Barton, where the Irwell is navigable for large veſſels, he propoſed to carry it over that river, by an aqueduct of thirty-nine feet above the ſurface of the water; and though this project was treated as wild and chimerical, yet, ſupported by his noble patron, he began his work in Sept. 1760, and the firſt boat ſailed over it in July 1761. The duke afterwards extended his ideas to Liverpool; and obtained, in 1762, an act for branching his canal to the tideway in the Merſey: this part of the canal is carried over the rivers Merſey and Bollan, and over many wide and deep vallies.

The ſucceſs of the duke of Bridgewater's undertakings encouraged a number of gentlemen and manufacturers in Staffordſhire, to revive the idea of a canal-navigation through that county; and Brinley was, therefore, engaged to make a ſurvey from the Trent to the Merſey. In 1766, this canal was begun, and conducted under Brinley's direction as long as he lived; but finiſhed after his death by his brother-in-law Mr Henſhall, of whom he had a great opinion, in May 1777. The proprietors called it "the canal from the Trent to the Merſey;" but the engineer, more emphatically, "the Grand Trunk Navigation," on account of the numerous branches, which, as he juſtly ſuppoſed, would be extended every way from it. It is 93 miles in length; and, beſides a large number of bridges over it, has 76 locks and five tunnels. The moſt remarkable of the tunnels is the ſubterraneous paſſage of Harecaſtle, being 2180 yards in length, and more than 70 yards below the ſurface of the earth. The ſcheme of this inland-navigation had employed the thoughts of the ingenious part of the kingdom for upwards of 20 years before; and ſome ſurveys had been made: but Harecaſtle hill, through which the tunnel is conſtructed, could neither be avoided nor overcome by any expedient the moſt able engineers could deviſe. It was Brinley alone who ſurmounted this and other the like difficulties, ariſing from the variety of ſtrata and quickſands, as no one but himſelf would have attempted to conquer.

Brinley was engaged in many other ſimilar undertakings, for a fuller account of which, not being conſiſtent with our plan, we refer the reader to the "Biographia Britannica;" or rather to a curious and valuable pamphlet, publiſhed ſome years ſince, and intituled, "The Hiſtory of Inland-Navigations, particularly that of the Duke of Bridgwater." He died at Turnhurſt in Staffordſhire, Sept. 27th 1772, in his 56th year: ſomewhat immaturely, as it ſhould ſeem; but he is ſuppoſed to have ſhortened his days by too intenſe application, and to have brought on a hectic fever, which continued on him for ſome years before it conſumed him. For he never indulged and relaxed himſelf in the common diverſions of life, as not having the leaſt reliſh for them; and, though once prevailed on to ſee a play in London, yet he declared that he would on no account be preſent at another; becauſe it ſo diſturbed his ideas for ſeveral days after, as to render him unfit for buſineſs. When any extraordinary difficulty occurred to him in the execution of his works, he generally retired to bed; and has been known to lie there one, two, or three days, till he has ſurmounted it. He would then get up, and execute his deſign, without any drawing or model: for he had a prodigious memory, and carried every thing in his head.

As his ſtation in life was low, and his education totally neglected, ſo his exterior accompliſhments were ſuitable to them. He could indeed read and write, but both very indifferently; and he was perhaps, in his way, as *abnormis ſapiens*—"of motherwit, and wiſe without the ſchools"—as any man that ever lived. "He is as plain a looking man as one of the boors in the Peake, or one of his own carters: but when he ſpeaks, all ears liſten; and every mind is filled with wonder, at the things he pronounces to be practicable." The ſame author gives us alſo no ungracious idea of his moral make: "being great in himſelf, he harbours no contracted notions, no jealouſy of rivals: he conceals not his methods of proceeding, nor aſks patents to ſecure the ſole uſe of the machines, which he invents and expoſes to public view. Senſible that he muſt one day ceaſe to be, he ſelects men of genius, teaches them the power of mechanics, and employs them in carrying on the various undertakings in which he is engaged. It is not to the duke of Bridgwater only that his ſervices are confined: he is of public utility, and employs his talents in rectifying the miſtakes of deſpairing workmen, &c. His powers ſhine moſt in the midſt of difficulties; when rivers and mountains ſeem to thwart his deſigns, then appears his vaſt capacity, by which he makes them ſubſervient to his will."

BRINE, or PICKLE; water replete with ſaline particles.

Brine taken out of brine-pits, or brine-pans, uſed by ſome for curing or pickling of fiſh, without boiling the ſame into ſalt; and rock-ſalt, without refining it into white ſalt; are prohibited in England by 1 Ann. cap. 21.

Brine is either native, as the ſea-water, which by coction turns to ſalt; or factitious, formed by diſſolving ſalt in water. In the ſalt-works at Upwick in Worceſterſhire, England, there are found, at the ſame time, and in the ſame pit, three ſorts of brine, each of a different ſtrength. They are drawn by a pump; and that in the bottom, firſt brought up, is called *firſt man*; the next, *middle man*; and the third, *laſt man*.

Leach-BRINE, a name given to what drops from the corned ſalt in draining and drying, which they preſerve and boil again; being ſtronger than any brine in the pit. There is ſand found in all the Staffordſhire brines after coction; but naturaliſts obſerve, it did not preexiſt in the water, but rather is the product of the boiling. Some ſteep their ſeed-wheat in brine, to prevent the ſmut. Brine is alſo commended as of efficacy againſt gangrenes.

BRINE alſo denotes a pickle pregnant with ſalt, wherein things are ſteeped to keep.

BRINE-pans, the pits wherein the ſalt-water is retained, and ſuffered to ſtand, to bear the action of the ſun, whereby it is converted into ſalt. There are divers ſorts of ſalt-pans, as the water-pan, ſecond-pan, ſun-pan: the water being transferred orderly from one to another.

BRINE-pit, in ſalt-making, the ſalt ſpring from whence the water to be boiled into ſalt is taken. There are of theſe ſprings in many places; that at Namptwich, in Cheſhire, England, is alone ſufficient, according to the account of the people of the place, to yield ſalt for the whole kingdom; but it is under the government of certain lords and regulators, who, that the market may not be overſtocked, will not ſuffer more than a certain quantity of the ſalt to be made yearly. See the next article.

BRINE-Springs, are fountains which flow with ſalt-water inſtead of freſh. Of theſe there are a good number in England, but though not peculiar to that iſland, are far from being common on the continent of Europe. There are ſome of them in ſeveral different counties; and perhaps, on a due ſearch, others might be diſcovered *. The moſt remarkable of theſe already known are, one at Eaſt-Chennock in Somerſet-ſhire, about 20 miles from the ſea. Another at Leamington in Warwickſhire, very near the river Learn; which, however, is but weak. Such a ſpring likewiſe runs into the river Cherwell in Oxfordſhire, and ſeveral more in Weſtmoreland and Yorkſhire; but as they are but poor, and the fuel in moſt of thoſe counties ſcarce and dear, no ſalt is prepared from them. At Barrowdale near Grange, three miles from Keſwick in Cumberland, a pretty ſtrong ſpring riſes in a level near a moſs, 16 gallons of the water of which yield one of pure ſalt; which is the more remarkable, when it is conſidered that the ſame quantity of ſalt cannot be obtained from leſs than 22 gallons of the waters of the German ocean. At a place called *Salt-water Haugh*, near Butterpy, in the biſhopric of Durham, there are a multitude of ſalt ſprings which riſe in the middle of the river Weare, for the ſpace of about 40 yards in length, and ten in breadth; but particularly one out of a rock, which is ſo ſtrong that in a hot ſummer's day the ſurface will be covered with a pure white ſalt. At Weſton, in Staffordſhire, there are brine-pits which afford about a ninth part of very fine white ſalt. There are others at Enſon, St Thomas, and in the pariſh of Ingeſtre, but ſo weak that they are not wrought; though it is believed, that by boring, ſtronger ſprings might be found in the neighbourhood. In Lancaſhire there are ſeveral ſalt ſprings, but (if we except that at Barton, which is as rich as the ſpring at Norwich) by no means ſo famous as thoſe of Cheſhire, called in general by the name of the *wiches*. Namptwich on the river Weever, has a noble ſpring not far from the river, which is ſo rich as to yield one-ſixth part of pure white ſalt. At ſix miles diſtance ſtands Norwich, at the confluence of the Weever and the Dan; where the brine is ſtill richer, ſince they obtain ſix ounces of ſalt from 16 of water. There are, even at this day, ſome viſible remains of a Roman cauſeway between theſe two towns. The inhabitants of Wales, who, before that country was incorporated into England, were ſupplied chiefly, if not ſolely, with that neceſſary commodity from theſe two towns, called the former *Hellath Wen*, and the latter *Hellath du*; i. e. the white and black ſalt pit. In 1670, a rock of ſalt was diſcovered at a ſmall diſtance from Norwich, which has been wrought to a great depth, and to a vaſt extent, ſo as to be juſtly eſteemed one of the greateſt curioſities in England: and it is highly probable, that there is an immenſe body of foſſile ſalt in the bowels of the earth, under this whole county; ſince, upon boring, brine-pits have been found in many places on both ſides the river Weever. This is the more likely, ſince, at Middlewich, which ſtands at the confluence of the Croke and the Dan, there are ſalt-ſprings with a freſh brook running between them. The brines from theſe pits are of unequal ſtrength; but when mixed, they commonly obtain four ounces of ſalt from a pound of brine. Experience ſhows, that in theſe ſprings the water is ſtrongeſt neareſt the bottom, richer in dry weather than in wet, and when long drawn than when firſt wrought. But theſe are no rules in reſpect to other ſalt ſprings, ſince in thoſe of Franche Compte the brine is ſtrongeſt in wet weather. There are ſeveral other bodies diſſolved in theſe brines beſides ſalt; in ſome a ſulphureous ſubſtance, which ſublimes as the brine heats; a ſort of dirty ochre which diſcolours the brine; but, if ſuffered to ſtand, ſpeedily ſubſides; and in moſt brines a calcareous, or rather ſelenetic earth, which ſettles to the bottom of the pans †

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* *Campbell's Political Survey*, Vol. I. p. 76.

† See *Salt*, and *Spring*.

To BRING-TO, in navigation, to check the courſe of a ſhip when ſhe is advancing, by arranging the ſails in ſuch a manner, that they ſhall counteract each other, and prevent her either from retreating or moving forward. In this ſituation the ſhip is ſaid to lie by, or lie to; having, according to the ſea-phraſe, ſome of her ſails *aback*, to oppoſe the force of thoſe which are full; or having them otherwiſe ſhortened by being *furled*, or *hauled up in the brails*.

Bringing-to, is generally uſed to detain a ſhip in any particular ſtation, in order to wait the approach of ſome other that may be advancing towards her; or to retard her courſe occaſionally near any port in the courſe of a voyage.

Bringing-in a Horſe, in the manege, the ſame as to ſay, keep down the noſe of a horſe that boars and toſſes his noſe in the wind: this is done by means of a branch.

BRINING OF CORN, in huſbandry, an operation performed on the wheat-ſeed, in order to prevent the ſmut. A liquor is to be prepared for this purpoſe, by putting 70 gallons of water into a (tub like a maſh-tub uſed for brewing), and a corn-buſhel of unſlacked limeſtone. This is to be well ſtirred till the whole is diſſolved, and left to ſtand for 30 hours; after which it is to be drained off into another tub, in the manner practiſed for beer. In this way about a hogſhead of ſtrong lime-water will be obtained, to which muſt be added three pecks of ſalt. The wheat muſt be ſteeped in this pickle, by running it gently, and in ſmall quantities, into a broad-bottomed baſket of about 24 inches in diameter, and 20 inches deep, and ſtirring it. The light ſeed that floats muſt be ſtrained off with a ſtrainer, and muſt not be ſown. When the baſket has been drawn up, and drained of the pickle, the wheat will be fit for ſowing in two hours after the brining.

Brining of hay-ricks, a practice common in ſome places, of mixing ſalt with the hay as it is ſtacked.

BRIONNE, a town of France, in Normandy, ſeated on the river Rille. E. Long. 0. 51. N. Lat. 49. 51.

BRIOUDE, a town of France, in lower Auvergne. There are two Brioudes, three quarters of a mile from each other; the one is called *Church Brioude*, the other *Old Brioude*. The houſes are built after the antique manner, are badly diſpoſed. The canons are all temporal lords and counts. It is in no dioceſe, but depends immediately on the Pope. There are ſeveral convents; and, among the reſt, the church of St Ferrol, which is highly celebrated. Near the Old Town is a ſtone bridge on the river Allier, which conſiſts of one arch: this is eſteemed a ſtupendous ſtructure, and is thought to be a work of the Romans. The inhabitants have no manufactures. It is ſituated in E. Long. 3. 25. N. Lat. 45. 14.

BRIQUERAS, a town in Piedmont, ſeated in the valley of Lucern, three miles from the town of that name, and four ſouth of Pignerol. It had a very ſtrong caſtle towards the latter end of the 16th century; but when the French got footing in it, it was ruined, that is, before they delivered it up to the duke of Savoy in 1696. E. Long. 7. 24. N. Lat. 44. 41.

BRISACH, a town of Germany, and capital of Briſgaw. It was twice in the poſſeſſion of the French; but reſtored to the houſe of Auſtria, in conſequence of treaties of peace. It was a very ſtrong place, but the fortifications have been demoliſhed. It is ſeated on the Rhine, where there is a bridge of boats. E. Long. 7. 49. N. Lat. 48. 5.

BRISACA (New), a town of France, in Alſace, built by order of Louis XIV. over againſt Old Briſach, and fortified by Vauban. It is 32 miles ſouth of Straſburg. E. Long. 7. 46. N. Lat. 48. 5.

BRISEIS, or HIPPODAMIA, in fabulous hiſtory, the wife of Mynes king of Lyrneſſa. After Achilles had taken that city, and killed her huſband, ſhe became his captive. That hero loved her tenderly; but Agamemnon taking her from him, ſhe became the accidental cauſe of numberleſs diſorders in the Grecian army. Achilles, enraged, retired to his tent; and, till the death of Patroclus, refuſed to fight againſt the Trojans. The reſentment of this prince is finely painted in the Iliad.

BRISGAW, a teritory of Germany, in the circle of Suabia, on the eaſtern banks of the Rhine, about 50 miles in length, and 30 in breadth. The principal places are Old Briſach, New Briſach, Freyburgh, Rhinmark, and an iſland in the Rhine.

BRISIACUS MONS (anc. geog.), a town on the right or eaſt ſide of the Rhine. Now *Briſac*, ſituate on a round hill; a fortified town of Suabia, and diſtinguiſhed by the name of *Old Briſac*. E. Long. 7. 15. N. Lat. 48. 10.

BRISSOT (Peter), one of the ableſt phyſicians of the 16th century, was born at Fontenai le Comte in Poitou. He ſtudied at Paris; and, having taken his doctor's degree, bent his thoughts to the reforming of phyſic, by reſtoring the precepts of Hippocrates and Galen, and exploding the maxims of the Arabians: to this purpoſe he publicly explained Galen's works, inſtead of thoſe of Avicenna, Rhaſis, and Meſſue. He afterwards reſolved to travel to acquire the knowledge of plants; and going to Portugal, practiſed phyſic in the city of Ebora. His new method of bleeding in pleuriſies, on the ſide where the pleuriſy was, raiſed a kind of civil war among the Portugueſe phyſicians; it was brought before the univerſity of Salamanca, who at laſt gave judgment, that the opinion aſcribed to Briſſot was the pure doctrine of Galen. The partizans of Denys, his opponent, appealed in 1529 to the emperor, to prevent the practice, as being attended with deſtructive conſequences; but Charles III. duke of Savoy, happening to die at this time of a pleuriſy, after having been bled on the oppoſite ſide, the proſecution dropped. He wrote an Apology for his practice; but died before it was publiſhed, in 1552: but Anthony Luceus, his friend, printed it at Paris three years after. Renatus Moreau procured a new edition of it at Paris in 1622; and annexed to it a treatiſe intitled *De miſſione ſanguinis in pleuritide*, together with the Life of Briſſot.

BRISTLE, a rigid gloſſy kind of hair found on ſwine, and much uſed by bruſh-makers, &c.

BRISTOL, a city of England, and inferior to none, except London, for wealth, trade, and number of inhabitants. Briſtol is a corruption of *Brightſtow*, as it was called by the Saxons. It is thought to have ſtood anciently altogether on the weſt or Somerſetſhire ſide of the Avon, before the bridge was built; but after that, it came to be partly in Somerſetſhire and partly in Glouceſterſhire, until it was made a county of itſelf, though even before that, in the parliament rolls, it was always placed in Somerſetſhire. At preſent, the eaſt ſide is by much the largeſt and moſt populous. It had anciently a caſtle, built by Robert earl of Glouceſter, natural ſon to Henry I. which was demoliſhed by Cromwell; and the ground is now laid out into ſtreets. The corporation conſiſts of a mayor; recorder; twelve aldermen, of whom the recorder is one; two ſheriffs; and twenty-eight common-council men. The recorder is generally a ſerjeant at law, and ſits as judge in capital and all other criminal cauſes. The mayor, to ſupport his dignity, and defray his extraordinary expence, is intitled to certain fees from ſhips, which long ago amounted to L. 500 or L. 600. Briſtol is a biſhop's ſee, being one of the ſix erected by King Henry VIII. out of the ſpoils of the monaſteries and religious houſes which that monarch had got diſſolved. The cathedral church was the church of the abbey of St Auſtin in Briſtol, founded by Robert Fitzharding ſon to a king of Denmark, once a citizen here, by him filled with canons regular in the year 1148. At the reformation King Henry VIII. placed therein a dean and ſix prebendaries, which mode of government ſtill continues. During a great part of Queen Elizabeth's reign, his ſee was held *in commendam* by the biſhop of Glouceſter. This dioceſe was formed chiefly out of the dioceſe of Saliſbury, with a ſmall part from the dioceſes of Wells and Worceſter. It contains moſt of the city of Briſtol, and all the county of Dorſet, in which are 236 pariſhes, of which 64 are impropriated. It hath only one archdeaconry, viz. of Dorſet; is valued in the king's books L. 338 : 8 : 4, and is computed to be annually worth L. 1500, including its *commendams*. The tenths of the clergy, L. 353, 18 s. 0¾ d. This ſee hath yielded to the ſtate one Lord Privy Seal. The revenues of the abbey of St Auguſtine, or St Auſtin, in Briſtol, was valued at the diſſolution at L. 670 : 13 : 11, when it was erected into a cathedral by King Henry VIII. by the name of the *Cathedral Church of the Holy Trinity*. To this cathedral belongs a biſhop, a dean, an archdeacon, a chancellor, ſix prebendaries, and other inferior officers and ſervants. Beſides the cathedral, there are 18 pariſh churches; and here are diſſenters of all denominations, of whom the quakers are very reſpectable both for their wealth and numbers. Of the pariſh-churches, St Mary Ratcliff is reckoned one of the fineſt, not only here, but in the whole kingdom. In this church, beſides two monuments of the founder William Cannings, who had been five times mayor of this city, one in the habit of a magiſtrate, and another in that of a prieſt (for in his latter days he took orders), there is one of Sir William Penn, father to the famous quaker. The old bridge over the Avon conſiſted of four broad arches, with houſes on both ſides like thoſe formerly on London bridge; but this has been lately pulled down, and another erected in its place. No carts or waggons are admitted into Briſtol, for fear of damaging the vaults and gutters made under ground for carrying the filth of the city into the river. Queen's-ſquare, in this city, is larger than any in London, except Lincoln's-inn-fields, and has in the centre an equeſtrian ſtatue of King William III. All the gates of the city remain entire, and a part of the walls: the reſt were razed in the reign of William Rufus. It is almoſt as broad as long, about ſeven miles in circumference, and contains about 95,000 inhabitants. Of the hoſpitals, the chief are, 1. That called Queen Elizabeth's, in which 100 boys are taught reading, writing, arithmetic, and navigation; ſix of whom, when they go out, have L. 10, and the reſt L. 8, 8s. to bind them apprentices: the maſter is allowed L. 450 a-year for the maintenance of the boys. 2. Colſton's hoſpital; in which 100 boys are maintained for ſeven years, and taught and apprenticed, as in Queen Elizabeth's. 3. Another founded by the ſame gentleman in 1691, for 12 men and 12 women, with an allowance of 3s. per week, and 24 ſacks of coals in the year. This charity coſt the founder L. 25,000. 4. Another founded partly by Mr Colſton and partly by the merchants, in which 18 men on account of the merchants, and 12 men and women on account of Mr Colſton, are maintained. 5. An infirmary, which was opened in 1736 for the ſick, lame, and diſtreſſed poor of the city, which is maintained by ſubſcription, beſides L. 5000 bequeathed to it by John Eldridge, Eſq; formerly comptroller of the cuſtoms at this port. There are, beſides theſe, a bridewell, ſeveral alms-houſes, and charity-ſchools. There is alſo a guildhall for the ſeſſions and aſſizes; the mayor's and ſheriffs courts; a council-houſe, where the mayor and aldermen meet every day, except Sundays, to adminiſter juſtice; a handſome new exchange, with three entrances, about two-thirds as large as that in London; and a quay half a mile in length, the moſt commodious in England for ſhipping and landing goods, for which purpoſe it is provided with ſeveral cranes. In College-green is a ſtately high croſs, with the effigies of ſeveral kings round it. In Winch-ſtreet is a guard-houſe, with barracks for ſoldiers. As to the trade of this city, it was computed many years ago to be much greater in proportion, eſpecially to America and the Weſt Indies, than that of London. Fifty ſail, ſome of them ſhips of conſiderable burden, have arrived here at one time, or very near one another, from the Weſt Indies. For this trade, and that to Ireland, it is much better ſituated than London, beſides the great advantages it poſſeſſes of an inland navigation by the Wye and Severn. Their trade extends to the Baltic, Norway, Holland, Hamburgh, Guinea, and the Straits. The largeſt ſhips are diſcharged at Hungroad, four miles below the city, and the goods are brought to the quay by lighters.

For building, equipping, and repairing ſhips, there are docks, yards, rope-walks, and ſhip-wrights. Here are ſome conſiderable woollen manufactures; and no leſs than 15 glaſs-houſes, for which Kingſwood and Mendip furniſh the coals. The city companies are 13: 1. The merchant adventurers. 2. The merchant tailors. 3. The mercers. 4. The ſoap-boilers. 5. The tobaconiſts. 6. The butchers. 7. The barbers. 8. The tylers. 9. The holliers, who are the ſled-men. 10. Shoemakers. 11. Coopers. 12. Bakers. 13. Smiths. For ſupplying the city with water there are ſix public conduits; and handſome hackney-coaches may be hired at very reaſonable rates, but they do not ply in the ſtreets. There are alſo ſtage-coaches, which ſet out every day for Bath, London, and other places. A mile below the city, cloſe by the river, is the hot well, whoſe waters are ſpecific for the diabetes, and good in phthiſical, ſcorbutic, and inflammatory diſorders. Hither is a great reſort in the ſummer of invalids, as well as other company; for whoſe accommodation and entertainment there is a pump-room, ball-room, coffee-houſe, with taverns, and a great number of elegant lodging-houſes, both below on a level with the well, and above in the delightful village of Clifton, which is ſituated on the brow of a hill, from whence there are downs extending ſeveral miles, where the company ride out for exerciſe. Nothing can be more pure and ſalutary than the air of theſe downs, which afford a variety of the moſt romantic and agreeable proſpects, comprehending Kingroad, with the ſhips at anchor, the mouth of the Severn, and the mountains of Wales. In the rocks above the well are found thoſe ſix-cornered ſtones called *Briſtol-ſtones*; but they are not ſo plentiful now as in Camden's days, when, he ſays, whole buſhels might have been eaſily gathered. In this city is a theatre, where plays are acted almoſt every night during the receſs of the comedians from the metropolis. There are two annual fairs, to which the concourſe is ſo great, that the neighbouring inns have filled 100 beds a-piece with their gueſts. In the winter ſeaſon there is an aſſembly every Thurſday for the gayer part of the citizens of both ſexes. About half way betwixt Briſtol and Bath, at a place called *Warmly*, a company of Briſtol merchants have erected a noble manufacture of pins and other braſs utenſils, which employs a great number of hands, including about 200 children of both ſexes from ſeven to twelve or thirteen years of age. All the different operations of melting, ſplitting, drawing, hammering, turning, &c. are performed by wheels worked with water, which is raiſed by two fire-engines of a very curious mechaniſm. The city of Briſtol gives the title of earl to the family of Hervey, and ſends two members to parliament. It is worth obſerving, that whoever marries a citizen's daughter becomes free of the city.

New BRISTOL, the capital of the county of Bucks in Pennſylvania, ſituated on the river Delaware, about 20 miles north of Philadelphia, in W. Long. 75. N. Lat. 40. 45.

BRISTOL *Water*. Of the four principal warm waters naturally produced in England this is the leaſt ſo. As the Bath waters are proper where the ſecretions are defective, ſo the Briſtol water is of ſervice where they exceed the requirements of health. The Bath water warms; the Briſtol cools. Bath water helps the ſtomach, inteſtines and nerves; the Briſtol favours the lungs, kidneys, and bladder. Except a jaundice attend, the Briſtol water may be of uſe in dropſies by its drying and diuretic qualities. Dr Wynter aſſerts, that there is no iron in Briſtol water; and that its mineral contents are chalk, lapis calcareus, and calaminaris. Five gallons of this water, after evaporation, afforded only ʒ iii. and gr. ii. of a mineral-like ſubſtance. The diſeaſes in which this water is uſeful are internal hæmorrhagies, immoderate menſes, internal inflammations, ſpitting blood, dyſentery, purulent ulcers of the viſcera, conſumption, dropſy, ſcurvy with heat, ſtone, gravel, ſtrangury, habitual gout, atrophy, ſlow fever, ſcrophula, gleets, and diabetes, in which laſt it is a ſpecific, and may be drank as freely as the thirſt requires it. The hotter months are the beſt for uſing it. The Briſtol and Matlock waters are of exactly the ſame qualities. Doctors Mead and Lane firſt eſtabliſhed the reputation of Briſtol waters in diſeaſes of the kidneys and bladder.

BRITAIN, or GREAT BRITAIN, the moſt conſiderable of all the European iſlands, extends from the Lizard Point, in the latitude of about 50° to Duneſbay-head in latitude 58. 30. N. or, taking it in a ſtraight line from north to ſouth, about eight degrees or 540 miles; and from Dover head on the eaſt to Land's-end on the weſt comprehends about ſeven degrees of longitude, which may be computed at about 290 miles: but the form being very irregular, and leſſening continually towards the north, proper allowances muſt be made in computing its dimenſions.

1 Albion the ancient name.

The ancient name of this iſland was *Albion*, the name *Britain* being then common to all the iſlands round it. Hence Agathemerus, ſpeaking of the Britiſh iſlands, "They are many in number (ſays he); but the moſt conſiderable among them are Hibernia and Albion." And Ptolemy, to the chapter wherein he deſcribes the iſland now called *Great Britain*, prefixes the following title: "The ſituation of *Albion* a Britiſh iſland." But as this far excelled the other Britiſh iſlands, the name of *Albion* in proceſs of time was laid quite aſide, and that of *Britain* uſed in its ſtead. By this name it was known in Pliny's time, and even in Cæſar's. The origin of both theſe names is very uncertain. Some derive that of Albion from the Greek word *alphon*, which, according to Feſtus, ſignifies *white*, the chalky cliffs that in ſeveral places riſe on the ſouthern coaſts having that colour; while others pretend this name to have been borrowed from a giant feigned to have been the ſon of Neptune, and mentioned by ſeveral ancient authors. Some etymologiſts have recourſe to the Hebrew, and others to the Phœnician; *alben* in the former ſignifying *white*, and *alp* in the latter ſignifying *high*. The origin of the name *Britain* is no leſs uncertain than that of *Albion*. Nennius and ſome other Britiſh writers derive it from Brutus, whom they likewiſe call *Brito* the fifth in deſcent from the celebrated Æneas. Others derive it from the Britiſh words *pryd cain*, that is, a *white form*, ſoftened by degrees into *Britannia*. Camden derives it from the word *brith*, which, in the ancient language of the iſland, ſignifies *painted*; and *tania*, importing, in Greek, a region or country; ſo that the word *Brithania*, changed in proceſs of time into *Britannia*, expreſſes what the Britons really were, that is, *painted*. Somner, diſliking Camden's etymology,

2 Origin of the different names.

gy, propoſes another, viz. that the name *Britain* comes from *brydio;* ſignifying in the Britiſh tongue, *rage,* and pointing out the violent motion of the ſea that ſurrounds the iſland. Mr Whitaker, in his Hiſtory of Mancheſter, derives it from the word *brith, briet, brit, bris,* or *brig,* which, he ſays, ſignifies *divided* or *ſtriped.* Againſt the firſt of theſe etymologies it may be objected, that it is founded on a fable: and againſt the other four lies one common and unanſwerable objection; which is, that the name of *Britain* was given to the iſland by foreigners, who could not borrow it from the Britiſh tongue, with which they were in all likelihood unacquainted. That the iſland received the name of *Britain* from foreigners is evident, ſince the natives never ſtyled themſelves *Britons,* nor the country *Britain;* their true name being *Cumri* or *Cumbri;* whence *Cambria* the name of Wales to this day among the Welch.

3 Bochart's opinion.

The learned Bochart, ſpeaking of the colonies and language of the Phœnicians, offers a conjecture which moſt of our modern writers have adopted as the moſt natural. The Phœnicians, according to that writer, called this iſland and ſome others near it, *Barat Anas,* that is, *the land or country of tin or lead,* and more contractedly *Bratanac;* which name, paſſing from the Phœnicians to the Greeks, and from theſe to the Romans, might have been ſoftened into that of *Britannicæ* and *Britannia.* That the Phœnicians firſt diſcovered theſe iſlands, which were afterwards by the Greeks called *Caſſiterides,* and are proved by Camden to be Scilly iſlands, appears both from Strabo and Pliny; of whom the former tells us, that the Phœnicians firſt brought tin from the Caſſiterides, which they ſold to the Greeks; but kept the trade to themſelves, and the place private; and the latter writes, that Mediocritus was the firſt who brought lead from the Caſſiterides, where Bochart ſhows that we ought to read *Melichartus,* who is the Phœnician Hercules of Sanchoniatho, to whom that nation aſcribe their firſt weſtern diſcoveries. But notwithſtanding the care of the Phœnicians to conceal theſe iſlands, the Greeks at laſt diſcovered them; and gave them the name of *Caſſiterides,* which, in the Greek tougue, ſignifies the ſame with *Barat Anac* in the Phœnician. This name was at firſt given to the iſlands of Scilly already mentioned, but by degrees communicated to all the others lying in the ſame ſea. Thus Bochart. But after all, his opinion, however plauſible in appearance, may be as foreign to the purpoſe as any of the reſt; many inſtances of names given to new diſcovered countries ſhow that the origin of ſuch names is not always owing to reaſon, but often to chance or caprice.

The general diviſion of Britain is into ENGLAND, SCOTLAND, and WALES; for a particular deſcription and hiſtory of which, ſee theſe articles.

4 James VI. of Scotland ſucceeds to the crown of England

In the year 1603, the kingdoms of Scotland and England fell under the dominion of one ſovereign, by the acceſſion of James VI. of Scotland to the throne of England. He derived his title to the latter from being the grandſon of Margaret eldeſt daughter to Henry VII. of that kingdom, and, on the failure of all the male line, his hereditary right remained inconteſtable. Queen Elizabeth, with her lateſt breath, had recognized him for her ſucceſſor; ſo that few ſovereigns ever aſcended a throne with more approbation of their ſubjects, or greater hopes of a peaceable and happy reign.

Thoſe hopes, however, were ſoon blaſted; and the hiſtory of this monarch's reign conſiſts of little elſe than a detail of diſputes and contentions between him and his parliament. A particular and minute account of ſuch tranſactions could afford very little entertainment; but it is of importance to know their origin, as they are to be reckoned the ultimate cauſes of thoſe ſucceeding events which made ſo conſpicuous a figure in the annals of Britain.

5 General ſtate of the nation at that time.

In theſe barbarous ages which preceded the period we are now entering upon, the human mind, enervated by ſuperſtition, and obſcured by ignorance of every art and ſcience, ſeemed to have given up all pretenſions to liberty, either religious or civil. Unlimited and uncontrouled deſpotiſm prevailed every where; and though England ſuffered leſs in this reſpect than almoſt any other nation, the many examples of arbitrary power exerted by her ſovereigns, queen Elizabeth herſelf, James's immediate predeceſſor, not excepted, ſhow that they were very far from being then a free people. An inconteſtable proof of this, and an evidence how little reſtraint at that time the people could lay upon the authority of the ſovereign, is, that the proceedings of parliament were accounted, even by themſelves, of ſo little conſequence, that they were not at the trouble to keep journals of them. It was not till the year 1607, four years after the acceſſion of James, that parliamentary journals were kept, at the motion of Sir Edwin Sandys, a member of great authority in the houſe.

6 Parliaments of little conſideration.

The proceedings of the parliament being at that time of ſo little conſequence, it is no wonder that the ſeſſions were not regular, or that little attention was paid to the choice or continuance of the members. In the reign of Elizabeth, and her predeceſſors, the ſeſſions of parliament did not continue above the twelfth part ſo long as the vacations. It was then uſual, after parliaments had been prolonged beyond one ſeſſion, for the chancellor to exert a diſcretionary authority of iſſuing new writs to ſupply the place of any members whom he judged incapable of attending, either on account of their employment, ſickneſs, or other impediment. No practice could be more dangerous to liberty than this, as it gave the chancellor, and conſequently the ſovereign, an opportunity of garbling at pleaſure the repreſentatives of the nation: yet ſo little was liberty at that time underſtood, that the commons, of their own accord, without the leaſt court influence or intrigue, and contrary to ſome former votes of their own, confirmed the chancellor's power in this reſpect, in the 23d of Elizabeth. Nor did they proceed any farther in the aſſertion of their privileges, than to vote, that "during the ſitting of parliament there do not, at any time, any writ go out for the chooſing or returning any member without the warrant of the houſe."

7 Origin of the patriotic party.

Towards the end of the 16th or beginning of the 17th century, a great revolution took place, though inſenſibly, throughout all Europe. Arts and ſciences began to flouriſh, commerce and navigation were greatly extended, and learning of all kinds began to diffuſe itſelf. By more enlarged views, the love of freedom began, in England eſpecially, to take place in the breaſts of moſt people of birth and education; and this was greatly promoted by an acquaintance with the ancient Greek and Latin hiſtorians. From the example of the republics of Greece and Rome, whoſe members had ſo often ſacrificed their lives for the ſake of liberty, a patriotic ſpirit began to ariſe: and a deſire of circumſcribing the exceſſive prerogative and arbitrary proceedings of the crown began ſecretly to take place throughout the nation.

8
Grievances the nation at that time laboured under.

Nor was this deſire unreaſonable, or without a ſolid foundation. During the laſt years of queen Elizabeth's reign, the commerce, navigation, and number of ſeamen in England, had ſenſibly decayed. A remonſtrance from the Trinity-houſe in 1602 ſays, that ſince 1588, the number of ſeamen and ſhipping had decayed about a third part. Every ſpecies of domeſtic induſtry was fettered by monopolies; and by excluſive companies, which are only another ſpecies of monopoly, almoſt all foreign trade, except that to France, was brought into the hands of a few rapacious engroſſers, and all proſpect of future improvement in commerce was for ever ſacrificed to a little temporary advantage of the ſovereign. Theſe companies, though arbitrarily erected, had carried their privileges ſo far, that almoſt all the commerce of England centered in London; the cuſtoms of that port alone amounted to 110,000l. a-year; while thoſe of all the kingdom beſide amounted only to 17,000l. nay, the whole trade of London was confined to about 200 citizens, who were eaſily enabled, by combining among themſelves, to fix whatever price they pleaſed both on the exports and imports of the nation. Beſides this, the ſubjects were burdened by wardſhips and purveyances. The latter was an old prerogative of the crown, by which the officers of the houſehold were empowered to take, without conſent of the owners, proviſions for the king's family, and carts and horſes for the removal of his baggage, upon paying a ſtated price for them. The king had alſo a power of ſending any perſon, without his conſent, on whatever meſſage he pleaſed; and thus he could eaſily force any individual to pay him whatever money he choſe, rather than be ſent out of the country on a diſagreeable errand. Money extorted from individuals, by this or any other method, was called a *benevolence*.

9
James's arbitrary ſyſtem of government.

Theſe were ſome of the grievances under which the nation at this time laboured, and theſe the riſing ſpirit of patriotiſm tended to redreſs. This diſpoſition, however, the ſevere government of Elizabeth had confined within very narrow bounds: but when James ſucceeded to the throne; a foreign prince, leſs dreaded and leſs beloved; ſymptoms of a more free and independent genius immediately appeared. Happily James neither perceived the alteration, nor had ſufficient capacity to check its early advances. He had eſtabliſhed in his own mind a ſpeculative ſyſtem of abſolute government, which few of his ſubjects, and none but traitors and rebels, he thought would make any ſcruple to admit. He conſidered himſelf as entitled to equal prerogatives with other European ſovereigns, not conſidering the military force with which their deſpotiſm was ſupported. The almoſt unlimited power which, for upwards of a century, had been exerciſed by the Engliſh ſovereigns, he conſidered as due to royal birth and title, not to the prudence and ſpirit of thoſe monarchs, or the conjunctures of the times. In his perſon, therefore, he imagined all legal authority to be centered by an hereditary and a divine right; nay, ſo fully was he perſuaded that he was the abſolute proprietor of his ſubjects, that in his ſpeech to the parliament in 1621, he told them, that "he wiſhed them to have ſaid that their privileges were derived from the grace and permiſſion of him and his anceſtors." And when the ſame parliament proteſted that "the liberties, franchiſes, privileges, and juriſdictions of parliament, are the ancient and undoubted birthright and inheritance of the ſubjects of England," he was ſo enraged, that ſending for the journals of the commons, he, with his own hand, before the council, tore out this proteſtation; and ordered his reaſons to be inſerted in the council book.

Such were the oppoſite diſpoſitions of the prince and parliament, at the commencement of the Scottiſh line; diſpoſitions juſt beginning to exiſt and to appear in parliament, but thoroughly eſtabliſhed, and openly avowed on the part of the king, throughout his whole reign.

10
Reaſons of the diſſenſions between the king and parliament

11
Averſion of James to the puritans.

The conſequence of ſuch oppoſite diſpoſitions prevailing in the king and parliament was, that during this reign the prerogatives of the crown were violently and openly attacked; but the chief grounds of diſcontent were money and religion. The king's high notions of the royal prerogative made him imagine he had a right to whatever ſums he pleaſed to demand; and his profuſion cauſed him to diſſipate in a ſhort time the ſcanty ſupplies he could extort from the parliament, who ſeem to have behaved as unreaſonably on the one hand as James himſelf did on the other. With regard to religious matters, the nation was at that time greatly infected with puritaniſm. Though the ſeverities of Elizabeth had almoſt totally ſuppreſſed the Papiſts, it had been otherwiſe with the Puritans. So much had they increaſed by the very means which had diminiſhed the number of Catholics, that no leſs than 750 clergymen of that perſuaſion ſigned a petition to James on his acceſſion. They hoped that the king, having received his education in Scotland, and having always profeſſed an attachment to the church eſtabliſhed there, would at leaſt abate the rigour of the laws enacted againſt the puritans, if he did not ſhow them particular favour and encouragement. But in this they were miſtaken. He had obſerved in their Scots brethren a violent turn toward republicaniſm, and a zealous attachment to civil liberty. In the capacities both of monarch and theologian, he had experienced the little complaiſance they were diſpoſed to ſhow him. They controuled his commands; diſputed his tenets; and to his face, before the whole people, cenſured his conduct and behaviour. This ſuperiority aſſumed by the preſbyterian clergy, the monarchic pride of James could never digeſt. Though he he had been obliged while in Scotland to court their favour, he treaſured up on that account the ſtronger reſentment againſt them; and was determined to make them feel in their turn the weight of his authority. He therefore not only rejected the petition of the 750 clergymen abovementioned, but throughout his whole reign refuſed to relax in the leaſt the ſeverity of the laws againſt Proteſtant nonconformiſts, though very often petitioned in their favour by his parliament.

12
He favours the epiſcopals and Papiſts.

The ſame principles which occaſioned in James ſuch an averſion to the Puritans, prompted him greatly to favour the epiſcopals, and even the Papiſts, as being greater friends to deſpotiſm. In his youth he had been ſuſpected of a bias towards the religion of the latter; and when he aſcended the throne of England, it is certain he often endeavoured to procure ſome mitigation of the laws againſt them, if not an abſolute toleration. But in this he was conſtantly oppoſed by the parliament; and indeed the ſtrong inclination ſhown by James to eſtabliſh epiſcopacy throughout every corner of his dominions, tended very much to alienate the minds of the generality of his ſubjects, eſpecially in Scotland, entirely from him.

13 Attempts to eſtabliſh epiſcopacy in Scotland

In May 1617, the king ſet out for Scotland, expreſsly with the deſign of eſtabliſhing epiſcopacy in that kingdom. He did not, however, propoſe to aboliſh preſbytery entirely, and ſet up abſolute epiſcopacy in its room. He deſigned to content himſelf with eſtabliſhing the royal authority above the eccleſiaſtical, and introducing ſome ceremonies into the public worſhip, ſuch as kneeling at the ſacrament, private communion, private baptiſm, confirmation of children, and the obſervance of Chriſtmas, &c. But as his deſign was fully ſeen from the beginning, every advance towards epiſcopacy gave the greateſt diſcontent, and thoſe trival ceremonies were rejected as ſo many mortal ſins.

14 Tyranny of the Scots clergy.

At this time the power of the Scots clergy was exceedingly great; and the gloomy enthuſiaſtic ſpirit with which they were actuated, prompted them to exerciſe it in ſuch a manner as to make their tyranny inſupportable to thoſe who were of a different way of thinking from themſelves. Every eccleſiaſtical court poſſeſſed the power of excommunication; which was then attended with ſome very ſerious temporal conſequences, beſides the ſpiritual ones which were ſuppoſed to flow from it. The perſon excommunicated was ſhunned by every one as profane and impious: his whole eſtate during his life-time, and all his moveables for ever, were forfeited to the crown. A ſentence of excommunication was ſometimes pronounced in a ſummary manner, by any eccleſiaſtical court however inferior, againſt any perſon, whether he lived within the bounds of their juriſdiction or not. And by this means, the whole tyranny of the inquiſition, though without its orders, was introduced into Scotland. But the clergymen were not ſatisfied with this unbounded authority in eccleſiaſtical matters; they aſſumed a cenſorial power over every part of adminiſtration; and in all their ſermons and even prayers mingling politics with religion, they inculcated the moſt ſeditious and turbulent principles.

15 Anecdotes of ſome of them.

One Black, a miniſter of St Andrew's, went ſo far as to pronounce in one of his ſermons, that all kings were the devil's children; and in his prayer for the queen he uſed theſe words, "We muſt pray for her for the faſhion's ſake, but we have no cauſe: ſhe will never do us any good." Another miniſter preaching in the principal church of that capital, ſaid, that the king was poſſeſſed with a devil; and that, one devil being expelled, ſeven worſe had entered in his place. To which he added, that the ſubjects might lawfully riſe, and take the ſword out of the hands of their ſovereign.

16 The king's deſign miſgives in Scotland.

We can ſcarce wonder that James ſhould be deſirous of ſubjugating ſuch rebellious and turbulent ſpirits as theſe; and, on the other hand, conſidering the extreme weakneſs of this monarch's underſtanding, and that he imagined himſelf able to manage not only furious religioniſts, but even the moſt powerful foreign nations, with no other weapon than mere argumentation, we can as little wonder at his want of ſucceſs.—In ſhort, ſo far was James from being able to eſtabliſh his royal authority above the eccleſiaſtical, that he found himſelf unable to introduce a ſingle ceremony. He returned therefore with the mortification not only of ſeeing his ſchemes entirely baffled with regard to Scotland, but of having diſguſted even the few of that nation over whom religious prejudices did not prevail: for they, conſidering the ceremonies ſo much inſiſted on by the king as trivial and inſignificant, could not help thinking the national honour ſacrificed by a ſervile imitation of the modes of worſhip practiſed in England, and that their ſovereign betrayed equal narrowneſs of mind, though in an oppoſite manner, with thoſe he ſo much condemned.

17 His bad ſucceſs againſt the puritans in England.

The like bad ſucceſs attended James when he attempted ſome oppoſition to the puritanical innovations in England. He had obſerved in his progreſs through that kingdom, that a Judaical obſervance of the Sunday gained ground every day: and that by this means, under colour of religion, the people were debarred from ſuch ſports and recreations as contributed to their health as well as amuſement. Imagining, therefore, that it would be eaſy to infuſe cheerfulneſs into the dark ſpirit of devotion which then prevailed, he iſſued a proclamation to allow and encourage, after divine ſervice, all kinds of lawful games and exerciſes; and this proclamation his ſubjects regarded as an inſtance of the utmoſt profaneneſs and impiety. In 1620 a bill was brought in by the commons for the more ſtrict obſervance of the Sunday, which they affected to call the *ſabbath*. One Shepherd oppoſed this bill, objected to the appellation of *ſabbath* as puritanical, and ſeems even to have juſtified ſports on that day. For this he was expelled the houſe by the ſuggeſtion of Mr Pym; and in the ſentence pronounced againſt Shepherd, his offence is ſaid to be *great*, *exorbitant*, and *unparalleled*.

This ſketch, we hope, will be ſufficient to give the reader a tolerable idea of the ſituation of affairs during the reign of James I. We now proceed to give an account of the few remarkable tranſactions which occurred in this period.

18 Sir Walter Raleigh's conſpiracy.

The firſt thing of any conſequence was a conſpiracy formed, the very year of the king's acceſſion to the throne, to diſplace him, and beſtow the kingdom on Arabella Stuart, a near relation of James's, and equally deſcended from Henry VII. With regard to this conſpiracy every thing remains ſtill myſterious, as it was at the time when the conſpiracy itſelf was diſcovered. What renders it remarkable is the concern Sir Walter Raleigh was ſaid to have in it; for which he was tried, condemned without ſufficient proof, ſuffered 13 years impriſonment in the tower, and was afterwards executed out of complaiſance to the Spaniards. See RALEIGH.

19 Account of the gunpowder treaſon.

In 1605 was diſcovered the famous *gunpowder treaſon*, the anniverſary of which diſcovery hath ever afterwards been celebrated with rejoicings. Its origin was as follows: On the acceſſion of James, great expectations had been formed by the catholics that he would prove favourable to them, both as that was the religion of his mother, and as he himſelf had been ſuſpected of a bias towards it it his youth. It is even pretended that he had entered into poſitive engagements to grant them a toleration as ſoon as he ſhould mount the throne of England. Here, however, they found their hopes built on a falſe foundation. James on all occaſions expreſſed his intention of executing ſtrictly the laws enacted againſt them, and of perſevering in all the rigorous meaſures of Queen Elizabeth. A plan of revenge was firſt thought of by one Cateſby, a gentleman of good parts, and of an ancient family. He communicated his mind to Percy, a deſcendant of the houſe of Northumberland. The latter propoſed to aſſaſſinate the king; but this ſeemed to Cateſby very far from being adequate to their purpoſe. He told Percy, that the king would be ſucceeded by his children, who would alſo inherit his maxims of government. He told him, that even though the whole royal family were deſtroyed, the parliament, nobility, and gentry, who were all infected with the ſame hereſy, would raiſe another Proteſtant prince to the throne. 20 Cateſby's ſpeech. "To ſerve any good purpoſe (ſays he), we muſt deſtroy, at one blow, the king, the royal family, the lords and commons; and bury all our enemies in one common ruin. Happily they are all aſſembled on the firſt meeting of parliament; and afford us the opportunity of glorious and uſeful vengeance. Great preparations will not be requiſite. A few of us may run a mine below the hall, in which they meet; and chuſing the very moment when the king harangues both the houſes, conſign over to deſtruction thoſe determined foes to all piety and religion. Mean while, we ourſelves ſtanding aloof, ſafe and unſuſpected, ſhall triumph in being the inſtruments of divine wrath, and ſhall behold with pleaſure thoſe ſacrilegious walls, in which were paſſed the edicts for proſcribing our church and butchering her children, toſſed into a thouſand fragments; while their impious inhabitants, meditating perhaps ſtill new perſecutions againſt us, paſs from flames above to flames below, there for ever to endure the torments due to their offences."

21 Preparations for the execution of the plot. This terrible ſcheme being approved of, it was reſolved to communicate it to a few more. One Thomas Winter was ſent over to Flanders in queſt of Fawkes, an officer in the Spaniſh ſervice of approved zeal and courage. All the conſpirators were bound by the moſt ſolemn oaths, accompanied with the ſacrament; and to ſuch a degree had ſuperſtition effaced every principle of humanity from their minds, that not one of them ever entertained the ſmalleſt compunction for the cruel maſſacre they were going to commit. Some indeed were ſtartled at the thoughts of deſtroying a number of catholics who muſt neceſſarily be preſent as ſpectators, or attendants on the king, or as having ſeats in the houſe of peers. But Teſmond a Jeſuit, and Garnet ſuperior of that order in England, removed thoſe ſcruples, by ſhowing that the intereſt of religion required in this caſe the ſacrifice of the innocent with the guilty.

This happened in the ſpring and ſummer of 1604; when the conſpirators alſo hired a houſe in Percy's name, adjoining to that in which the parliament was to aſſemble. Towards the end of that year they began to pierce through the wall of the houſe, in order to get in below that where the parliament was to ſit. The wall was three yards thick, and conſequently occaſioned a great deal of labour. At length, however, they approached the other ſide, but were then ſtartled by a noiſe for which they could not well account. Upon inquiry, they found that it came from a vault below the houſe of lords; that a magazine of coals had been kept there; and that the coals were then ſelling off, after which the vault would be let to the higheſt bidder. Upon this the vault was immediately hired by Percy; 36 barrels of powder lodged in it; the whole covered up with faggots and billets; the doors of the cellar boldly flung open; and every body admitted, as if it contained nothing dangerous.

Being now, as they thought, aſſured of ſucceſs, the conſpirators began to plan the remaining part of their enterprize. The king, the queen, and prince Henry, were expected to be preſent at the opening of the parliament. The duke, by reaſon of his tender age, would be abſent, and it was reſolved that Percy ſhould ſeize or murder him. The princeſs Elizabeth, likewiſe a child, was kept at Lord Harrington's houſe in Warwickſhire; and ſome others of the conſpirators engaged to aſſemble their friends on pretence of a hunting match, when they were to ſeize that princeſs, and immediately proclaim her queen. The day ſo long wiſhed for at laſt approached; the dreadful ſecret, tho' communicated to more than 20 perſons, had been religiouſly kept for near a year and an half; and nothing could be foreſeen which could poſſibly prevent the ſucceſs of their deſign. 22 Conſpiracy diſcovered. Ten days before the meeting of parliament, however, lord Monteagle, a catholic ſon to lord Morley, received the following letter, which had been delivered to his ſervant by an unknown hand. "My lord, out of the love I bear to ſome of your friends, I have a care for your preſervation. Therefore I would adviſe you, as you tender your life, to deviſe ſome excuſe to ſhift off your attendance on this parliament. For God and man have determined to puniſh the wickedneſs of this time. And think not ſlightly of this advertiſement; but retire yourſelf into the country, where you may expect the event in ſafety. For tho' there be no appearance of any ſtir, yet, I ſay, they ſhall receive a terrible blow this parliament; and yet they ſhall not ſee who hurts them. This counſel is not to be contemned, becauſe it may do you good, and can do you no harm: for the danger is over as ſoon as you have burned this letter. And I hope God will give you the grace to make good uſe of it, to whoſe holy protection I commend you."—Though Monteagle imagined this letter to be only a ridiculous artifice to frighten him, he immediately carried it to lord Saliſbury, ſecretary of ſtate; who laid it before the king on his arrival in town a few days after.

The king looked upon the letter in a more ſerious light. From the manner in which it was wrote he concluded that ſome deſign was forming to blow up the parliament-houſe with gunpowder, and it was thought adviſeable to ſearch the vaults below. The lord chamberlain, to whom this charge belonged, purpoſely delayed the ſearch till the day before the meeting of parliament. He remarked thoſe great piles of wood and faggots which lay in the vault under the upper-houſe; and caſting his eyes upon Fawkes, who ſtood in a corner and paſſed himſelf for Percy's ſervant, he took notice of that daring and determined courage which was conſpicuous in his face, and ſo much diſtinguiſhed this conſpirator even amongſt the

23 Fawkes ſeized.

the other heroes in villainy that were concerned in the ſcheme. Such a quantity of fuel, alſo, for one who lived ſo little in the town as Percy, appeared ſomewhat extraordinary; and, upon comparing all circumſtances, it was reſolved to make a further ſearch. About midnight, Sir Thomas Knevet, a juſtice of peace, was ſent with proper attendants; and before the door of the vault, finding Fawkes, who had juſt finiſhed all his preparations, he immediately ſeized him, and, turning over the faggots, diſcovered the powder. The matches and every thing proper for ſetting fire to the train were taken in Fawkes's pocket; who ſeeing now no refuge but in boldneſs and deſpair, expreſſed the utmoſt regret that he had loſt the opportunity of firing the powder at once, and of ſweetening his own death by that of his enemies. For two or three days he diſplayed the ſame obſtinate intrepidity; but, being confined in the tower, and the rack juſt ſhown to him, his courage at laſt failed, and he made a full diſcovery of all the conſpirators.

24 Conſpirators puniſhed.

Cateſby, Percy, and the other criminals, on hearing that Fawkes was arreſted, hurried away to Warwickſhire; where Sir Edward Digby, imagining that his confederates had ſucceeded, was already in arms, to ſeize the princeſs Elizabeth. She had eſcaped into Coventry; and they were obliged to put themſelves in a poſture of defence againſt the country-people, who were raiſed from all quarters and armed by the ſheriffs. The conſpirators, with all their attendants, never exceeded the number of 80 perſons; and being ſurrounded on every ſide, could no longer have any hope either of prevailing or eſcaping. Having therefore confeſſed themſelves, and received abſolution, they boldly prepared for death, and reſolved to ſell their lives as dear as poſſible. But even this miſerable conſolation was denied them. Some of their powder took fire, and diſabled them from defending themſelves. The people then ruſhed in upon them. Percy and Cateſby were killed with one ſhot. Digby, Rookwood, Winter, and others, being taken priſoners, were tried, confeſſed their guilt, and died as well as Garnet, by the hands of the common executioner. The lords Stourton and Mordaunt, two catholics, were fined, the former of 4000 *l.* the latter of 10,000 *l.* by the ſtar-chamber; becauſe their abſence from parliament had occaſioned a ſuſpicion of their being made acquainted with the conſpiracy. The earl of Northumberland was fined 30,000 *l.* and detained ſeveral years a priſoner in the tower; becauſe, not to mention other grounds of ſuſpicion, he had admitted Percy into the number of gentlemen penſioners, without his taking the requiſite oaths.

25 James's wiſe conduct in the legiſlation of Ireland.

In 1612, James appears in his moſt advantageous point of view, namely, as legiſlator of Ireland, and the perſon who undertook to civilize the barbarous inhabitants of that kingdom, and to render their ſubjection durable and uſeful to the crown of England. In this work, James proceeded by a ſteady, regular, and well-concerted plan. He began with aboliſhing the ancient Iriſh cuſtoms which ſupplied the place of laws, and which were exceedingly barbarous and abſurd. By the Brehon law, every crime however enormous was puniſhed not with death, but by a fine. Murder itſelf was compenſated in this way. Every one had a value affixed to him, called his *eric;* and whoever was able to pay this, might kill him when he pleaſed. As for ſuch ſlight offences as oppreſſion, extortion, or other things of that nature, no penalty was affixed to them, nor could any redreſs for them ever be obtained. By the cuſtom of *gavelkinde,* upon the death of any perſon, his land was divided among all the males of the ſept or family, both baſtard and legitimate: and after partition made, if any of the ſept died, his portion was not ſhared out among his ſons; but the chieftain at his diſcretion made a new partition of all the lands belonging to that ſept, and gave every one his ſhare: as no man, by reaſon of this cuſtom, enjoyed the fixed property of any land; to build, cultivate, or improve, muſt have been ſo much loſt labour. Their chieftains were eſtabliſhed by election, or, more properly ſpeaking, by force and violence. Their authority was abſolute; and, notwithſtanding certain lands were aſſigned to the office, its chief profit reſulted from exactions, dues, aſſeſſments, for which there was no fixed law, and which were levied at pleaſure.

After aboliſhing theſe cuſtoms, and ſubſtituting Engliſh law in their place; James having taken all the natives under his protection, and declared them free citizens, proceeded to govern them by a regular adminiſtration, military as well as civil. A ſufficient army was maintained, its diſcipline inſpected, and its pay tranſmitted from England, in order to prevent the ſoldiery from preying upon the country, as had been uſual in former reigns. When Odoghartie raiſed an inſurrection, a reinforcement was ſent over, and the rebellion immediately extinguiſhed. All minds being firſt quieted by an univerſal indemnity, circuits were eſtabliſhed, juſtice adminiſtered, and crimes of every kind ſeverely puniſhed. As the Iriſh had been univerſally engaged in a rebellion againſt Elizabeth, a reſignation of all the rights formerly granted them to ſeparate juriſdictions was rigorouſly exacted; a reſignation of private eſtates was even required; and when they were reſtored, the proprietors received them under ſuch conditions as might prevent all future tyranny and oppreſſion over the common people. The whole province of Ulſter having fallen to the crown by the attainder of rebels, a company was eſtabliſhed in London for planting new colonies in that fertile country. The property was divided into moderate ſhares, the largeſt not exceeding 2000 acres: Tenants were brought over from England and Scotland: The Iriſh were removed from the hills and faſtneſſes, and ſettled in the open country: Huſbandry and the arts were taught them; and by theſe means Ulſter, from being the moſt wild and diſorderly province in Ireland, ſoon became the beſt cultivated and civilized.

26 Death of Henry prince of Wales.

This year was alſo remarkable for the death of Henry prince of Wales, who died ſuddenly on the 6th of November, not without ſtrong ſuſpicions of poiſon, for which the king himſelf was blamed. On opening his body, however, no ſymptoms of poiſon appeared; but his death diffuſed an univerſal grief thoughout the nation, he being reckoned a prince of extraordinary accompliſhments.

27 Marriage of the princeſs Elizabeth with the elector palatine.

The marriage of the princeſs Elizabeth with Frederic elector palatine, which was celebrated February 14th 1613, ſerved to diſſipate the grief which had ariſen on account of prince Henry's death. But this marriage, in the event, proved unhappy to the king as well as his ſon-in-law. The elector, truſting to ſo great an alliance, engaged in enterprizes beyond his ſtrength; and James, not being able, and indeed perhaps not willing, to aſſiſt him in his diſtreſs, loſt entirely what remained of the affections of his people.

28
The elector choſen king of Bohemia.

Theſe bad conſequences did not begin to appear till the year 1619. At that time the ſtates of Bohemia having taken arms againſt the emperor Matthias, in defence of the Proteſtant religion, and continued their revolt againſt his ſucceſſor Fredinand II. and being alarmed at his mighty preparations againſt them, made an offer of their crown to the elector palatine. To this they were induced by the greatneſs of his connections, as being ſon-in-law to the king of England, and nephew to prince Maurice, whoſe authority in the United Provinces was almoſt abſolute; and the young palatine ſtimulated by ambition, without conſulting either James or Maurice, whoſe oppoſition he foreſaw, immediately accepted the offer, and marched all his forces into Bohemia, in ſupport of his new ſubjects.

29
Defeated and driven out of his dominions

The affairs of the new king were not long of coming to an unfortunate criſis. It was known almoſt at one time in England, that Frederic being defeated in the great and deciſive battle of Prague, had fled with his family into Holland; and that Spinola the Spaniſh general had invaded the palatinate, where meeting with little reſiſtance, except from one body of 2400 Engliſhmen commanded by the brave Sir Horace Vere, had in a little time reduced almoſt the whole principality. In 1621, the ban of the empire was publiſhed againſt the unfortunate elector, and the execution of it was committed to the duke of Bavaria. The upper palatinate was in a little time conquered by that prince; and meaſures were taken in the empire for beſtowing on him the electoral dignity of which the palatine was deſpoiled. Frederic was now obliged to live with his numerous family, in poverty and diſtreſs, either in Holland, or at Sedan, with his uncle the duke of Bouillon; and the new conqueſts of the catholics throughout all Germany were attended with perſecutions againſt the Proteſtants.

30
Engliſh inſiſt for a war with the houſe of Auſtria.

At this news the religious zeal of the Engliſh was inflamed to the higheſt degree; and they would have plunged headlong into a war with the houſe of Auſtria, without reflecting in the leaſt on the conſequences that might enſue. The ſufferings of their Proteſtant brethren in Germany were the only objects of conſideration, and the neutrality and inactive ſpirit ſhown by James were loudly exclaimed againſt. But though James might have defended his pacific meaſures by very plauſible arguments, it is certain that ſome of his motives were the moſt ridiculous that can be imagined. Such was the opinion that he himſelf entertained of his own wiſdom, that he imagined himſelf capable of diſarming hoſtile nations by dint of argument; and that the whole power of Auſtria, though not awed by the power of England, would ſubmit to his arbitration, merely out of reſpect to his virtue and moderation.—So much alſo he was wedded to his opinion concerning the prerogative of kings, that he imagined, wherever there was a contention between any ſovereign and his ſubjects, the latter behoved always to be in the wrong; and for this reaſon, from the very firſt he had denied his ſon-in-law the title of *king of Bohemia*, and forbad him to be prayed for in the churches under that appellation. Beſides theſe reaſons, James was on another account extremely averſe to come to a rupture with Spain. He had entertained an opinion peculiar to himſelf, which was, that any alliance below that of a king was unworthy a prince of Wales; and he never would allow any princeſs but a daughter of France or Spain to be mentioned as a match for his ſon. This piece of pride, which really implied meanneſs as if he could have received honour from any alliance, gave Spain an opportunity of managing this monarch in his moſt important concerns. With a view to engage him to a neutrality with regard to the ſucceſſion of Cleves, the eldeſt daughter of the king of Spain had been indirectly offered during the life of prince Henry. The bait, however, did not then take; James, in conſequence of his alliance with the Dutch, marched 4000 men to the aſſiſtance of the Proteſtants, by which means the ſucceſſion was ſecured to the Proteſtant line. In 1618, Gondomar the Spaniſh ambaſſador made offer of the king's ſecond daughter to prince Charles; and, that he might render the temptation irreſiſtible to the neceſſitous James, gave hopes of an immenſe fortune that ſhould attend the princeſs. Upon this match James had built great hopes, not only of relieving his own neceſſities, but of recovering the palatinate for his ſon-in-law; which laſt, he imagined, might be procured from the mere motive of friendſhip and perſonal attachment.

31
His ridiculous motives for not aſſiſting his ſon-in-law.

32
He is deſirous of a Spaniſh match for his ſon.

33
Commons averſe to this meaſure.

This laſt ſtep was equally diſagreeable to the commons with the reſt; and, joined to the other pieces of James's conduct, at laſt blew into a flame the contention which had ſo long ſubſiſted between their ſovereign and them. On the 14th of November 1621, the commons framed a remonſtrance which they intended to carry to the king. They repreſented, that the enormous growth of the Auſtrian power threatened the liberties of Europe; that the progreſs of the Catholic religion in England bred the moſt melancholy apprehenſions leſt it ſhould again acquire an aſcendant in the kingdom; that the indulgence of his majeſty towards the profeſſors of that religion had encouraged their inſolence and temerity; that the uncontrouled conqueſts made by the Auſtrian family in Germany raiſed mighty expectations in the Engliſh Papiſts; but above all, that the Spaniſh match elevated them ſo far as to hope for an entire toleration, if not a final reeſtabliſhment, of their religion. They therefore intreated his majeſty, that he would immediately undertake the defence of the palatine, and maintain it by force of arms; that he would turn his ſword againſt Spain, whoſe armies and treaſures were the chief ſupport of the Catholic intereſt in Europe; that he would enter into no negociation for the marriage of his ſon but with a Proteſtant princeſs; that the Children of Popiſh recuſants ſhould be taken from their parents, and committed to the care of Proteſtant teachers and ſchoolmaſters; and that the fines and confiſcations to which the Catholics by law were liable, ſhould be levied with the utmoſt ſeverity.

34
Theyframe a remonſtrance againſt it.

35
Contention between the king and commons.

The king, who was then at Newmarket, hearing of the intended remonſtrance, wrote a letter to the ſpeaker, in which he ſharply rebuked the houſe for debating on matters far above their reach and capacity; and he ſtrictly forbad them to meddle with any thing that regarded his government, or deep matters of ſtate, and eſpecially not to touch on his ſon's marriage with the Spaniſh princeſs. Upon this the commons framed a new remonſtrance, in which they aſſerted their right of debating on all matters of government, and that they poſſeſſed entire freedom of ſpeech in their debates. The king replied, that their remonſtrance was more like a denunciation of war, than an addreſs of dutiful ſubjects; that their pretenſion to enquire into all ſtate affairs without exception, was ſuch a plenipotence as none of their anceſtors, even during the reign of the weakeſt princes, had ever pretended to; that public tranſactions depended on a complication of views and intelligence, with which they were entirely unacquainted; that they could not better ſhow their wiſdom, as well as duty, than by keeping within their proper ſphere; and that in any buſineſs which depended on his prerogative, they had no title to interpoſe with their advice, unleſs when he pleaſed to aſk it, &c. The commons in return framed the proteſtation already mentioned, which the king tore out of their journals, and ſoon after diſſolved the parliament. The leading members of the houſe, Sir Edward Coke and Sir Robert Philips, were committed to the tower: three others, Selden, Pym, and Mallory, to other priſons; and, as a lighter puniſhment, ſome others were ſent into Ireland to execute the king's buſineſs. Sir John Saville, however, a powerful man in the houſe of commons, and a zealous oppoſer of the court, was made comptroller of the houſehold, a privy counſellor, and ſoon after a baron. This event is memorable; as being the firſt inſtance in the Engliſh hiſtory, of any king's advancing a man on account of parliamentary intereſt, and of oppoſition to his meaſures.

36
Origin of the factions of whig and tory.

This breach between the king and parliament ſoon made politics become a general ſubject of diſcourſe, and every man began to indulge himſelf in reaſonings and enquiries concerning matters of ſtate; and the factions which commenced in parliament were propagated throughout the nation. In vain did James, by reiterated proclamations, forbid diſcourſes of this kind. Such proclamations, if they had any effect, ſerved rather to inflame the curioſity of the public. In every company or ſociety the late tranſactions became the ſubject of argument and debate; ſome taking the ſide of monarchy, others of liberty; and this was the origin of the two parties ſince known by the names of *Whigs* and *Tories*.

27
James gains the favour of the court of Spain.

For five years, James continued the dupe of the court of Spain. Though firmly reſolved to contract no alliance with a heretic, the king of Spain had continued to procraſtinate and invent one excuſe after another, while he pretended to be very willing to conclude the match. At laſt the king of England, finding out what was really the matter, reſolved to remove that obſtacle if poſſible. He iſſued public orders for diſcharging all Popiſh recuſants who were impriſoned; and it was daily apprehended that he would forbid, for the future, the execution of the penal laws againſt them. For this conduct he was obliged to apologize, and even pretend that it was done in order to procure from foreign princes a toleration for the Proteſtants; the ſeverity of the Engliſh laws againſt catholics, he ſaid, having been urged as a reaſon againſt ſhowing any favour to Proteſtants reſiding in catholic kingdoms.

38
Marriage with the infanta agreed upon.

Theſe conceſſions in favour of the catholics, however ill reliſhed by his ſubjects, at laſt obtained James's end with regard to the marriage. The earl of Briſtol, ambaſſador at the court of Spain, a miniſter of vigilance and penetration, and who had formerly oppoſed the alliance with catholics, being now fully convinced of the Spaniſh ſincerity, was ready to congratulate the king on the completion of his projects. The Spaniſh princeſs is repreſented as very accompliſhed; ſhe was to bring with her a fortune of L. 600,000; and, what was more, not only Briſtol conſidered this match as an infallible prognoſtic of the palatine's reſtoration, but the Spaniards themſelves did the ſame. All things being therefore agreed upon between the parties, nothing was wanting but the diſpenſation from Rome, which might be conſidered as a matter of mere formality. The king exulted in his pacific counſels, and boaſted of his ſuperior ſagacity and penetration; when all his flattering proſpects were blaſted by the temerity of the duke of Buckingham, who governed both court and nation with almoſt unlimited ſway.

39
Prince Charles and Buckingham reſolve on a journey into Spain.

40
Their kind reception in that kingdom.

This nobleman had ſuddenly been raiſed to the higheſt honours. Though poſſeſſed of ſome accompliſhments of a courtier, he was utterly devoid of every talent of a miniſter; but at once partook of the inſolence which attends a fortune newly acquired, and the impetuoſity which belongs to perſons born in high ſtations, and unacquainted with oppoſition. Among thoſe who had experienced the arrogance of this overgrown favourite, the prince of Wales himſelf had not been entirely ſpared; and a great coldneſs, if not enmity, had for that reaſon taken place between them. Buckingham being deſirous of putting an end to this coldneſs, and at the ſame time envious of the great reputation of the earl of Briſtol, perſuaded the prince to undertake a journey to Madrid; which, he ſaid, would be an unexpected gallantry; would equal all the fictions of Spaniſh romance; and, ſuiting the amorous and enterpriſing character of that nation, muſt immediately introduce him to the princeſs under the agreeable character of a devoted lover and daring adventurer. Little perſuaſion was neceſſary to prevail with prince Charles to undertake this journey; and the impetuoſity of Buckingham having extorted a conſent from James, our two adventurers ſet out, prince Charles as the knight-errant, and Buckingham as the ſquire. They travelled through France in diſguiſe, aſſuming the names of Jack and Tom Smith. They went to a ball at Paris, where the Prince firſt ſaw the princeſs Henrietta whom he afterwards married, who was then in the bloom of youth and beauty, and with whom the noveliſts of that time ſay he then fell in love. On their arrival at Madrid, every body was ſurpriſed by a ſtep ſo little uſual among great princes. The Spaniſh monarch made Charles a viſit, expreſſed the utmoſt gratitude for the confidence he repoſed in him, and made warm proteſtations of a correſpondent confidence and friendſhip. He gave him a golden key which opened all his apartments, that the prince might without any introduction, have acceſs to him at all hours: he took the left hand of him on every occaſion, except in the apartment aſſigned to Charles; for there, he ſaid, the prince was at home: Charles was introduced into the palace with the ſame pomp and ceremony which attend the kings of Spain on their coronation: the council received public orders to obey him as the king himſelf: Olivarez too, the prime miniſter, though a grandee of Spain, who has the right of being covered before his own king, would not put on his hat in the prince's preſence: all the priſons of Spain were thrown open, and all the priſoners received their freedom, as if an event the moſt honourable and moſt fortunate had happened to the monarchy; and every ſumptuary law with regard to apparel was ſuſpended during prince Charles's reſidence in Spain. The infanta, however, was only ſhown to her lover in public; the Spaniſh ideas of decency being ſo ſtrict, as not to allow any farther intercourſe till the arrival of the diſpenſation. The point of honour was carried ſo far by theſe generous people, that no attempt was made, on account of the advantage they had acquired by having the prince of Wales in their power, to impoſe any harder conditions of treaty: their pious zeal only prompted them on one occaſion to deſire more conceſſions in the religious articles; but, on the oppoſition of Briſtol, they immediately deſiſted. The Pope, however, hearing of Charles's arrival in Madrid, tacked ſome new clauſes to the diſpenſation; and it became neceſſary to tranſmit the articles to London, that the king might ratify them.

41
Articles of the marriage treaty

This treaty, which was made public, conſiſted of ſeral articles chiefly regarding the exerciſe of the catholic religion by the infanta; and, among theſe, nothing could reaſonably be found fault with, except one article, in which the king promiſed that the children ſhould be educated by the princeſs till they were ten years of age; which undoubtedly was inſiſted upon with a view of ſeaſoning their minds with catholic principles. But, beſides this public treaty, there were ſome private articles ſworn to by James, which could not have been made public without grievous murmurs. A ſuſpenſion of the penal laws againſt the Engliſh catholics was promiſed, as likewiſe a repeal of them in parliament, and a toleration for the exerciſe of that religion in private houſes. Meanwhile Gregory XV. who granted the diſpenſation, died; and Urban VIII. was choſen in his place. Upon this event, the nuncio refuſed to deliver the diſpenſation till it ſhould be renewed by Urban. This the crafty pontiff delayed, in hopes that, during the prince's reſidence in Spain, ſome expedient might be fallen upon to effect his converſion.

42
The prince returns.

The king of England, as well as the prince, became impatient: but, on the firſt hint, Charles obtained leave to return; and Philip graced his departure with all the circumſtances of civility and reſpect which had attended his arrival. He even erected a pillar on the ſpot where they took leave of each other, as a monument of mutual friendſhip; and the prince, having ſworn to the obſervance of all the articles, embarked on board the Engliſh fleet at St Andero.

The modeſt, reſerved and decent behaviour of Charles, together with his unparalleled confidence in them, and the romantic gallantry he had practiſed with regard to their princeſs, had endeared him to the whole court of Madrid. But in the ſame proportion that Charles was beloved and eſteemed, was Buckingham deſpiſed and hated. His ſallies of paſſion; his indecent freedoms with the prince; his diſſolute pleaſures: his arrogant impetuous temper, which he neither could nor would diſguiſe; were to the Spaniards the objects of peculiar averſion. They lamented the infanta's fate, who muſt be approached by a man whoſe temerity ſeemed to reſpect no laws divine or human.

43
Buckingham prevails on him to reſolve againſt the marriage.

Buckingham, on the other hand, ſenſible how odious he was become to the Spaniards, and dreading the influence which that nation would naturally acquire after the arrival of the infanta, reſolved to employ all his credit in order to prevent the marriage. By what arguments he could prevail on the prince to offer ſuch an inſult to the Spaniſh nation, from whom he had received ſuch generous treatment; by what colours he could diſguiſe the ingratitude and imprudence of ſuch a meaſure; theſe are totally unknown to us: certain it is, however, that when the prince left Madrid, he was firmly determined, in oppoſion to his moſt ſolemn promiſes, to break off the treaty with Spain. On their arrival at London, therefore, the prince and Buckingham aſſumed the entire direction of the negociation; and it was their buſineſs to ſeek for pretences by which they could give a colour to their intended breach of treaty. At laſt, after many fruitleſs artifices were employed to delay or prevent the eſpouſals, Briſtol received poſitive orders not to deliver the proxy which had been left in his hands, or to finiſh the marriage, till ſecurity was given for the full reſtitution of the palatinate.

44
Philip obliges himſelf to procure the reſtitution of the palatinate.

Philip underſtood this language: but being determined to throw the whole blame of the rupture on the Engliſh, he delivered into Briſtol's hand a written promiſe, by which he bound himſelf to procure the reſtoration of the palatine either by perſuaſion or by every other poſſible means; and when he found that this conceſſion gave no ſatisfaction, he ordered the infanta to lay aſide the title of *Princeſs of Wales*, which ſhe bore after the arrival of the diſpenſation from Rome, and to drop the ſtudy of the Engliſh language; and as he knew that ſuch raſh counſels as now governed the court of England would not ſtop at the breach of the marriage-treaty, he immediately ordered preparations for war to be made throughout all his dominions.

45
Match with Henrietta princeſs of France.

A match for prince Charles was ſoon after negociated with Henrietta, daughter of the great Henry IV. and this met with much better ſucceſs than the former. However, the king had not the ſame allurements in proſecuting this match as the former, the portion promiſed him being much ſmaller; but, willing that his ſon ſhould not be altogether diſappointed of a bride, as the king of France demanded only the ſame terms that had been offered to the court of Spain, James thought proper to comply. In an article of this treaty of marriage, it was ſtipulated, that the education of the children till the age of 13 ſhould belong to the mother; and this probably gave that turn towards popery which has ſince proved the ruin of the unfortunate family of Stuart.

46
War declared againſt Spain.

James now, being deprived of every other hope of relieving his ſon-in-law but by force of arms, declared war againſt Spain and the emperor, for the recovery of the palatinate; 6000 men were ſent over into Holland to aſſiſt prince Maurice in his ſchemes againſt thoſe powers; the people were every where elated at the courage of their king, and were ſatiſfied with any war which was to exterminate the Papiſts.

47
Unſucceſsful expedition of count Mansfeldt.

This army was followed by another conſiſting of 12,000 men, commanded by count Mansfeldt; and the court of France promiſed its aſſiſtance. But the Engliſh were diſappointed in all their views, the troops being embarked at Dover, upon ſailing to Calais, found no orders for their admiſſion. After waiting for ſome time, they were obliged to ſail towards Zealand, where no proper meaſures were yet conſulted for their diſembarkation. Mean while, a peſtilential diſorder crept in among them, ſo long cooped up in narrow veſſels: half the army died while on board; and the other half, weakened by ſickneſs, appeared too ſmall a body to march into the palatinate; and thus ended this ill-concerted and fruitleſs expedition.

48 Death of king James.

Whether this miſfortune had any effect on the king's conſtitution or not, is uncertain; but he was ſoon after ſeized with a tertian ague, which put an end to his life on the 27th of March 1695, after having lived 59 years, and reigned over England 22, and over Scotland almoſt as long as he had lived.

49 Succeeded by his ſon Charles I.

50 His affection for his people.

James was ſucceeded by his ſon Charles I. who aſcended the throne amidſt the higheſt praiſes and careſſes of his ſubjects for what was perhaps the moſt blame-worthy action of his life, namely, his breaking off the match with the Spaniſh princeſs, and procuring the rupture with the houſe of Auſtria. Being young and unexperienced, he regarded theſe praiſes as ſincere; and therefore was ſo impatient to aſſemble the great council of the nation, that he would gladly, for the ſake of diſpatch, have called together the ſame parliament which ſat under his father, and which lay at that time under prorogation. But being told that ſuch a meaſure would appear unuſual, he iſſued writs for ſummoning a new parliament on the 7th of May; and it was not without regret that the arrival of the princeſs Henrietta, whom he had eſpouſed by proxy, obliged him to delay, by repeated prorogation, their meeting till the 18th of June, when they aſſembled at Weſtminſter for the diſpatch of buſineſs.

51 His character.

Charles inherited from his father great diſtreſs for money, very high notions of the royal prerogative, and a violent attachment to epiſcopacy. As to his character, he ſeems to have been obſtinate, though not reſolute; and therefore, though it was ſcarce ever poſſible to make him give up his point, he never could carry on his deſigns with that ſpirit which was neceſſary for their ſucceſs. In other reſpects he appears to have poſſeſſed every virtue requiſite to conſtitute the character of a good man. At preſent believing his ſubjects to be in perfect friendſhip with him as he was with them, he reſolved that their bounty to him ſhould be entirely unaſked, and the genuine effect of mutual confidence and regard.

52 His firſt ſpeech to his parliament.

Accordingly his diſcourſe to the parliament was full of ſimplicity and cordiality; he lightly mentioned the occaſion he had for ſupply. He employed no intrigue to influence the ſuffrages of the members. He would not even allow the officers of the crown, who had ſeats in the houſe, to mention any particular ſum which he had occaſion for; but truſted entirely to the wiſdom and affection of his parliament, who perfectly well knew his circumſtances.

53 Their ſcandalous proceedings.

It is almoſt impoſſible to read without indignation an account of the return made by the commons to this generous behaviour of their ſovereign. They knew that all the money granted by the laſt parliament had been expended on military and naval preparations; and that great anticipations were likewiſe made on the revenues of the crown. They were not ignorant that Charles was loaded by a debt contracted by his father, who had borrowed money both from foreign princes, and from his own ſubjects. They had learned by experience, that the public revenues could with difficulty maintain the dignity of the crown, even under the ordinary charges of government. They were ſenſible that the preſent war was, very lately, the reſult of their own importunate applications and intreaties, and that they had ſolemnly engaged to ſupport their ſovereign in the management of it. They were acquainted with the difficulty of military enterprizes directed againſt the whole houſe of Auſtria; againſt the king of Spain, poſſeſſed of the greateſt riches and moſt extenſive dominions of any prince in Europe; againſt the Emperor Ferdinand, hitherto the moſt fortunate monarch of the age, who had ſubdued, and aſtoniſhed Germany by the rapidity of his victories. Deep impreſſions they ſaw muſt be made by the Britiſh ſword, and a vigorous offenſive war be waged againſt theſe mighty potentates, ere they would reſign the palatinate, which they had now fully ſubdued, and which they held in ſecure poſſeſſion by its being ſurrounded with all their other territories. To anſwer, therefore, all theſe great and important ends; to ſatisfy their young king in the firſt requeſt he made them; to prove their ſenſe of the many royal virtues, particularly œconomy, with which Charles was endued; the commons thought proper to confer on the king a ſupply of L.112,000. To ſearch for the reaſons of ſuch an extravagant piece of conduct would be needleſs; it is impoſſible they could be good.

It is not to be ſuppoſed that Charles, or any perſon of common ſenſe, could be inſenſible of ſuch treatment as this; he behaved, however, with great moderation. He repreſented in the moſt explicit manner the neceſſity there was for a large ſupply: he even condeſcended to uſe intreaties: he ſaid that this requeſt was the firſt he had ever made them; that he was young, and in the commencement of his reign; and if he now met with kind and dutiful uſage, it would endear him to the uſe of parliaments, and would for ever preſerve an entire harmony between him and his people.—To theſe reaſons and intreaties, the commons remained inexorable; they even refuſed the addition of two-fifteenths to the former ſupply. Inſtead of this, they renewed their ridiculous complaints againſt the growth of popery, which was now their only grievance. They ſhowed their intolerant ſpirit by demanding a ſtrict execution of the penal laws againſt the catholics; and remonſtrated againſt ſome late pardons granted to prieſts. They attacked Montague, one of the king's chaplains, on account of a moderate book which he had lately compoſed, and which, to their great diſguſt, ſaved virtuous catholics; as well as other Chriſtians from eternal torments.

54 King's reſolution to favour the Catholics.

Charles gave them a gracious and complaiſant anſwer; but firmly reſolved to abate ſomewhat of the rigorous laws againſt that unfortunate party, which his engagements with France abſolutely required. No meaſure, however, throughout the whole reign of this prince, was more diſguſtful to his bigotted ſubjects, or by its conſequences more fatal to himſelf, than this reſolution. The Puritans had continued to gain ground during the whole reign of James, and now formed the majority of the houſe of commons; in conſequence of which, petitions were preſented to the king for replacing ſuch *able* clergymen as had been ſilenced for want of conformity to the ceremonies. They alſo enacted laws for the ſtrict obſervance of Sunday, which they affected to call the *ſabbath*, and which they ſanctified with the moſt melancholy indoleence; and it is worthy of notice, that the different appellations of *Sunday* and *ſabbath* were at that time known ſymbols of the different parties.—In conſequence of this behavior in Charles's firſt parliament, it was diſſolved on the 12th of Auguſt 1625, and a new one called on February 16th 1626.

55
Parliamet diſſolved.

56
His ſcheme to raiſe money.

During this interval Charles had been obliged to borrow from his ſubjects on privy-ſeals; the advantage of which was but a ſmall compenſation for the diſguſt it occaſioned. By means, however, of that ſupply, and ſome other expedients, he was enabled to equip his fleet, though with difficulty. It was deſigned againſt Spain, but performed nothing worth notice, and its bad ſucceſs increaſed the clamours againſt the court.

57
Proceedings of his ſecond parliament.

Charles's ſecond parliament immediately adopted the ſame views with the former; however, they voted him a ſupply of three ſubſidies (L.168,000), and three fifteenths; but the paſſing this vote into a law was reſerved until the end of the ſeſſion, that in the mean time they might have an opportunity of forcing the king to make what conceſſions they pleaſed. This harſh and undutiful conduct was greatly reſented by Charles; but he found himſelf obliged to ſubmit, and wait the event with patience. In the mean time they attacked the duke of Buckingham, who was become generally obnoxious; and he was alſo impeached by the earl of Briſtol, on account of his conduct with regard to the Spaniſh negociation. The earl's impeachment, however, was entirely overlooked, and the commons were able to prove nothing otherwiſe of any conſequence againſt him. The king imagining that Buckingham's greateſt crime was the having been ſo much in favour with his ſovereign, commanded the houſe expreſsly not to meddle with his miniſter and ſervant, but to finiſh in a few days the bill they had begun for the ſubſidies; otherwiſe they muſt expect to ſit no longer.

58
The commons diſguſted.

Suggeſtions of this kind had a bad effect; and when the king proceeded further to throw into priſon two members of the houſe who had managed the impeachment againſt Buckingham, the commons declared that they would proceed no further in buſineſs till they had ſatisfaction in their privileges. Charles alleged as the reaſon of this meaſure, certain ſeditious expreſſions, which, he ſaid, had, in their accuſation of the duke, dropped from theſe members. Upon inquiry it appeared that no ſuch expreſſions had been uſed, and the members were accordingly releaſed. Soon after, the houſe of lords, moved by the example of the commons, claimed liberty for the earl of Arundel, who had been lately confined in the tower; and after many fruitleſs evaſions the king was obliged, though ſomewhat ungracefully, to comply.

The next attack made by the commons would have proved deciſive, had it ſucceeded, and would have reduced the king to an abſolute dependence on his parliament. They were preparing a remonſtrance againſt the levying of tonnage and poundage without the conſent of parliament. This article, together with the new impoſitions laid on merchandize by James, conſtituted near one-half of the crown revenues; and after having gained this point, they were to petition the king, which then would have been the ſame thing with commanding him, to remove Buckingham from his preſence and councils. The king, however, being alarmed at the yoke they were preparing for him, diſſolved his parliament a ſecond time, June 15, 1626.

59
Parliament diſſolved.

Charles having thus made ſuch a breach with his parliament as there was no hopes of repairing, was obliged to have recourſe to the exerciſe of every branch of his prerogative in order to ſupply himſelf with money. A commiſſion was openly granted to compound with the catholics, and agree for diſpenſing with the penal laws enacted againſt them; and by this expedient the king, indeed, filled his coffers, but gave univerſal diſguſt to his ſubjects From the nobility he deſired aſſiſtance: from the city he required a loan of L.100,000. The former contributed ſlowly: but the latter, covering themſelves under many pretences and excuſes, gave at laſt a flat denial. In order to equip a fleet, a diſtribution by order of the council was made to all the maritime towns; and each of them was required, with the aſſiſtance of the adjacent counties, to arm as many veſſels as were appointed them. The city of London was rated at 20 ſhips: and this is the firſt appearance, in Charles's reign, of ſhip-money; a taxation which had once been impoſed by Elizabeth, but which, when carried ſome ſteps farther by Charles, produced the moſt violent diſcontents.—Theſe methods of ſupply were carried on with ſome moderation, till news arrived of the king of Denmark being totally defeated by count Tilly the Imperial general; but money then becoming more than ever neceſſary, it was ſuggeſted in council, that the moſt ſpeedy, equal, and convenient method of ſupply was by a general loan from the ſubject, according as every man was aſſeſſed in the rolls of the laſt ſubſidy. That preciſe ſum was required which each would have paid, had the vote of four ſubſidies been paſſed into a law: care, however, was taken, that the ſums thus exacted were not to be called ſubſidies but loans; but it was impoſſible to avoid obſerving, that thus the liberty of the ſubject was entirely deſtroyed, and all parliaments rendered at once ſuperfluous.

60
Ship-money.

61
A general loan required.

Many people throughout England refuſed theſe loans, and ſome were even active in encouraging their neighbours to inſiſt upon their common rights and privileges. By warrant of the council, theſe were thrown into priſon. Moſt of them patiently ſubmitted to confinement, or applied by petition to the king, who commonly releaſed them. Five gentlemen, however, Sir Thomas Darnel, Sir John Corbet, Sir Walter Earl, Sir John Heweningham, and Sir Edmond Hambden, demanded releaſe, not as a favour from the court, but as their due by the laws of their country. No particular cauſe was aſſigned for their commitment. The ſpecial command of the king and council alone was pleaded. And it was alleged, that by law this was not ſufficient reaſon for refuſing bail or releaſement to the priſoners The queſtion was brought to a ſolemn trial before the court of king's bench; and the whole kingdom was attentive to the iſſue of the cauſe. By the debates on this ſubject it appeared, that perſonal liberty had been ſecured by no leſs than ſix different ſtatutes, and by an article in magna charta itſelf. It appeared, that, in times of turbulence and ſedition, the princes infringed upon theſe laws; and of this alſo many examples were produced. The difficulty then lay

62
Five gentlemen reſolve to ſtand trial.

to determine when ſuch violent meaſures were neceſſary; but of that the court pretended to be the ſupreme judge. As it was legal, therefore, that theſe five gentlemen ſhould plead the ſtatute, by which they might demand bail, ſo it was expedient in the court to remand them to priſon, without determining on the neceſſity of taking bail for the preſent. This was a cruel evaſion of juſtice; and, in fact, ſatisfied neither party. The court inſiſted that no bail could be taken; the country exclaimed that the priſoners ought to be ſet free.

63
War declared againſt France.

While the king was thus embroiled with his parliament at home, and with powerful nations abroad, he raſhly engaged in a war with France, a kingdom with which he had but lately formed the moſt natural alliance. All hiſtorians agree that this war proceeded from the rivalſhip of the duke of Buckingham and cardinal Richelieu; both of whom were in love with the queen of France; and an inveterate enmity being thus produced between theſe favourites, they reſolved to involve their reſpective nations in the diſpute. However this be, war was declared againſt France; and Charles was taught to hope, that hoſtilities with that kingdom would be the ſureſt means of procuring tranquillity at home.—

64
Bad ſucceſs of Buckingham.

The ſucceſs of this war was proportionable to the wiſdom with which it was commenced. Buckingham was appointed commander; and he being entirely unacquainted both with ſea and land ſervice, managed matters ſo ill, that he loſt two-thirds of his army, and returned in total diſcredit both as an admiral and general.

The diſcontents in England now roſe to ſuch an height, that there was reaſon to apprehend an inſurrection or rebellion. Charles was alſo reduced to the greateſt diſtreſs for want of money. That which he had levied by virtue of his prerogative came in very ſlowly, and it was dangerous to renew the experiment, on account of the ill humour of the nation in general.

65
A third parliament called.

A third parliament therefore was called, March 17th 1628; whom Charles plainly told at the beginning of the ſeſſion, that "if they ſhould not do their duties, in contributing to the neceſſities of the ſtate, he muſt, in diſcharge of his conſcience, uſe thoſe other means which God had put into his hands, in order to ſave that which the follies of ſome particular men might otherwiſe put in danger." This parliament behaved in a much more reaſonable manner than either of the two former ones. The nation was now really aggrieved by the late arbitrary proceedings. They began with voting againſt arbitrary impriſonments and forced loans; after which, five ſubſidies (280,000*l.*) were voted to the king. With this ſum, though much inferior to his wants, Charles declared himſelf well ſatisfied; and even tears of affection ſtarted in his eye when informed of this conceſſion: the commons, however, reſolved not to paſs this vote into a law, before they had obtained from the king a ſufficient ſecurity that their liberties ſhould be no longer violated as they had formerly been.

66
Petition of right framed.

They reſolved to frame a law, which they were to call a *petition of right*, in which they ſhould collect all the arbitrary exertions of the prerogative which Charles had expoſed to their view, and theſe they were to aſſault at once by their petition. The grievances now complained of were, forced loans, benevolences, taxes without conſent of parliament, arbitrary impriſonments, billeting ſoldiers, and martial law. They pretended not, as they affirmed, to any unuſual power of privileges; nor did they intend to infringe the royal prerogative in any reſpect: they aimed only at ſecuring thoſe rights and privileges derived from their anceſtors.

67
Duplicity of the king.

The king, on his part, now began plainly to ſhow, that he aimed at nothing leſs than abſolute power. This reaſonable petition he did his utmoſt to evade, by repeated meſſages to the houſe, in which he always offered his royal word that there ſhould be no more infringements on the liberty of the ſubject. Theſe meſſages, however, had no effect on the commons: they knew how inſufficient ſuch promiſes were, without further ſecurity; and therefore the petition at laſt paſſed both houſes, and nothing was wanting but the royal aſſent to give it the force of a law. The king accordingly came to the houſe of peers, ſent for the commons, and being ſeated in the chair of ſtate, the petition was read to him. In anſwer to it, he ſaid, "The king willeth, that right be done according to the laws and cuſtoms of the realm, and that the ſtatutes be put into execution; that his ſubjects may have no cauſe to complain of any wrong or oppreſſion contrary to their juſt rights and liberties, to the preſervation whereof he holds himſelf in conſcience as much obliged as of his own prerogative."

This equivocal anſwer was highly reſented. The commons returned in very ill humour. Their indignation would undoubtedly have fallen on the unfortunate catholics, had not their petition againſt them already received a ſatisfactory anſwer. To give vent to their preſent wrath, therefore, they fell on Dr Manwaring, who had preached a ſermon, and, at the ſpecial command of the king, printed it; which was now found to contain doctrines ſubverſive of all civil liberty. It taught, that though property was commonly lodged in the ſubject, yet, whenever any exigency required ſupply, all property was transferred to the ſovereign; that the conſent of parliament was not neceſſary for the impoſition of taxes; and that the divine laws required compliance with every demand, however irregular, which the prince ſhould make upon his ſubjects. For theſe doctrines Manwaring was ſentenced to be impriſoned during the pleaſure of the houſe; to be fined 1000*l.* to the king; make ſubmiſſion and acknowledgement for his offence; be ſuſpended three years; be incapable of holding any eccleſiaſtical dignity or ſecular office; and that his book be called in and burnt. No ſooner, however, was the ſeſſion ended, than Manwaring received a pardon, and was promoted to a living of conſiderable value. Some years afterwards he was promoted to the ſee of St Aſaph.

68
He at laſt gives his aſſent to the petition.

At laſt, the king, ſeeing it was impoſſible to carry his point, yielded to the importunities of parliament. He came to the houſe of peers, and pronouncing the uſual form of words, "Let it be law as is deſired," gave full ſanction and authority to the petition. The houſe reſounded with acclamations, and the bill for five ſubſidies immediately paſſed.

The commons, however, were not yet ſatisfied; they began again to attack Buckingham, againſt whom they were implacable; they alſo aſſerted, that the levying of tonnage and poundage without conſent of parliament was a palpable violation of the ancient liberties of the people, and an open infringement of the petition of right ſo lately granted.

69
Parliament prorogued.

The king, in order to prevent a remonmonſtrance on that ſubject, ſuddenly prorogued the parliament, on June 26th, 1628.

70
Buckingham murdered.

The commons ſoon got rid of their enemy Buckingham; who was murdered, on the 23d of Auguſt this ſame year, by one Felton who had formerly ſerved under him as a lieutenant. The king did not appear much concerned at his death, but retained an affection for his family throughout his whole lifetime. He deſired alſo that Felton might be tortured, in order to extort from him a diſcovery of his accomplices; but the judges declared, that though that practice had been formerly very common, it was altogether illegal.

71
Contentions about tonnage and poundage.

In 1629, the uſual contentions between the king and his parliament continued. The great article on which the commons broke with their ſovereign, and which finally created in him a diſguſt at all parliaments, was their claims with regard to tonnage and poundage. The diſpute was, whether this tax could be levied without conſent of parliament or not. Charles, ſupported by multitudes of precedents, maintained that it might; and the parliament, in conſequence of their petition of right, aſſerted that it could not. The commons were reſolved to ſupport their rights: and the diſputes concerning tonnage and poundage went hand in hand with ſome theological controverſies; particularly concerning Arminianiſm, which the Puritans, who now formed the majority of the nation, oppoſed with the greateſt violence; and which conſequently crept in among thoſe who profeſſed epiſcopacy, where it hath ſtill maintained its ground more than in any other party.

The commons began with ſummoning before them the officers of the cuſtom-houſe, to give an account by what authority they had ſeized the goods of thoſe merchants who had refuſed to pay the duties of tonnage and poundage. The barons of exchequer were queſtioned with regard to their decrees on that head. The ſheriff of London was committed to the Tower for his activity in ſupporting the officers of the cuſtom-houſe. The goods of Rolles, a merchant, and member of the houſe, being ſeized for his refuſal to pay the duties, complaints were made of this violence, as if it were a breach of privilege. Charles, on the other hand, ſupported his officers in all theſe meaſures, and the quarrel between him and the commons became every day higher. Sir John Elliot framed a remonſtrance againſt tonnage and poundage, which he offered to the clerk to read; but it was refuſed, and he then read it himſelf. The queſtion being called for, Sir John Finch the ſpeaker ſaid, that he had a command from the king to adjourn, and to put no queſtion; upon which he roſe and left the chair. The whole houſe was in an uproar; the ſpeaker was puſhed back into the chair, and forcibly held in it, till a ſhort remonſtrance was formed, which was inſtantaneouſly paſſed by almoſt univerſal acclamation. Papiſts and Arminians were now declared capital enemies to the commonwealth. Thoſe who levied tonnage and poundage were branded with the ſame epithet. And even the merchants, who ſhould voluntarily pay theſe duties, were declared betrayers of Engliſh liberty, and public enemies. The doors being locked, the gentleman-uſher of the houſe of lords, who was ſent by the king, could get no admittance till this remonſtrance was finiſhed. By the king's order he took the mace from the table, which put an end to their proceedings, and on the 10th of March the parliament was diſſolved. Some of the members were impriſoned and fined; but this ſeverity ſerved only to increaſe the general diſcontent, and point out the ſufferers as proper leaders for the popular party.

72
Parliament diſſolved.

73
Peace with France and Spain.

Charles being now diſguſted with parliaments, reſolved to call no more; but finding himſelf deſtitute of reſources, was obliged to make peace with the two powers with which he was at war. A treaty was ſigned with France on the 14th of April, and another with Spain on the 5th of November 1630, by which Charles bound himſelf to obſerve a neutrality with regard to the affairs on the continent. His conduct to his ſubjects cannot now appear entirely blameleſs, nor the general diſcontent altogether without foundation. As if, however, he had reſolved to ruin himſelf, and to loſe the ſmall degrees of affection which remained among his ſubjects, Charles now began to ſet about making innovations in religion. Archbiſhop Laud had obtained a prodigious aſcendency over the king; and, by his ſuperſtitious attachment to fooliſh ceremonies, led him into a conduct that proved fatal to himſelf and to the kingdom in general. The humour of the nation ran at that time in a channel perfectly the reverſe of ſuperſtition. The ancient ceremonies which had been ſanctified by the permiſſion and practice of the firſt reformers, could ſcarce be retained in divine ſervice. Laud choſe this time, of all others the moſt improper, for renewing the ceremonies of the fourth and fifth century, when the Chriſtian church, as is well known, was ſunk into thoſe ſuperſtitions which were afterwards continued and augmented by the policy of the church of Rome. So openly were theſe tenets eſpouſed, that not only the diſcontented Puritants believed the church of England to be relapſing faſt into the Romiſh ſuperſtition, but the court of Rome itſelf entertained hopes of regaining its authority in this iſland. To forward Laud's good intentions, an offer was twice made him, in private, of a cardinal's hat; which he declined accepting. His anſwer was (as he ſays himſelf), that "ſomething dwelt within him which would not ſuffer his compliance, till Rome was other than it is." It muſt be confeſſed, however, that though Laud deſerved not the appellation of a *Papiſt*, the genius of his religion was, though in a leſs degree, the ſame with that of the Romiſh. The ſame profound reſpect was exacted to the ſacerdotal character; the ſame ſubmiſſion to the creeds and decrees of ſynods and councils required; the ſame pomp and ceremony was affected in worſhip; and the ſame ſuperſtitious regard to days, poſtures, meats, and veſtments. Orders were given, and rigorouſly inſiſted on, that the communion-table ſhould be removed from the middle of the area where it had hitherto ſtood in all churches except cathedrals. It was placed at the eaſt end, railed in, and denominated an *altar*; as the clergyman who officiated commonly received the appellation of *prieſt*. All kinds of ornaments, eſpecially pictures, were introduced. Some of theſe, upon inquiry, were found to be the very ſame that were to be met with in the maſs-book. The crucifix too, that perpetual conſolation of all pious Catholics, and terror to all ſound Proteſtants, was not forgot on this occaſion.

74
The king attempts to introduce new religious ceremonies.

In return for Charles's indulgence towards the church, Laud and his followers took care to magnify on every occaſion the regal authority, and to treat with the utmoſt diſdain or deteſtation all puritanical pretenſions to a free and independent conſtitution. From this ſubjection, however, they took care to exclude themſelves, and inſiſted upon a divine and apoſtolical charter in preference to a legal and parliamentary one. The ſacerdotal character was magnified as ſacred and indefeaſible; all right to ſpiritual authority, or even to private judgment in ſpiritual ſubjects, was refuſed to profane laymen: eccleſiaſtical courts were held by biſhops in their own name, without any notice taken of the king's authority: and Charles, though extremely jealous of every claim in popular aſſemblies, ſeemed rather to encourage than repreſs thoſe encroachments of his clergy.

75
His arbitrary and unpopular government.

The principles which exalted prerogative were put in practice during the whole time that Charles ruled without parliaments. He wanted money for the ſupport of government; and he levied it, either by the revival of obſolete laws, or by violation of the privileges. Though humane and gentle in his nature, he gave way to ſeverities in the ſtar-chamber and high commiſſion, which ſeemed neceſſary in order to ſupport the preſent mode of adminiſtration, and ſuppreſs the riſing ſpirit of liberty throughout the kingdom. Tonnage and poundage were continued to be levied by royal authority alone. The former arbitrary impoſitions were ſtill exacted; and even new impoſitions laid upon different kinds of merchandize. The cuſtom-houſe officers received orders from the council to enter into any houſe, warehouſe, or cellar; to ſearch any trunk or cheſt; and to break any bulk whatever, in default of the payment of cuſtoms. In order to exerciſe the militia, each county by an edict of the council was aſſeſſed in a certain ſum for maintaining a muſter-maſter appointed for that ſervice. Compoſitions were openly made with recuſants, and the Popiſh religion became a regular part of the revenue. A commiſſion was granted for compounding with ſuch as were poſſeſſed of crown-lands on defective titles; and on this pretence ſome money was exacted of the people, &c.

76
He attemps to eſtabliſh epiſcopacy in Scotland.

While the Engliſh were in the utmoſt diſcontent, and almoſt ready to break out in open rebellion by theſe arbitrary proceedings, Charles thought proper to attempt ſetting up epiſcopacy in Scotland. The canons for eſtabliſhed eccleſiaſtical juriſdiction were promulgated in 1635, and were received without much appearance of oppoſition; yet with great inward apprehenſion and diſcontent. The firſt reading of the liturgy was attempted in the cathedral church of St Giles in Edinburgh, in 1637; but this produced ſuch a tumult, that it was not thought ſafe to repeat the experiment. An univerſal combination againſt the religious innovations began immediately to take place; but Charles, as if obſtinately bent on his own deſtruction, continued inflexible in his purpoſe, though he had nothing to oppoſe to the united force of the kingdom but a proclamation, in which he pardoned all paſt offences, and exhorted the people to be more obedient for the future, and to ſubmit peaceably to the uſe of the liturgy. This proclamation haſtened forward the inſurrection which had been ſlowly advancing before. Four *tables*, as they were called, were formed in Edinburgh. One conſiſted of nobility, another of gentry, a third of miniſters, and the fourth of burgeſſes. The table of gentry was divided into many ſubordinate ones, according to their different counties. In the hands of the four tables, the authority of the whole kingdom was placed. Orders were iſſued by them, and every where obeyed with the utmoſt regularity; and among the firſt acts of their government was the production of the COVENANT.

77
Which occaſions an inſurrection.

78
Account of the covenant.

This famous covenant conſiſted of a renunciation of Popery, formerly ſigned by James in his youth, and filled with many virulent invectives againſt that party. A bond of union followed, by which the ſubſcribers obliged themſelves to reſiſt all religious innovations, and to defend each other againſt all oppoſition whatſoever: And all this for the greater glory of God, and the greater honour and advantage of their king and country. The covenant was ſubſcribed by people of all ranks and conditions. Few diſapproved of it in their hearts, and ſtill fewer dared openly to condemn it. The king's miniſters and counſellors themſelves were moſtly of the ſame way of thinking; and none but rebels to God, and traitors to their country, it was thought, would withdraw themſelves from ſo ſalutary and pious a combination.

79
Charles attempts to appeaſe the covenanters.

The king now began to be alarmed. He ſent the marquis of Hamilton, as commiſſioner, with authority to treat with the covenanters. He required the covenant to be renounced and recalled; and he thought that on his part he made very ſatisfactory conceſſions, when he offered to ſuſpend the canons and liturgy till in a fair and legal way they could be received, and ſo to model the high commiſſion that it ſhould no longer give offence to his ſubjects. In anſwer to this demand the covenanters told him, they would ſooner renounce their baptiſm; and invited the commiſſioner himſelf to ſign it. Hamilton returned to London; made another fruitleſs journey with new concluſions to Edinburgh; returned again to London, and was immediately ſent back with ſtill more ſatisfactory conceſſions. The king was now willing to aboliſh entirely the canons, the liturgy, and the high commiſſion court; he even reſolved to limit extremely the power of the biſhops, and was content if on any terms he could retain that order in the church of Scotland. And to enſure all theſe gracious offers, he gave Hamilton authority to ſummon firſt an aſſembly, and then a parliament, where every national grievance ſhould be redreſſed.—Theſe ſucceſſive conceſſions only ſhowed the weakneſs of the king, and encouraged the malecontents to riſe in their demands. The offer, however, of an aſſembly and a parliament, in which they expected to be entirely maſters, was very willingly embraced by the covenanters.

80
Covenant entered into by the royaliſts.

Charles, perceiving what advantage his enemies had reaped from their covenant, reſolved to have a covenant alſo on his ſide; and he ordered one to be drawn up for that purpoſe. It conſiſted of the ſame violent renunciation of popery with the other; which, though the king did not approve of it, he thought proper to adopt, in order to remove all the ſuſpicions entertained againſt him. As the covenanters, in their bond of mutual defence againſt all oppoſition, had been careful not to except the king; Charles had formed a bond, which was annexed to this renunciation, and which expreſſed the ſubſcribers loyalty and duty to his majeſty. But the covenanters perceiving that this new covenant was only meant to weaken and divide them, received it with the utmoſt ſcorn and deteſtation. And, without delay, they proceeded to model the aſſembly from which ſuch great atchievements were expected.

81 Violent proceedings of the aſſembly.

The aſſembly met at Glaſgow in 1638. A firm determination had been entered into of utterly aboliſhing epiſcopacy; and, as a preparative to it, there was laid before the preſbytery of Edinburgh, and ſolemnly read in all the churches of the kingdom, an accuſation againſt the biſhops, as guilty, all of them, of hereſy, ſimony, bribery, perjury, cheating, inceſt, adultery, fornication, common-ſwearing, drunkenneſs, gaming, breach of the ſabbath, and every other crime which had occurred to the accuſers. The biſhops ſent a proteſt, declining the authority of the aſſembly; the commiſſioner too proteſted againſt that court, as illegally conſtituted and elected; and, in his majeſty's name, diſſolved it. This meaſure was foreſeen, and little regarded. The court ſtill continued to ſit and do buſineſs. All the acts of aſſembly, ſince the acceſſion of James to the crown of England, were, upon pretty reaſonable grounds declared null and invalid. The acts of parliament which affected eccleſiaſtical affairs were on that very account ſuppoſed to have no authority. And thus the whole fabric which James and Charles, in a long courſe of years, had been rearing with much care and policy, fell at once to the ground. The covenant was likewiſe ordered to be ſigned by every one, under pain of excommunication.

82 Preparations for war by the covenanters.

In 1639, the covenanters prepared in earneſt for war. The earl of Argyle, though he long ſeemed to temporize, at laſt embraced the covenant; and he became the chief leader of that party. The earls of Rothes, Caſſils, Montroſe, Lothian, the lords Lindeſey, Loudon, Yeſter, and Balmerino, alſo diſtinguiſhed themſelves. Many of their officers had acquired reputation in the German wars, particularly under Guſtavus; and theſe were invited over to aſſiſt their country in their preſent neceſſity. The command was entruſted to Leſly, a ſoldier of experience and ability. Forces were regularly enliſted and diſciplined. Arms were commiſſioned and imported from foreign countries. A few caſtles which belonged to the king, being unprovided of victuals, ammunition, and garriſons, were ſoon ſeized. And the whole country, except a ſmall part, where the marquis of Huntly ſtill adhered to the king, being in the covenanters hands, was ſoon put into a tolerable poſture of defence.

83 By the king

Charles, on the other hand, was not deficient in his endeavours to oppoſe this formidable combination. By regular economy he had not only paid all the debts contracted in the French and Spaniſh wars, but had amaſſed a ſum of L. 200,000; which he had reſerved for any ſudden exigency. The queen had great intereſt with the catholics, both from the ſympathy of religion, and from the favours and indulgences which ſhe had been able to procure them. She now employed her credit, and perſuaded them, that it was reaſonable to give large contributions, as a mark of their duty to the king, during this urgent neceſſity: And thus, to the great ſcandal of the Puritans, a conſiderable ſupply was gained. The king's fleet was formidable and well ſupplied. Having put 5000 land forces on board, he entruſted it to the marquis of Hamilton, who had orders to ſail to the frith of Forth, and cauſe a diverſion in the forces of the malecontents. An army was levied of near 20,000 foot and 3000 horſe; and was put under the command of the earl of Arundel, a nobleman of great family, but celebrated neither for military nor political abilities. The earl of Eſſex, a man of ſtrict honour, and extremely popular, eſpecially among the ſoldiery, was appointed lieutenant-general: The earl of Holland was general of the horſe. The king himſelf joined the army, and he ſummoned all the peers of England to attend him. The whole had the appearance of a ſplendid court rather than a military armament, and in this ſituation the camp arrived at Berwick.

The Scottiſh army was equally numerous with that of the king, but inferior in cavalry. The officers had more experience; and the ſoldiers, though ill-diſciplined and armed, were animated, as well by the national averſion to England, and the dread of becoming a province to their old enemy, as by that religious enthuſiaſm which was the occaſion of the war. Yet ſo prudent were their leaders, that they immediately ſent very ſubmiſſive meſſages to the king, and craved leave to be admitted to a treaty.

84 Peace concluded.

—Charles, as uſual, took the worſt courſe. He concluded a ſudden pacification, in which it was ſtipulated, that he ſhould withdraw his fleet and army, that within 48 hours the Scots ſhould diſmiſs their forces; that the king's forts ſhould be reſtored to him; his authority be acknowledged; and a general aſſembly and parliament be immediately ſummoned, in order to compoſe all differences.

This peace was of no long duration. Charles could not prevail on himſelf to abandon the cauſe of epiſcopacy, and ſecretly intended to ſeize every favourable opportunity to recover the ground he had loſt. The aſſembly, on the other hand, proceeded with the utmoſt fury and violence. They voted epiſcopacy to be unlawful in the church of Scotland: they ſtigmatiſed the canons and liturgy as popiſh: they denominated the high commiſſion tyranny. The parliament, which ſat after the aſſembly, advanced pretenſions which tended to diminiſh the civil power of the monarch; and, what probably affected Charles ſtill more, they were proceeding to ratify the acts of aſſembly, when by the king's inſtructions, Traquaire the commiſſioner prorogued them.

85 War again declared.

And on account of theſe claims, which might have been eaſily foreſeen, war was recommenced the ſame year.

No ſooner had Charles concluded the peace, than he found himſelf obliged to diſband his army, on account of his want of money; and as the ſoldiers had been held together merely by mercenary views, it was not poſſible, without great trouble, expence, and loſs of time, to reaſſemble them. On the contrary, the covenanters in diſmiſſing their troops, had been careful to preſerve nothing but the appearance of a pacification. The officers had orders to be ready on the firſt ſummons: The ſoldiers were warned not to think the nation ſecure from an Engliſh invaſion: And the religious zeal which animated all ranks of men made them immediately fly to their ſtandards, as ſoon as their trumpet was ſounded by their ſpiritual and temporal leaders.

86 A parliament called

In 1640, however, the king made ſhift to draw an army together; but finding himſelf unable to ſupport them, was obliged to call a parliament after an intermiſſion

miſſion of about 11 years. As the ſole deſign of the king's calling this parliament was to obtain a ſupply, and the only reaſon they had for attending was to procure a redreſs of grievances, it is not to be ſuppoſed there could be any good agreement between them. 87 Diſſolved. The king accordingly inſiſted for money, and the parliament on their grievances, till a diſſolution enſued. —To add to the unpopularity of this meaſure, the king, notwithſtanding his diſſolving the parliament, allowed the convocation to ſit; a practice of which, ſince the reformation, there had been very few examples, and which was now by many deemed very irregular. Beſides granting to the king a ſupply from the ſpirituality, the convocation, jealous of innovations ſimilar to thoſe which had taken place in Scotland, impoſed an oath on the clergy and the graduates in the univerſities, by which every one ſwore to maintain the eſtabliſhed government of the church, by archbiſhops, biſhops, deans, chapters, &c. Theſe ſteps were deemed illegal, becauſe not ratified by conſent of parliament; and the oath, containing an *&c.* in the middle of it, became a ſubject of general ridicule.

88 Charles diſtreſſed for money. The king, diſappointed of parliamentary ſubſidies, was obliged to have recourſe to other expedients. The eccleſiaſtical ſubſidies ſerved him in ſome ſtead: and it ſeemed but juſt that the clergy ſhould contribute to the expence of a war which had been in a great meaſure of their own raiſing. He borrowed money from his miniſters and courtiers; and ſo much was he beloved among them, that above 300,000l. were ſubſcribed in a few days. Some attempts were made towards forcing a loan from the citizens; but ſtill repelled by the ſpirit of liberty, which was now become unconquerable. A loan of 40,000l. was extorted from the Spaniſh merchants who had bullion in the tower. Coat and conduct money for the ſoldiery was levied on the counties; an ancient practice, but which was ſuppoſed to be aboliſhed by the petition of right. All the pepper was bought from the Eaſt-India Company upon truſt; and ſold, at a great diſcount, for ready money. A ſcheme was propoſed for coining two or three hundred thouſand pounds of baſe money. Such were the extremities to which Charles was reduced. The freſh difficulties, which amidſt the preſent diſtreſſes were every day raiſed, with regard to the payment of ſhip-money, obliged him to exert continual acts of authority, augmented extremely the diſcontents of the people, and increaſed his indigence and neceſſities.

The preſent expedients, however, enabled the king, though with great difficulty, to march his army, conſiſting of 19,000 foot and 2000 horſe. The earl of Northumberland was appointed general: the earl of Strafford, who was called over from Ireland, lieutenant-general; lord Conway, general of the horſe. A ſmall fleet was thought ſufficient to ſerve the purpoſes of this expedition. The Scots, though ſomewhat ſuperior, were ſooner ready than the king's army, and marched to the borders of England. Notwithſtanding their warlike preparations and hoſtile attempts, the covenanters ſtill preſerved the moſt ſubmiſſive language to the king; and entered England with no other deſign, they ſaid, than to obtain acceſs to the king's preſence, and lay their humble petition at his royal feet. 89 Royaliſts defeated at Newburn. At Newburn upon Tyne they were oppoſed by a detachment of 4500 men under Conway, who ſeemed reſolute to diſpute with them the paſſage of the river. The Scots firſt intreated them, with great civility, not to ſtop them in their march to their gracious ſovereign; and then attacked them with great bravery, killed ſeveral, and chaſed the reſt from their ground. Such a panic ſeized the whole Engliſh army, that the forces at Newcaſtle fled immediately to Durham; and not yet thinking themſelves ſafe, they deſerted that town, and retreated into Yorkſhire.

The Scots continued to advance; they diſpatched meſſengers to the king, who was now arrived at York. They took care, after the advantage they had gained, to redouble their expreſſions of loyalty, duty, and ſubmiſſion to his perſon; and they even made apologies full of ſorrow and contrition for their late victory. Charles was in a very diſtreſſed condition; and, in order to prevent the further advance of the Scots, agreed to a treaty, and named 16 Engliſh noblemen to meet with 11 Scots commiſſioners at Rippon. Strafford, upon whom, by reaſon of Northumberland's ſickneſs, the command of the army had devolved, adviſed Charles rather to put all to hazard, than ſubmit to ſuch unworthy terms as he ſaw would be impoſed upon him. He adviſed him to puſh forward and attack the Scots, and bring the affair to a quick deciſion; and if he was ever ſo unſucceſsful, nothing worſe could befal him than what from his inactivity he would certainly be expoſed to; and, to ſhow how eaſily this project might be executed, he ordered an aſſault to be made on ſome quarters of the Scots, and gained an advantage over them. This ſalutary advice Charles had not reſolution to follow. He therefore reſolved to call a council of the peers; and as he foreſaw that they would adviſe him to call a parliament, he told them in his firſt ſpeech, that he had already taken that reſolution. In order to ſubſiſt both armies (for the king was obliged to pay his enemies, in order to ſave the northern counties), Charles wrote to the city, deſiring a loan of 200,000l. And the peers at York, whoſe authority was now much greater than that of their ſovereign, joined in the ſame requeſt.

90 Parliament meets. The parliament met November 3d 1640: the houſe of commons had never been obſerved ſo numerous; and, that they might ſtrike a deciſive blow at once againſt the court, they began with the impeachment of the earl of Strafford. 91 Unhappy ſituation of Strafford. That nobleman, who was conſidered as prime miniſter, both on account of the credit he poſſeſſed with his maſter, and his own uncommon vigour and capacity, had now the misfortune of having incurred the hatred of all the three kingdoms. The Scots looked upon him as the capital enemy of their country. He had engaged the parliament of Ireland to advance large ſubſidies to be employed in a war againſt them: he had levied an army of 9000 men, with which he had menaced all their weſtern coaſt: he had obliged the Scots who lived under his government to renounce the covenant, &c.: he had governed Ireland, firſt as deputy, and then as lord-lieutenant, during eight years, with great vigilance, activity, and prudence, but with very little popularity. In a nation ſo averſe to the Engliſh government and religion, theſe very virtues were ſufficient to draw on him the public hatred. His manners, beſides, were at bottom haughty, rigid, and ſevere; and no ſooner did adverſity begin to ſeize him, than the con-

cealed averſion blazed up at once, and the Iriſh parliament uſed every expedient to aggravate the charge againſt him.

The univerſal diſcontent which prevailed throughout the Engliſh nation was all pointed againſt the earl of Strafford; though for no other reaſon but becauſe he was the miniſter of ſtate whom the king moſt favoured and truſted. His extraction was honourable, his paternal fortune conſiderable: yet envy attended his ſudden and great elevation; and his former aſſociates in popular counſels, finding that he owed his advancement to the deſertion of their cauſe, repreſented him as the great apoſtate of the commonwealth, whom it behoved them to ſacrifice as a victim to public juſtice.

92 Unjuſtly executed.

93 Diſtreſs of the king on account of his execution.

From ſo terrible a combination againſt a ſingle perſon, nothing elſe could be expected than what really happened. Strafford was impeached, moſt unjuſtly condemned, and at laſt executed, in the year 1641. It was not without extreme difficulty that the king could be brought to conſent to his execution. He came to the houſe of lords, where he expreſſed his reſolution never to employ Strafford again in any public buſineſs; but with regard to the treaſon for which he was condemned, he profeſſed himſelf totally diſſatisfied. The commons voted it a breach of privilege for the king to take notice of any bill depending before the houſe. Charles did not perceive, that his attachment to Strafford was the chief motive for the bill; and the greater proof he gave of this attachment to his favourite miniſter, the more inevitable did he render his deſtruction. The houſe of lords were intimidated, by popular violence, into paſſing the bill of attainder againſt the unfortunate earl. The ſame battery was next employed to force the king's aſſent. The populace flocked about Whitehall, and accompanied their demand of juſtice with the loudeſt clamours and moſt open menaces. A thouſand idle reports of conſpiracies, inſurrections, and invaſions, were ſpread abroad. On whatever ſide the king caſt his eyes, he ſaw no reſource nor ſecurity. All his ſervants, conſulting their own ſafety rather than their maſter's honour, declined interpoſing with their advice between him and his parliament. The queen, terrified at the appearance of ſo great danger, preſſed Charles, with tears, to ſatisfy his people in this demand, which it was hoped would finally content them. Archbiſhop Juxon alone had the courage to adviſe him, if he did not approve of the bill, by no means to conſent to it.

Strafford, hearing of the king's irreſolution and anxiety, wrote to him a letter, in which he deſired his own execution, in order to give peace to the nation: and at laſt, after the moſt violent anxiety and doubt, Charles granted a commiſſion to four noblemen, in his name, to give the royal aſſent to the bill; flattering himſelf, perhaps, that as neither his will conſented to the deed, nor was his hand immediately engaged in it, he was the more free from all the guilt which attended it. Theſe commiſſioners he empowered at the ſame time to give his aſſent to a bill yet more fatal to himſelf, viz. That the preſent parliament ſhould not be diſſolved, prorogued, or adjourned, without their own conſent.

94 Charles renders the parliament perpetual.

By this laſt bill Charles rendered the power of his enemies perpetual, as it was already uncontroulable. The reaſon of this extraordinary ſtep was, that the commons, from policy, more than neceſſity, had embraced the expedient of paying the two armies by borrowing money from the city. Theſe loans they repaid afterwards by taxes levied on the people. At laſt the citizens, either of themſelves, or by ſuggeſtion, began to ſtart difficulties with regard to a farther loan which was demanded. "We make no ſcruple of truſting the parliament (ſaid they), were we certain that the parliament was to continue till our repayment. But, in the preſent precarious ſituation of affairs, what ſecurity can be given us for our money?" In order to obviate this objection, the abovementioned bill was ſuddenly brought in, and having paſſed both houſes with great rapidity, was at laſt brought to the king; who, being oppreſſed with grief on account of the unhappy fate of Strafford, did not perceive the pernicious conſequence of the bill.

95 His reaſons for this ſtep.

96 Laud impriſoned.

97 New crime of delinquency.

All this time the commons had ruled in other reſpects with an uncontroulable ſway. Soon after the impeachment of Strafford, Laud was accuſed of high treaſon, and committed to cuſtody. To avoid the like fate, lord keeper Finch and ſecretary Windebank fled, the one into Holland, the other into France. The houſe inſtituted a new ſpecies of guilt, termed *delinquency*: thoſe who had exerciſed the powers neceſſary for the defence of the nation during the late military operations, were now called *delinquents*. In conſequence of this determination, many of the nobility and prime gentry of the nation, while only exerting, as they juſtly thought, the legal powers of magiſtracy, found themſelves unexpectedly involved in this new crime of delinquency. The commons, however, by their inſtitution, reaped this multiplied advantage; they diſarmed the crown, they eſtabliſhed the maxims of rigid law and liberty, and they ſpread the terror of their own authority. All the ſheriffs who had formerly exacted ſhip-money, though by the king's expreſs command, were now declared delinquents. The farmers and officers of the cuſtoms who had been employed during ſo many years in levying tonnage, poundage, &c. were likewiſe denominated criminals of the ſame kind, and were afterwards glad to compound for a pardon, by paying 150,000 l. Every diſcretionary or arbitrary ſentence of the ſtar-chamber and high commiſſion courts, which from their very nature were arbitrary, underwent a ſevere ſcrutiny; and all thoſe who had concurred in ſuch ſentences, were voted to be liable to the penalties of law. No miniſter of the king, no member of the council, but what found himſelf expoſed by this determination. The judges who had formerly given judgment againſt Hambden for refuſing to pay ſhip-money, were accuſed before the peers, and obliged to find ſecurity for their appearance. Berkley, a judge of the king's bench, was ſeized by order of the houſe, even when ſitting in his tribunal. The ſanction of the lords and commons, as well as that of the king, was declared neceſſary for the confirmation of eccleſiaſtical canons. Monopoliſts and projectors, if of the king's party, were now expelled the houſe; but one Mildmay, a notorious monopoliſt, was allowed to keep his ſeat, becauſe he was of the popular party. In ſhort, the conſtitution was completely new-modelled; and during the firſt period of the tranſactions of this remarkable parliament, if we except Strafford's attainder, their merits in other reſpects ſo much overbalance their miſtakes, as to intitle

98 Partiality and injuſtice of the parliament.

title them to very ample praiſes from all lovers of liberty. Not only were former abuſes remedied, and grievances redreſſed; great proviſion for the future was made by excellent laws againſt the return of the like complaints. And if the means by which they obtained ſuch mighty advantages ſavoured often of artifice, ſometimes of violence; it is to be conſidered, that revolutions of government cannot be effected by mere force of argument and reaſoning; and that, factions being once excited, men can neither ſo firmly regulate the tempers of others, nor their own, as to enſure themſelves againſt all exorbitancies.

Had the parliament ſtopped here, it had been happy for the nation; but they were now reſolved to be ſatisfied with nothing leſs than the total abolition of monarchy. The king had promiſed to pay a viſit, this ſummer, to his ſubjects in Scotland, in order to ſettle their government; and though the Engliſh parliament was very importunate with him to lay aſide that journey, they could not prevail with him ſo much as to delay it. Having failed in this, they appointed a ſmall committee of both houſes to attend him, in order, as was pretended, to ſee the articles of pacification executed, but really to be ſpies upon the king, to extend ſtill farther the ideas of parliamentary authority, as well as eclipſe his majeſty. Endeavours were even uſed, before Charles's departure, to have a protector of the kingdom appointed, with a power to paſs laws without having recourſe to the king. About this time, the king concluded the marriage of the princeſs Mary with William prince of Orange. He did not conclude this alliance without communicating his intentions to parliament, who were very well ſatisfied with the propoſal. They adjourned from Sept. 9th, to October 20th, 1641.

99
Marriage of the princeſs Mary with the prince of Orange.

100
Charles arrives in Scotland.

Charles arrived in Scotland Auguſt 14th 1641, with a deſign to give full ſatisfaction if poſſible to this reſtleſs kingdom. Some good regulations were made; the bench of biſhops, and lords of articles, were aboliſhed; it was ordained that no man ſhould be created a Scottiſh peer, who poſſeſſed not 10,000 marks (above 500l.) of annual rent in the kingdom; a law for triennial parliaments was likewiſe enacted; and it was ordained, that the laſt act of every parliament ſhould be to appoint the time and place for holding the parliament next enſuing; the king was alſo deprived of that power formerly exerciſed, of iſſuing proclamations which enjoined obedience under the penalty of treaſon. But the moſt fatal blow given to royal authority, and what in a manner dethroned the prince, was an article, that no member of the privy-council, in whoſe hands, during the king's abſence, the whole adminiſtration lay, no officer of ſtate, none of the judges, ſhould be appointed but by advice and approbation of parliament. Charles even agreed to deprive of their ſeats four judges who had adhered to his intereſts; and their place was ſupplied by others more agreeable to the ruling party. Several of the covenanters were alſo ſworn of the privy-council; and all the miniſters of ſtate, counſellors and judges, were, by law, to hold their places during life or good behaviour. The king, while in Scotland, conformed himſelf to the eſtabliſhed church; he beſtowed penſions and preferments on Henderſon, Gilleſpy, and other popular preachers; he practiſed every art to ſoften, if not to gain, his greateſt enemies; the earl of Argyle was created a marquis, Lord Loudon an earl, and Leſly was dignified with the title of *Lord Leven*. But though Charles was thus obliged to heap favours on his enemies and overlook his friends, the former were not ſatisfied, as believing all he did proceeded from artifice and neceſſity; while ſome of the latter were diſguſted, and thought themſelves ill rewarded for their paſt ſervices.

101
His great conceſſions.

Argyle and Hamilton, being ſeized with an apprehenſion, real or pretended, that the earl of Crawfurd and others meant to aſſaſſinate them, left the parliament ſuddenly, and retired into the country: but, upon invitation and aſſurances, returned in a few days. This event, which in Scotland had no viſible conſequence, was commonly denominated the *incident*; but though the incident had no effect in Scotland, it was attended with very ſerious conſequences in England. The Engliſh parliament immediately took the alarm; or rather probably were glad of the hint: they inſinuated to the people, that the *malignants*, ſo they called the king's party, had laid a plot at once to murder them and all the godly in both kingdoms. They applied therefore to Eſſex, whom the king had left general of the ſouth of England; and he ordered a guard to attend them.

102
Engliſh parliament deſire a guard.

103
Rebellion breaks out in Ireland.

In the mean time a moſt dangerous rebellion broke out in Ireland, with circumſtances of unparalleled horror, bloodſhed, and devaſtation. The old Iriſh, by the wiſe conduct of James, had been fully ſubdued, and proper means taken for ſecuring their dependence and ſubjection for the future; but their old animoſity ſtill remained, and only wanted an occaſion to exert itſelf. This they obtained from the weak condition to which Charles was reduced, and this was made uſe of in the following manner.

One Roger More, a gentleman deſcended from an ancient Iriſh family, but of narrow fortune, firſt formed the project of expelling the Engliſh, and aſſerting the independency of his native country. He ſecretly went from chieftain to chieftain, and rouzed up every latent principle of diſcontent. He maintained a cloſe correſpondence with lord Macguire, and Sir Phelim O'Neale, the moſt powerful of the old Iriſh; and by his perſuaſions ſoon engaged not only them, but the moſt conſiderable perſons of the nation, into a conſpiracy; and it was hoped, the Engliſh *of the pale*, as they were called, or the old Engliſh planters, being all catholics, would afterwards join the party which reſtored their religion to its ancient ſplendor and authority. The plan was, that Sir Phelim O'Neale, and the other conſpirators, ſhould begin an inſurrection on one day throughout the provinces, and ſhould attack all the Engliſh ſettlements; and that, on the very ſame day, lord Macguire and Roger More ſhould ſurpriſe the caſtle of Dublin. They fixed on the beginning of winter for the commencement of this revolt; that there might be more difficulty in tranſporting forces from England. Succours to themſelves, and ſupplies of arms, they expected from France, in conſequence of a promiſe made them by cardinal Richelieu; and many Iriſh officers who had ſerved in the Spaniſh troops had given aſſurances of their concurrence, as ſoon as they ſaw an inſurrection entered upon by their Catholic brethren. News, which every day arrived from England, of the fury expreſſed by the commons againſt all Papiſts, ſtruck freſh terror into the Iriſh nation, ſtimulated the conſpirators to execute their fatal purpoſe, and aſſured them of the concurrence of their countrymen.

Such a propenſity was diſcovered in all the Iriſh to revolt, that it was deemed unneceſſary as well as dangerous to truſt the ſecret in many hands; and though the day appointed drew nigh, no diſcovery had yet been made to government. The king, indeed, had received information from his ambaſſadors, that ſomething was in agitation among the Iriſh in foreign parts; but though he gave warning to the adminiſtration in Ireland, his intelligence was entirely neglected. They were awakened from their ſecurity only that very day before the commencement of hoſtilities. The caſtle of Dublin, by which the capital was commanded, contained arms for 10,000 men, with 35 pieces of cannon, and a proportionable quantity of ammunition. Yet was this important place guarded, and that too without any care, by no greater force than 50 men. Macguire and More were already in town with a numerous band of their retainers; others were expected that night; and next morning they were to enter upon what they eſteemed the eaſieſt of all enterprizes, the ſurpriſal of the caſtle. O'Connolly, however, an Iriſhman, but a Proteſtant, diſcovered the conſpiracy. The juſtices and council fled immediately to the caſtle, and reinforced the guards. The city was immediately alarmed, and all the Proteſtants prepared for defence. More eſcaped, but Macguire was taken; and Mahon, one of the conſpirators, being likewiſe ſeized, firſt diſcovered to the juſtices the project of a general inſurrection.

104
Horrid cruelties of the rebels.

But though O'Connolly's diſcovery ſaved the caſtle from a ſurprize, Mahon's confeſſion came too late to prevent the intended inſurrection. O'Neale and his confederates had already taken arms in Ulſter. The houſes, cattle, and goods of the Engliſh were firſt ſeized. Thoſe who heard of the commotions in their neighbourhood, inſtead of deſerting their habitations, and aſſembling together for mutual protection, remained at home in hopes of defending their property; and fell thus ſeparately into the hands of their enemies. An univerſal maſſacre now commenced, accompanied with circumſtances of unequalled barbarity. No age, ſex, or condition, was ſpared. All connections were diſſolved, and death was dealt by that hand from which protection was implored and expected. All the tortures which wanton cruelty could deviſe, all the lingering pains of body, the anguiſh of mind, the agonies of deſpair, could not ſatiate revenge excited without injury, and cruelty derived from no cauſe. Such enormities, in ſhort, were committed, that though atteſted by undoubted evidence, they appear almoſt incredible. The ſtately buildings or commodious habitations of the planters, as if upbraiding the ſloth and ignorance of the natives, were conſumed with fire, or laid level with the ground; and where the miſerable owners, ſhut up in the houſes, and preparing for defence, periſhed in the flames, together with their wives and children, a double triumph was afforded to their inſulting foes. If any where a number aſſembled together, and reſolved to oppoſe the aſſaſſins; they were diſarmed by capitulations, and promiſes of ſafety, confirmed by the moſt ſolemn oaths. But no ſooner had they ſurrendered, than the rebels, with perfidy equal to their cruelty, made them ſhare the fate of their unhappy countrymen. Others tempted their priſoners, by the fond love of life, to embrue their hands in the blood of friends, brothers, or parents; and having thus rendered them accomplices in their own guilt, gave them that death which they ſought to ſhun by deſerving it.

Such were the barbarities by which Sir Phelim O'Neale and the Iriſh in Ulſter ſignalized their rebellion. More, ſhocked at the recital of theſe enormities, flew to O'Neale's camp; but found that his authority, which was ſufficient to excite the Iriſh to a rebellion, was too feeble to reſtrain their inhumanity. Soon after, he abandoned the cauſe, and retired to Flanders. From Ulſter, the flames of rebellion diffuſed themſelves in an inſtant over the other three provinces of Ireland. In all places, death and ſlaughter were not uncommon; though the Iriſh in theſe other provinces pretended to act with moderation and humanity. But cruel and barbarous was their humanity! Not content with expelling the Engliſh from their houſes, they ſtripped them of their very clothes, and turned them out naked and defenceleſs to all the ſeverities of the ſeaſon. The heavens themſelves, as if conſpiring againſt that unhappy people, were armed with cold and tempeſt unuſual to the climate, and executed what the ſword had left unfiniſhed. By ſome computations, thoſe who periſhed by all theſe cruelties are ſuppoſed to amount to 150 or 200,000; but by the moſt reaſonable and moderate, they are made to amount only to 40,000; though probably even this account is not free of exaggeration.

The Engliſh of the pale, who probably were not at firſt in the ſecret, pretended to blame the inſurrection, and to deteſt the barbarity with which it was accompanied. By their proteſtations and declarations they engaged the juſtices to ſupply them with arms, which they promiſed to employ in defence of government. But in a little time, the intereſts of religion were found to be more prevalent over them than regard and duty to their native country. They choſe lord Gormonſtone their leader; and, joining the old Iriſh, rivalled them in every act of cruelty towards the Engliſh Proteſtants. Beſides many ſmaller bodies, diſperſed over the kingdom, the main army of the rebels amounted to 20,000 men, and threatened Dublin with an immediate ſiege. Both the Engliſh and Iriſh rebels conſpired in one impoſture, by which they ſeduced many of their countrymen. They pretended authority from the king and queen, but eſpecially the latter, for their inſurrection; and they affirmed that the cauſe of their taking arms was to vindicate the royal prerogative, now invaded by the puritanical parliament. Sir Phelim O'Neale, having found a royal patent in the houſe of lord Caulfield, whom he had murdered, tore off the ſeal, and affixed it to a commiſſion which he had forged for himſelf.

105
Scots refuſe to aſſiſt in quelling the rebellion.

The king received intelligence of this inſurrection while in Scotland, and immediately acquainted the Scots parliament with it. He hoped, as there had all along been ſuch an outcry againſt Popery, that now, when that religion was appearing in its blackeſt colours, the whole nation would vigorouſly ſupport him in the ſuppreſſion of it. But here he found himſelf miſtaken. The Scots conſidering themſelves now as a republic, and conceiving hopes from the preſent diſtreſſes of Ireland,

land, they reſolved to make an advantageous bargain for the ſuccours with which they ſhould ſupply the neighbouring nation. Except diſpatching a ſmall body of forces, to ſupport the Scots colonies in Ulſter, they would, therefore, go no farther than to ſend commiſſioners to London, in order to treat with the parliament, to whom the ſovereign power was in reality transferred. The king too, ſenſible of his utter inability to ſubdue the Iriſh rebels, found himſelf obliged, in this exigency, to have recourſe to the Engliſh parliament, and depend on their aſſiſtance for ſupply. He told them that the inſurrection was not, in his opinion, the reſult of any raſh enterprize, but of a formed conſpiracy againſt the crown of England. To their care and wiſdom, therefore, he ſaid, he committed the conduct and proſecution of the war, which, in a cauſe ſo important to national and religious intereſts, muſt of neceſſity be immediately entered upon, and vigorouſly purſued.

106
Infamous conduct of the Engliſh parliament.

The Engliſh parliament, now re-aſſembled, diſcovered in each vote the ſame diſpoſitions in which they had ſeparated. Nothing leſs than a total abolition of monarchy would ſerve their turn. But this project it had not been in the power of the popular leaders to have executed, had it not been for the paſſion which ſeized the nation for the preſbyterian diſcipline, and the wild enthuſiaſm which at that time attended it. By the difficulties and diſtreſſes of the crown, the commons, who poſſeſſed alone the power of ſupply, had aggrandized themſelves; and it ſeemed a peculiar happineſs, that the Iriſh rebellion had ſucceeded, at ſuch a critical juncture, to the pacification in Scotland. That expreſſion of the king's, by which he committed to them the care of Ireland, they immediately laid hold of, and interpreted in the moſt unlimited ſenſe. They had on other occaſions been gradually encroaching on the executive power of the crown, which forms its principal and moſt natural branch of authority; but with regard to Ireland, they at once aſſumed it, fully and entirely, as if delivered over to them by a regular gift or aſſignment. And to this uſurpation the king was obliged paſſively to ſubmit, both becauſe of his inability to reſiſt, and leſt he ſhould expoſe himſelf ſtill more to the charge of favouring the rebels; a reproach eagerly thrown upon him by the popular party as ſoon as they heard that the Iriſh pretended to act by his commiſſion. Nay, to complete their character, while they pretended the utmoſt zeal againſt the inſurgents, they took no ſteps for its ſuppreſſion, but ſuch as likewiſe gave them the ſuperiority in thoſe commotions which they foreſaw muſt be ſo ſoon excited in England. They levied money under pretence of the Iriſh expedition, but reſerved it for purpoſes which concerned them more nearly: they took arms from the king's magazines, but ſtill kept them with a ſecret intention of making uſe of them againſt himſelf: whatever law they deemed neceſſary for aggrandizing themſelves, they voted, under colour of enabling them to recover Ireland; and if Charles with-held his royal aſſent, the refuſal was imputed to thoſe pernicious counſels which had at firſt excited to Popiſh rebellion, and which ſtill threatened total ruin to the Proteſtant intereſt throughout his dominions. And though no forces were for a long time ſent over into Ireland, and very little money remitted during the extreme diſtreſs of that kingdom; ſo ſtrong was the people's attachment to the commons, that the fault was never imputed to thoſe pious zealots, whoſe votes breathed nothing but death and deſtruction to the Iriſh rebels.

The conduct of the parliament towards the king now became exceedingly unreaſonable, unjuſt, and cruel. It was thought proper to frame a general remonſtrance of the ſtate of the kingdom; and accordingly the committee, which at the firſt meeting of the parliament had been choſen for that purpoſe, were commanded to finiſh their undertaking.

107
King returns from Scotland.

The king returned from Scotland November 25th 1641. He was received in London with the ſhouts and acclamations of the populace, and with every demonſtration of regard and affection. Sir Richard Gournay, lord mayor, a man of great merit and authority, had promoted theſe favourable diſpoſitions; and had engaged the populace, who ſo lately inſulted the king, and who ſo ſoon after made furious war upon him, to give him theſe marks of their dutiful attachment. But all the pleaſure which Charles reaped from this joyful reception was ſoon damped by the remonſtrance of the commons, which was preſented to him together with a petition of the like nature. The bad counſels which he followed were there complained of; his concurrence in the Iriſh rebellion plainly inſinuated; the ſcheme laid for the introduction of popery and ſuperſtition inveighed againſt; and for a remedy to all theſe evils, the king was deſired to entruſt every office and command to perſons in whom his parliament ſhould have cauſe to confide. By this phraſe, which was very often repeated in all the memorials and addreſſes of that time, the commons meant themſelves and their adherents. To this remonſtrance Charles was obliged to make a civil reply, notwithſtanding his ſubjects had tranſgreſſed all bounds of reſpect and even good manners in their treatment of their ſovereign.

108
Commons aſſume the ſovereignty

It would be tedious to point out every invaſion of the prerogative now attempted by the commons: but finding themſelves at laſt likely to be oppoſed by the nobility, who ſaw their own depreſſion cloſely connected with that of the crown, they openly told the upper houſe, that "they themſelves were the repreſentatives of the whole body of the kingdom, and that the peers were nothing but individuals, who held their ſeats in a particular capacity; and therefore, if their lordſhips will not conſent to acts neceſſary for the preſervation of the people, the commons, together with ſuch of the lords as are more ſenſible of the danger, muſt join together and repreſent the matter to his majeſty." Every method proper for alarming the populace was now put in practice. The commons affected continual fears of deſtruction to themſelves and to the whole nation. They excited the people by never-ceaſing inquiries after conſpiracies, by reports of inſurrections, by feigned intelligence of invaſions from abroad, and by diſcoveries of dangerous combinations at home againſt Papiſts and their adherents. When Charles diſmiſſed the guard which they had ordered during his abſence, they complained; and, upon his promiſing them a new guard under the command of the earl of Lindeſay, they abſolutely refuſed the offer: they ordered halberts to be brought into the hall where they aſſembled, and thus armed themſelves againſt thoſe conſpiracies with which they pretended they were hourly threatened. Several reduced officers, and young gentlemen of the inns of court, during this time of diſtreſs and danger, offered their ſervice to the king. Between them and the populace there paſſed frequent ſkirmiſhes, which ended not without bloodſhed. By way of reproach, theſe gentlemen gave the rabble the name of *round-heads*, on account of their ſhort cropt hair; while they diſtinguiſhed the others by the name of *cavaliers*. And thus the nation, which was before ſufficiently provided with religious as well as civil cauſes of quarrel, was alſo ſupplied with party-names, under which the factions might rendezvous and ſignalize their mutual hatred.

109
Round-heads and Cavaliers.

110
Biſhops retire from the houſe of lords.

Theſe tumults continued to increaſe about Weſtminſter and Whitehall. The cry continually reſounded againſt biſhops and *rotten-hearted lords*. The former eſpecially, being eaſily diſtinguiſhable by their habit, and being the object of violent hatred to all the ſectaries, were expoſed to the moſt dangerous inſults. The archbiſhop of York, having been abuſed by the populace, haſtily called a meeting of his brethren. By his advice a proteſtation was drawn and addreſſed to the king and the houſe of lords. The biſhops there ſet forth, that though they had an undoubted right to ſit and vote in parliament, yet in coming thither they had been menaced, aſſaulted, affronted, by the unruly multitude, and could no longer with ſafety attend their duty in the houſe. For this reaſon they proteſted againſt all laws, votes, and reſolutions, as null and invalid, which ſhould paſs during the time of their forced abſence. This proteſtation, which, though juſt and legal, was certainly ill-timed, was ſigned by twelve biſhops, and communicated to the king, who haſtily approved of it. As ſoon as it was preſented to the lords, that houſe deſired a conference with the commons, whom they informed of this unexpected proteſtation. The opportunity was ſeized with joy and triumph. An impeachment of high treaſon was immediately ſent up againſt the biſhops, as endeavouring to ſubvert the fundamental law, and to invalidate the authority of the legiſlature. They were, on the firſt demand, ſequeſtered from parliament, and committed to cuſtody. No man in either houſe ventured to ſpeak a word in their vindication; ſo much was every one diſpleaſed at the egregious imprudence of which they had been guilty. One perſon alone ſaid, that he did not believe them guilty of high-treaſon; but that they were ſtark mad, and therefore deſired they might be ſent to bedlam.

111
Six members of parliament impeached by the king's order.

112
He goes in perſon to ſeize them.

This was a fatal blow to the royal intereſt; but it ſoon felt a much greater from the imprudence of the king himſelf. Charles had long ſuppreſſed his reſentment, and only ſtrove to gratify the commons by the greatneſs of his conceſſions; but finding that all his compliance had but increaſed their demands, he could no longer contain. He gave orders to Herbert his attorney-general to enter an accuſation of high treaſon, in the houſe of peers, againſt lord Kimbolton, one of the moſt popular men of his party, together with five commoners, Sir Arthur Haſlerig, Hollis, Hambden, Pym, and Strode. The articles were, That they had traiterouſly endeavoured to ſubvert the fundamental laws and government of the kingdom, to deprive the king of his regal power, and to impoſe on his ſubjects an arbitrary and tyrannical authority; that they had invited a foreign army to invade the kingdom; that they had aimed at ſubverting the very right and being of parliaments; and had actually raiſed and countenanced tumults againſt the king. Men had ſcarce leiſure to wonder at the precipitancy and imprudence of this impeachment, when they were aſtoniſhed by another meaſure ſtill more raſh and unſupported. A ſerjeant at arms, in the king's name, demanded of the houſe the five members, and was ſent back without any poſitive anſwer. This was followed by a conduct ſtill more extraordinary. The next day, the king himſelf was ſeen to enter the houſe of commons alone, advancing through the hall, while all the members ſtood up to receive him. The ſpeaker withdrew from his chair, and the king took poſſeſſion of it. Having ſeated himſelf, and looked round him for ſome time, he told the houſe, that he was ſorry for the occaſion that forced him thither; that he was come in perſon to ſeize the members whom he had accuſed of high treaſon, ſeeing they would not deliver them up to his ſerjeant at arms. Then addreſſing himſelf to the ſpeaker, he deſired to know whether any of them were in the houſe: but the ſpeaker, falling on his knees, replied, that he had neither eyes to ſee, nor tongue to ſpeak, in that place, but as the houſe was pleaſed to direct him; and he aſked pardon for being able to give no other anſwer. The king ſat for ſome time, to ſee if the accuſed were preſent; but they had eſcaped a few minutes before his entry. Thus diſappointed, perplexed, and not knowing on whom to rely, he next proceeded, amidſt the invectives of the populace, who continued to cry out, *Privilege! privilege!* to the common council of the city, and made his complaint to them. The common council anſwered his complaints by a contemptuous ſilence; and, on his return, one of the populace, more inſolent than the reſt, cried out, "To your tents, O Iſrael!" a watch-word among the Jews, when they intended to abandon their princes.

113
Bad conſequences of this attempt.

When the commons aſſembled the next day, they pretended the greateſt terror; and paſſed an unanimous vote that the king had violated their privileges, and that they could not aſſemble again in the ſame place, till they ſhould obtain ſatisfaction, and have a guard for their ſecurity. The king had retired to Windſor, and from thence he wrote to his parliament, making every conceſſion, and promiſing every ſatisfaction in his power. But they were reſolved to accept of nothing unleſs he would diſcover his adviſers in that illegal meaſure; a condition to which, they knew, that without rendering himſelf for ever vile and contemptible, he could not poſſibly ſubmit.

114
Commons demand poſſeſſion of the executive power of the ſtate.

The commons had already ſtript the king of almoſt all his privileges; the biſhops were fled, the judges were intimidated; it now only remained, after ſecuring the church and the law, that they ſhould get poſſeſſion of the ſword alſo. The power of appointing governors and generals, and of levying armies, was ſtill a remaining prerogative of the crown. Having therefore firſt magnified their terrors of Popery, which perhaps they actually dreaded, they proceeded to petition that the Tower might be put into their hands; and that Hull, Portſmouth, and the fleet, ſhould be intruſted to perſons of their chooſing. Theſe were requeſts, the complying with which ſubverted what remained of the conſtitution; however, ſuch was the neceſſity of the times, that they were firſt conteſted, and then granted. At laſt, every compliance only increaſing the avidity of making freſh demands, the commons deſired to have a militia, raiſed and governed by ſuch officers and commanders as they ſhould nominate, under pretence of ſecuring them from the Iriſh Papiſts, of whom they were under the greateſt apprehenſion.

115
Refuſed by the king.

It was here that Charles firſt ventured to put a ſtop to his conceſſions; and that not by a refuſal, but a delay. He was at that time at Dover attending the queen and the princeſs of Orange, who had thought it prudent to leave the kingdom. He replied to the petition, that he had not now leiſure to conſider a matter of ſuch great importance; and therefore would defer an anſwer till his return. But the commons were well aware, that though this was depriving him even of the ſhadow of power, yet they had now gone too far to recede; and they were therefore deſirous of leaving him no authority whatever, being conſcious that themſelves would be the firſt victims to its fury. They alleged, that the dangers and diſtempers of the nation were ſuch as could endure no longer delay; and unleſs the king ſhould ſpeedily comply with their demands, they ſhould be obliged, both for his ſafety and that of the kingdom, to embody and direct a militia by the authority of both houſes. In their remonſtrances to the king, they deſired even to be permitted to command the army for an appointed time; which ſo exaſperated him, that he exclaimed, "No, not for an hour." This peremptory refuſal broke off all further treaty; and both ſides were now reſolved to have recourſe to arms.

116
War reſolved on between the king and parliament.

Charles, taking the prince of Wales with him, retired to York, where he found the people more loyal, and leſs infected with the frenzy of the times. He found his cauſe there backed by a more numerous party among the people than he had expected. The queen, who was in Holland, was making ſucceſsful levies of men and ammunition by ſelling the crown-jewels. But before war was openly declared, the ſhadow of a negociation was carried on, rather with a deſign to pleaſe the people than with any view of reconciliation. Nay, that the king might deſpair of all compoſition, the parliament ſent him the conditions on which they were willing to come to an agreement. Their demands were contained in 19 propoſitions, and amounted to a total abolition of monarchial authority. They required that no man ſhould remain in the council who was not agreeable to parliament; that no deed of the king's ſhould have validity unleſs it paſſed the council, and was atteſted under their hand; and that all the officers of ſtate ſhould be choſen with conſent of parliament; that none of the royal family ſhould marry without conſent of parliament or council; that the laws ſhould be executed againſt Catholics; that the votes of Popiſh lords ſhould be excluded; that the reformation of the liturgy and church-government ſhould take place according to the advice of parliament; that the ordinance with regard to the militia be ſubmitted to; that the juſtice of parliament may paſs upon all delinquents; that a general pardon be granted with ſuch exceptions as ſhould be adviſed by parliament; that the forts and caſtles be diſpoſed of by conſent of parliament, and that no peers be made but with conſent of both houſes. War on any terms was eſteemed, by the king and all his counſellors, preferable to ſo ignominious a peace. Charles accordingly reſolved to ſupport his authority by force of arms. "His towns (he ſaid) were taken from him; his ſhips, his army, and his money: but there ſtill remained to him a good cauſe, and the hearts of his loyal ſubjects; which, with God's bleſſing, he doubted not would recover all the reſt." Collecting therefore ſome forces, he advanced ſouthward, and erected his royal ſtandard at Nottingham.

117
Shameful requiſitions of parliament.

118
Rejected by Charles.

The king found himſelf ſupported in the civil war by the nobility and more conſiderable gentry. They, dreading a total confuſion of rank from the fury of the populace, inliſted themſelves under the banner of their monarch: from whom they received, and to whom they communicated, their luſtre. The concurrence of the biſhops and church of England alſo increaſed the adherents of the king; but it may be ſafely affirmed, that the high monarchial doctrines ſo much inculcated by the clergy, had never done him any good. The bulk of the nobility and gentry who now attended the king in his diſtreſſes, breathed the ſpirit of liberty as well as of loyalty; and in the hopes alone of his ſubmitting to a limited and legal government they were willing to ſacrifice their lives and fortunes.

On ther other hand, the city of London, and moſt of the great corporations, took part with the parliament; and adopted with zeal thoſe democratical principles on which theſe aſſemblies were founded. The example of the Dutch commonwealth too, where liberty had ſo happily ſupported induſtry, made the commercial part of the nation deſire to ſee a like form of government eſtabliſhed in England. Many families alſo, who had enriched themſelves by commerce, ſaw with indignation, that, notwithſtanding their opulence, they could not raiſe themſelves to a level with the ancient gentry; they therefore adhered to a power by whoſe ſucceſs they hoped to acquired rank and conſideration.

119
Diſtreſſed condition of the royaliſts.

At firſt every advantage ſeemed to lie againſt the royal cauſe. The king was totally deſtitute of money. London, and all the ſea-ports except New-caſtle, being in the hands of parliament, they were ſecure of a conſiderable revenue; and the ſeamen naturally following the diſpoſition of the ports to which they belonged, the parliament had the entire dominion of the ſea. All the magazines of arms and ammunition they ſeized at firſt; and their fleet intercepted the greateſt part of thoſe ſent by the queen from Holland. The king, in order to arm his followers, was obliged to borrow the weapons of the train bands, under promiſe of reſtoring them as ſoon as peace ſhould be ſettled. The nature and qualities of his adherents alone, gave the king ſome compenſation for all the advantages poſſeſſed by his adverſaries. More bravery and activity were hoped for from the generous ſpirit of the nobles and gentry, than from the baſe diſpoſition of the multitude. And as the landed gentlemen, at their own expence, levied and armed their tenants, beſides an attachment to their maſters, greater force and courage were to be expected from theſe ruſtic troops than from the vicious and enervated populace of cities. Had the parliamentary forces, however, exerted themſelves at firſt, they might have eaſily diſſipated the ſmall number the king had been able to collect, and which amounted to no more than 800 horſe and 300 foot; while his enemies were within a few days march of him with 6000 men. In a ſhort time the parliamentary army were ordered to march to Northampton; and the earl of Eſſex, who had joined them, ſound the whole to amount to 15,000. The king's army too was ſoon reinforced from all quarters, but ſtill having no force capable of coping with the parliamentary army, he thought it prudent to retire to Derby, and from thence to Shrewſbury, in order to countenance the levies which his friends were making in thoſe parts. At Wellington, a day's march from Shrewſbury, he made a rendezvous of all his forces, and cauſed his military orders to be read at the head of every regiment. That he might bind himſelf by reciprocal obligations, he here proteſted ſolemnly before his whole army, that he would maintain the Proteſtant religion according to the church of England; that he would govern according to the known ſtatutes and cuſtoms of the kingdom; and particularly that he would obſerve inviolable the laws to which he had given his conſent during this parliament, &c.

120
They gain advantage over their enemies.

While Charles lay at Shrewſbury, he received the news of an action, the firſt which had happened in theſe parts, and wherein his party was victorious. On the appearance of commotions in England, the princes Rupert and Maurice, ſons of the unfortunate elector palatine, had offered their ſervice to the king; and the former at that time commanded a body of horſe, which had been ſent to Worceſter in order to watch the motions of Eſſex, who was marching towards that city. No ſooner had the prince arrived, than he ſaw ſome cavalry of the enemy approaching the gates. Without delay he briſkly attacked them, as they were defiling from a lane, and forming themſelves. Colonel Sandys the commander, was killed, the whole party routed, and purſued above a mile.

121
Battle of Edgehill.

In 1642, October 23d, happened a general engagement at Edgehill, in which, though the royaliſts were at firſt victorious, their impetuoſity loſt the advantage they had gained, and nothing deciſive happened. Five thouſand men, it is ſaid, were found dead on the field of battle. Soon after, the king took Banbury and Reading; and defeated two regiments of his enemies at Brentford, taking 500 priſoners. Thus ended the campaign in 1642; in which though the king had the advantage, yet the parliamentary army amounted to 24,000 men, and was much ſuperior to his; notwithſtanding which, his enemies had been ſo far humbled as to offer terms of peace.

122
Aſſociation in favour of the king.

In 1643, the treaty was carried on, but without any ceſſation of hoſtilities: and indeed the negotiation went no farther than the firſt demand on each ſide; for the parliament, finding no likelihood of coming to an accommodation, ſuddenly recalled their commiſſioners. On the 27th of April, Reading ſurrendered to the parliamentary forces under the earl of Eſſex, who commanded a body of 18,000 men. The earl of Northumberland united in a league for the king the counties of Northumberland, Cumberland, Weſtmoreland, and the biſhopric; and engaged ſome time after other counties in the ſame aſſociation. The ſame nobleman alſo took poſſeſſion of York, and diſlodged the forces of the parliament at Tadcaſter, but his victory was not deciſive. Other advantages were alſo gained by the royaliſts; the moſt important of which was the battle of Stratton, where the poet Waller, who commanded the parliament's army, was entirely defeated, and forced to fly with only a few horſe to Briſtol. This happened on the 13th of July; and was followed by the ſiege of that city, which ſurrendered to prince Rupert on the 25th of the ſame month.

123
Parliamentary forces defeated at Stratton.

Though the taking of Briſtol had coſt the royaliſts dear, yet ſuch a continued run of ſucceſs had greatly diſpirited the oppoſite party; and ſuch confuſion now prevailed at London, that ſome propoſed to the king to march directly to that city, which it was hoped might be reduced either by an inſurrection of the citizens, by victory, or by treaty, and thus an end put to the civil diſorders at once. This advice, however, was rejected, on account of the great number of the London militia; and it was reſolved firſt to reduce Glouceſter, in conſequence of which the king would have the whole courſe of the Severn under his command. The rich and malecontent counties of the weſt having then loſt all protection from their friends, might be enforced to pay large contributions as an atonement for their diſaffection; an open communication could be preſerved between Wales and theſe new conqueſts; and half the kingdom being entirely freed from the enemy, and thus united into one firm body, might be employed in re-eſtabliſhing the king's authority throughout the remainder.

124
Charles beſieges Glouceſter.

The ſiege of this city commenced Auguſt 10th; but being defended by Maſſey a reſolute governor, and well garriſoned, made a vigorous defence. The conſternation at London, however, was as great as if the enemy had been already at their gates; and in the midſt of the general confuſion, a deſign was formed by Waller of forcing the parliament to accept of ſome reaſonable conditions of peace. He imparted his deſign to ſome others; but a diſcovery being made of their proceedings, he and two others were condemned to death. Waller, however, eſcaped with a fine of 10,000l. The city of Glouceſter in the mean time was reduced to the utmoſt extremity; and the parliament, as their laſt reſource, diſpatched Eſſex with an army of 14,000 men, in order to force the king to raiſe the ſiege of that city. This he accompliſhed, and when he entered, found only one barrel of gunpowder left, and other proviſions in the ſame proportion. On his return to London, he was intercepted by the kings army, with whom a moſt deſperate battle enſued at Newbury which laſted till night. Though the victory was left undecided, Eſſex next morning proceeded on his march, and reached London in ſafety, where he received the applauſe for his conduct he deſerved. The king followed him on his march; and having taken poſſeſſion of Reading after the earl left it, he there eſtabliſhed a garriſon, and ſtraitened by that means London and the quarters of the enemy.

125
He is forced to raiſe the ſiege.

126
Battle of Newbury.

In the north, during this ſummer, the earl, now created marquis of Newcaſtle, had raiſed a conſiderable force for the king; and great hopes of ſucceſs were entertained from that quarter. There appeared, however, in oppoſition to him, two men on whom the event of the war finally depended, and who began about this time to be remarked for their valour and military conduct. Theſe were, Sir Thomas Fairfax, ſon to the lord of that name: and Oliver Cromwell. The former gained a conſiderable advantage over the royaliſts at Wakefield, and took general Goring priſoner: the latter obtained a victory at Gainſborough over a party commanded by the gallant Cavendiſh, who periſhed in the action

127
Advantages gained by Fairfax and Cromwell.

128
Lord Fairfax defeated at Atherton

action. But both theſe defeats were more than compenſated by the total rout of lord Fairfax at Atherton moor, and the diſperſion of his army, which happened on the 31ſt of July. After this victory, the marquis of Newcaſtle ſat down before Hull with an army of 15,000 men; but being beat off by a ſally of the garriſon, he ſuffered ſo much that he thought proper to raiſe the ſiege. About the ſame time Mancheſter, who advanced from the eaſtern aſſociated counties, having joined Cromwell and young Fairfax, obtained a conſiderable victory over the royaliſts at Horn caſtle; where the two laſt mentioned officers gained renown by their conduct and gallantry. And though fortune had thus balanced her favours, the king's party ſtill remained much ſuperior in thoſe parts of England; and had it not been for the garriſon of Hull, which kept Yorkſhire in awe, a conjunction of the northern forces with the army in the ſouth might have been made, and had probably enabled the king, inſtead of entering on the unfortunate, perhaps imprudent enterpriſe of Glouceſter, to march directly to London, and put an end to the war. The battle of Newbury was attended with ſuch loſs on both ſides, that it put an end to the campaign of 1643, by obliging both parties to retire into winter quarters.

129
Engliſh parliament aſk aſſiſtance from the Scots.

The event of the war being now very doubtful, the king and parliament began both of them to look for aſſiſtance from other nations. The former caſt his eyes on Ireland, the latter on Scotland. The parliament of England had ever invited the Scots, from the commencement of the civil diſſenſions, to interpoſe their mediation, which they knew would be very little favourable to the king, and which for that reaſon he had declined. Early in the ſpring 1643, this offer of mediation had been renewed, with no better ſucceſs than before. The commiſſioners were alſo empowered to preſs the king to a compliance with the preſbyterian worſhip and diſcipline. But this he abſolutely refuſed, as well as to call a parliament in Scotland; ſo that the commiſſioners, finding themſelves unable to prevail in any one of their demands returned home highly diſſatisfied. The Engliſh parliament being now in great diſtreſs, gladly ſent commiſſioners to Edinburgh, to treat of a more cloſe confederacy with the Scottiſh nation. The perſon they principally truſted to on this occaſion was Sir Henry Vane, who in eloquence, addreſs, capacity, as well as in art and diſſimulation, was not even ſurpaſſed by any one in that age ſo famous for active talents. By his perſuaſion was framed at Edinburgh the SOLEMN LEAGUE AND COVENANT; which effaced all former proteſtations and vows taken in both kingdoms, and long maintained its credit and authority. In this covenant, the ſubſcribers, beſides engaging mutually to defend each other againſt all opponents, bound themſelves to endeavour, without reſpect of perſons, the extirpation of poetry and prelacy, ſuperſtition, hereſy, and profaneneſs; to maintain the rights and privileges of parliaments, together with the king's authority; and to diſcover and bring to juſtice all incendiaries and malignants. They vowed alſo to preſerve the reformed religion eſtabliſhed in the church of Scotland; but by the artifice of Vane, no declaration more explicit was made with regard to England and Ireland, than that theſe kingdoms ſhould be reformed according to the word of God, and the example of the pureſt churches.

130
Solemn league and covenant framed.

Great were the rejoicings among the Scots, that they ſhould be the happy inſtruments of extending their mode of religion, and diſſipating the profound darkneſs in which the neighbouring nations were involved. And being determined that the ſword ſhould carry conviction to all refractory minds, they prepared themſelves with great vigilance and activity for their military enterprizes; ſo that, having added to their other forces the troops which they had recalled from Ireland, they were ready about the end of the year to enter England under their old general the earl of Leven, with an army of above 20,000 men. The king, in order to ſecure himſelf, concluded a ceſſation of arms with the Iriſh rebels, and recalled a conſiderable part of his army from Ireland. Some Iriſh Roman Catholics came over with theſe troops, and joined the royal army, where they continued the ſame cruelties and diſorders to which they had been accuſtomed. The parliament voted, that no quarter in any action ſhould ever be given them. But prince Rupert, by making ſome repriſals, ſoon repreſſed this inhumanity.

131
Charles aſſiſted by the Iriſh.

The campaign of 1644 proved very unfortunate to the royal cauſe. The forces brought from Ireland were landed at Moyſtne in North-Wales, and put under the command of lord Biron. They beſieged and took the caſtles of Hawarden, Beeſton, Acton, and Deddington-houſe. No place in Cheſhire or the neighbourhood now adhered to the parliament, except Lantwich; and to this place Biron laid ſiege in the depth of winter. Sir Thomas Fairfax, alarmed at ſo great a progreſs, aſſembled an army of 4000 men in Yorkſhire; and having joined Sir William Brereton, was approaching to to the camp of the royaliſts. Biron and his ſoldiers, elated with ſucceſſes in Ireland, entertained a moſt profound contempt for their enemies. Fairfax ſuddenly attacked their camp. The ſwelling of the river by a thaw, divided one part of the army from another. That part expoſed to Fairfax, being beat from their poſt, retired into the church at Acton, where being ſurrounded, they were all taken priſoners. The other retreated with precipitation; and thus was diſſipated or rendered uſeleſs that body of forces which had come from Ireland. This happened on the 25th of January; and on the 11th of April, Colonel Bellaſis was totally defeated at Selby in Yorkſhire by Sir Thomas Fairfax, who had returned from Cheſhire with his victorious forces. Being afterwards joined by lord Leven, the two generals ſat down before the city of York; but being unable to inveſt that city completely, they were obliged to content themſelves with incommoding it by a looſe blockade. Hopeton, having aſſembled a body of 14,000 men, endeavoured to break into Suſſex, Kent, and the ſouthern aſſociation, which ſeemed well diſpoſed to receive him; but was defeated by Waller at Cherington. At Newark, however, prince Rupert totally defeated the parliamentary army which beſieged that place; and thus preſerved the communication open between the king's northern and ſouthern quarters.

132
Iriſh forces diſperſed.

The great advantages the parliament had gained in the north, ſeemed now to ſecond their unwarrantable enterprizes, and finally to promiſe them ſucceſs. Mancheſter

133 York beſieged by the parliamentary forces.

134 Royaliſts defeated at Marſton moor.

cheſter having taken Lincoln, had united his army to that of Leven and Fairfax; and York was now cloſely beſieged by their numerous forces. That town, tho' vigorouſly defended by the marquis of Newcaſtle, was reduced to the laſt extremity, when prince Rupert, having joined Sir Charles Lucas who commanded Newcaſtle's horſe, haſtened to its relief with an army of 20,000 men. The Scots and parliamentary generals raiſed the ſiege, and drawing up on Marſton moor, propoſed to give battle to the royaliſts. Prince Rupert approached the town by another quarter, and interpoſing the river Ouſe between him and the enemy, ſafely joined his forces to thoſe of Newcaſtle. The marquis endeavoured to perſuade him, that having ſo ſucceſsfully effected his purpoſe, he ought to be contented with the preſent advantages, and leave the enemy, now much diminiſhed by their loſſes, and diſcouraged by their ill ſucceſs, to diſſolve by thoſe mutual diſſenſions which had begun to take place among them. The prince, however, hurried on by his natural impetuoſity, gave immediate orders for fighting. The battle was loſt, the royal army entirely puſhed off the field, and the train of artillery taken. Immediately after this unfortunate action the marquis of Newcaſtle left the kingdom, and prince Rupert retired into Lancaſhire. The city of York was ſurrendered in a few days, and Newcaſtle ſoon after taken by ſtorm.

This was a fatal below to the royal cauſe, and far from being balanced by an advantage gained at Cropredy bridge by the king over Waller, or even by the diſarming of Eſſex's forces, which happened on the 1ſt of September. On the 27th of October, another battle was fought at Newbury, in which the royaliſts were worſted, but ſoon after retrieved their honour at Dennington caſtle, which finiſhed the campaign in 1644.

135 Extravagant demands of the parliament.

In 1645, a negociation was again ſet on foot, and the commiſſioners met at Uxbridge on the 30th of January; but it was ſoon found impoſſible to come to any agreement. The demands of the parliament were exorbitant; and, what was worſe, their commiſſioners owned them to be nothing but preliminaries. The king was required to attaint, and except from a general pardon, 40 of the moſt conſiderable of his Engliſh ſubjects, and 19, of his Scots, together with all the Popiſh recuſants who had borne arms for him. It was inſiſted that 48 more, with all the members of either houſe who had ſat in the parliament called by the king at Oxford, all lawyers and divines who had embraced the king's party, ſhould be rendered incapable of any office, be forbid the exerciſe of their profeſſions, be prohibited from coming within the verge of the court, and forfeit the third of their eſtates to the parliament. It was required, that whoever had borne arms for the king ſhould forfeit the tenth of their eſtates, or if that did not ſuffice, the ſixth, for the payment of public debts. As if royal authority were not ſufficiently annihilated by theſe terms, it was demanded that the court of wards ſhould be aboliſhed; that all the conſiderable officers of the crown, and all the judges, ſhould be appointed by parliament; and that the right of peace and war ſhould not be exerciſed without conſent of parliament. A little before the commencement of this fruitleſs treaty, the parliament, to ſhow their determined reſolution to proceed in the ſame haughty imperious method in which they had begun, brought to the block archbiſhop Laud, who had long been a priſoner in the tower, and was incapable of giving offence to any.

136 Execution of Laud.

137 Exploits of the earl of Montroſe in Scotland.

While the king's affairs thus went into decay in England, they ſeemed to revive a little in Scotland, thro' the conduct and valour of the earl of Montroſe, a young nobleman newly returned from his travels. He had been introduced to the king; but not meeting with an agreeable reception, had gone over to the covenanters, and been active in forwarding all their violence. Being commiſſioned, however, by the tables, to wait upon the king while the army lay at Berwick, he was ſo gained by the civilities and careſſes of that monarch, that he thenceforth devoted himſelf entirely, though ſecretly, to his ſervice. For attempting to form an aſſociation in favour of the royal cauſe, Montroſe was quickly thrown into priſon; but being again releaſed, he found the king ready to give ear to his counſels, which were of the boldeſt and moſt daring kind. Though the whole nation of Scotland was occupied by the covenanters, though great armies were kept on foot by them, and every place guarded by a vigilant adminiſtration, he undertook by his own credit, and that of the few friends who remained to the king, to raiſe ſuch commotions, as would ſoon oblige thoſe malecontents to recal the forces which had ſo ſenſibly thrown the balance in the favour of parliament. The defeat at Marſton-moor, had left him no hopes of any ſuccours from England; he was therefore obliged to ſtipulate with the earl of Antrim, a nobleman of Ireland, for ſome ſupply of men from that country. And he himſelf, having uſed various diſguiſes, and paſſed through many dangers, arrived in Scotland, where he lay for ſome time concealed in the borders of the Highlands.

The Iriſh did not exceed 1100 foot, very ill armed. Montroſe immediately put himſelf at their head; and, being joined by 1300 Highlanders, attacked lord Elcho, who lay at Perth with 6000 men, utterly defeated him, and killed 2000 of the covenanters. He next marched northwards, in order to rouſe again the marquis of Huntly and the Gordons, who had taken arms before, but been ſuppreſſed by the covenanters. At Aberdeen he attacked and entirely defeated lord Burley, who commanded 2500 men. Montroſe, however, by this victory, did not obtain the end he propoſed; the marquis of Huntly ſhowed no inclination to join an army where he was ſo much eclipſed by the general.

Montroſe was now in a very dangerous ſituation. Argyle, reinforced by the earl of Lothian, was behind him with a great army. The militia of the northern counties, Murray, Roſs, and Caithneſs, to the number of 5000, oppoſed him in front, and guarded the banks of the Spey, a deep and rapid river. In order to ſave his troops, he turned aſide into the hills; and after ſome marches and countermarches, Argyle came up with him at Faivy caſtle; and here, after ſome ſkirmiſhes, in which he was always victorious, Montroſe got clear of a ſuperior army, and by a quick march through theſe almoſt inacceſſible mountains put himſelf abſolutely beyond their power.

It was the misfortune of this general, that very good or very ill fortune were equally deſtructive of his army. After every victory his Scots ſoldiers went home to enjoy the ſpoil they had acquired; and had his army been compoſed of theſe only, he muſt have ſoon been abandoned altogether: but his Iriſhmen having no place to which they could retire, adhered to him in every fortune. With theſe, therefore, and ſome reinforcements of the Atholmen and Macdonalds, Montroſe fell ſuddenly upon Argyle's country, letting looſe upon it all the horrors of war. Argyle, collecting 3000 men, marched in queſt of the enemy, who had retired with their plunder; and he lay at Innerlochy, ſuppoſing himſelf to be ſtill at a good diſtance from them. The earl of Seaforth, at the head of the garriſon of Inverneſs, and a body of 5000 new-levied troops, preſſed the royaliſts on the other ſide, and threatened them with total deſtruction. By a quick and unexpected march, Montroſe haſtened to Innerlochy, and preſented himſelf in order of battle before the convenanters. Argyle alone, ſeized with a panic, deſerted his army. They made a vigorous reſiſtance, however; but were at laſt defeated and purſued with great ſlaughter: after which Montroſe was joined by great numbers of Highlanders; Seaforth's army diſperſed of itſelf; and the lord Gordon, eldeſt ſon to the marquis of Huntly, having eſcaped from his uncle Argyle, who had hitherto detained him, now joined Montroſe with a conſiderable number of his followers, attended by the earl of Aboyne.

The council at Edinburgh, alarmed at theſe victories, ſent for Baillie, an officer of reputation, from England; and, joining him in command with Urrey, ſent them with a conſiderable army againſt the royaliſts. Montroſe, with a detachment of 800 men, had attacked Dundee, a town extremely attached to the covenant; and having carried it by aſſault, had given it up to be plundered by his ſoldiers; when Baillie and Urrey with their whole force came upon him. He inſtantly called off his ſoldiers from the plunder; put them in order; ſecured his retreat by the moſt ſkilful meaſures; and having marched 60 miles in the face of an enemy much ſuperior, without ſtopping, or allowing his ſoldiers the leaſt ſleep or refreſhment, at laſt ſecured himſelf in the mountains. His antagoniſts now divided their forces, in order to carry on the war againſt an enemy who ſurpriſed them as much by the rapidity of his marches as by the boldneſs of his enterprizes.

138
He defeats two armies, each double in number to his own.

Urrey met him with 4000 men, at Alderne near Inverneſs; and truſting to his ſuperiority in numbers (for Montroſe had only 2000 men), attacked him in the poſt which he had choſen. Montroſe, having placed his right wing in ſtrong ground, drew the beſt of his forces to the other, and left no main body between them; a defect which he artfully concealed by ſhowing a few men through trees and buſhes with which that ground was covered. That Urrey might have no leiſure to perceive the ſtratagem, he inſtantly led his wing to the charge, made a furious attack on the convenanters, drove them off the field, and abtained a complete victory over them. Baillie now advanced, in order to revenge Urrey's defeat; but he himſelf met with a like fate at Alſord. Montroſe, weak in cavalry, lined his troops of horſe with infantry; and, after putting the enemy's horſe to rout, fell with united force upon their foot, which were entirely cut in pieces, though with the loſs of the gallant lord Gordon on the part of the royaliſts. —Having thus prevailed in ſo many battles, which his vigour always rendered as deciſive as they were ſucceſsful, he prepared for marching into the ſouthern provinces, in order to put a total period to the power of the convenanters, and diſſipate the parliament, which with great pomp and ſolemnity they had ordered to meet at St Johnſtone's.

139
Parliamentary army new modelled.

While Montroſe was thus ſignalizing his valour in the north, Fairfax, or rather Oliver Cromwell under his name, employed himſelf in bringing in a *new model* into the parliamentary army, and throwing the whole troops into a different ſhape; and never ſurely was a more ſingular army eſtabliſhed, than that which was now ſet on foot by the parliament. To the greateſt number of the regiments chaplains were not appointed. The officers aſſumed the ſpiritual duty, and united it with their military functions. During the intervals of action they occupied themſelves in ſermons, prayers, and exhortations. Rapturous ecſtacies ſupplied the place of ſtudy and reflection; and while the zealous devotees poured out their thoughts in unpremeditated harangues, they miſtook that eloquence, which to their own ſurpriſe, as well as that of others, flowed in upon them, for divine illuminations, and illapſes of the Holy Spirit. Wherever they were quartered, they excluded the miniſter from his pulpit; and, uſurping his place, conveyed their ſentiments to the audience with all the authority that followed their power, their valour, and their military exploits, united to their apparent zeal and fervour. The private ſoldiers were ſeized with the ſame ſpirit; and in ſhort, ſuch an enthuſiaſm ſeized the whole army as was perhaps ſcarce ever equalled.

The royaliſts ridiculed this fanaticiſm of the parliamentary armies, without being ſenſible how much reaſon they had to dread it. They were at this time equal, if not ſuperior, in numbers to their enemies; but ſo licentious, that they were become more formidable to their friends than their enemies. The commanders were moſt of them men of diſſolute characters; in the weſt eſpecially, where Goring commanded, univerſal ſpoil and havock were committed; and the whole country was laid waſte by the rapine of the army; ſo that the moſt devoted friends both to the church and ſtate wiſhed there for ſuch ſucceſs to the parliamentary forces as might put an end to theſe diſorders.

140
Royaliſts defeated at Naſeby.

The natural conſequence of ſuch enthuſiaſm in the parliamentary army, and licentiouſneſs in that of the king, was, that equal numbers of the latter would no longer maintain their ground againſt the former. This appeared in the deciſive battle of Naſeby, where the forces were nearly equal; but after an obſtinate engagement, Charles was entirely defeated, 500 of his officers and 4000 private men made priſoners, all his artillery and ammunition taken, and his infantry totally diſperſed; ſo that ſcarce any victory could be more complete.

After this fatal battle, the king retired firſt to Hereford, then to Abergavenny; and remained ſome time in Wales, from the vain hope of raiſing a body of infantry in theſe quarters already harraſſed and exhauſted. His affairs now, however, went to ruin in all quarters. Fairfax retook Leiceſter on the 17th of June. On the 10th of July, he raiſed the ſiege of Taunton; and the royaliſts retired to Lamport, an open town in the county of Somerſet. Here they were attacked by Fairfax, and beat from their poſt, with the loſs of 300 killed and 1400 taken priſoners. This was followed by the

141 Briſtol taken.

the loſs of Bridgewater, which Fairfax took three days after; making the garriſon, to the number of 2600 men, priſoners of war. He then reduced Bath and Sharburn; and on the 11th of September Briſtol was ſurrendered to him by prince Rupert, though a few days before he had boaſted in a letter to Charles, that he would defend the place for four months. This ſo enraged the king, that he immediately recalled all the prince's commiſſions, and ſent him a paſs to go beyond ſea.

The Scots in the mean time, having made themſelves maſters of Carliſle after an obſtinate ſiege, marched ſouthwards and inveſted Hereford; but were obliged to raiſe the ſiege on the king's approach. And this was the laſt glimpſe of ſucceſs that attended his arms. Having marched to the relief of Cheſter, which was anew beſieged by the parliamentary forces under colonel Jones, his rear was attacked by Pointz, and an engagement immediately enſued. While the fight was continued with great obſtinacy, and victory ſeemed to incline to the royaliſts, Jones fell upon them from the other ſide, and defeated them with the loſs of 600 killed and 1000 taken priſoners. The king with the remains of his army fled to Newark; and from thence eſcaped to Oxford, where he ſhut himſelf up during the winter ſeaſon.

142 Charles retires to Oxford.

After the ſurrender of Briſtol, Fairfax and Cromwell having divided their forces, the former marched weſtwards in order to complete the conqueſt of Devonſhire and Cornwall; the Latter attacked the king's garriſons which lay to the eaſt of Briſtol. Nothing was able to ſtand before theſe victorious generals; every town was obliged to ſubmit, and every body of troops that pretended to reſiſt were utterly defeated. At laſt, news arrived, that Montroſe himſelf, after ſome more ſucceſſes, was defeated; and thus the only hope of the royal party was deſtroyed.

When that brave general deſcended into the ſouthern counties, the covenanters, aſſembling their whole force, met him with a numerous army, and gave him battle at Kilſyth. Here he obtained his moſt memorable victory: 6000 of the covenanters were killed on the ſpot, and no remains of an army left them in Scotland. Many noblemen, who ſecretly favoured the royal cauſe, now declared openly for it when they ſaw a force able to ſupport them. The marquis of Douglaſs, the earls of Annandale and Hartfield, the lords Fleming, Seton, Maderty, Carnegy, with many others, flocked to the royal ſtandard. Edinburgh opened its gates, and gave liberty to all the priſoners there detained by the covenanters. Among the reſt was lord Ogilvy, ſon to Airly, whoſe family had contributed very much to the victory gained at Kilſyth.—David Leſly was detached from the army in England, and marched to the relief of his diſtreſſed party in Scotland. Montroſe advanced ſtill further to the ſouth, allured by the vain hopes, both of rouſing to arms the earls of Hume, Traquaire, and Roxborough, who had promiſed to join him; and of obtaining from England ſome ſupply of cavalry, in which he was very deficient. By the negligence of his ſcouts, Leſly, at Philip-haugh in the foreſt, ſurprized his army, much diminiſhed in numbers from the deſertion of the Highlanders, who had retired to the hills, according to cuſtom, to ſecure their plunder. After a ſharp conflict, in which Montroſe exerted great valour, his forces were routed by Leſly's cavalry, and he himſelf forced to fly to the mountains.

143 Montroſe defeated.

144 Charles ſurrenders himſelf to the Scots.

Nothing could be more affecting than the ſituation in which the king now was. He now reſolved to grant the parliament their own terms, and ſent them repeated meſſages to this purpoſe, but they never deigned to make him the leaſt reply. At laſt, after reproaching him with the blood ſpilt during the war, they told him that they were preparing ſome bills, to which, if he would conſent, they would then be able to judge of his pacific inclinations. Fairfax, in the mean time, was advancing with a victorious army in order to lay ſiege to Oxford; and Charles, rather than ſubmit to be taken captive and led in triumph by his inſolent ſubjects, reſolved to give himſelf up to the Scots, who had never teſtified ſuch implacable animoſity againſt him, and to truſt to their loyalty for the reſt. After paſſing through many bye-ways and croſs-roads, he arrived in company with only two perſons, Dr Hudſon and Mr Aſhburnham, at the Scots camp before Newark, and diſcovered himſelf to lord Leven their general.

145 Who ſell him to the Engliſh.

The reception he met with was ſuch as might be expected from theſe infatuated bigots, deſtitute of every principle of reaſon, honour, or humanity. Inſtead of endeavouring to alleviate the diſtreſſes of their ſovereign, they ſuffered him to be inſulted by the clergymen. They immediately ſent an account of his arrival to the Engliſh parliament, and they as quickly entered into a treaty with the Scots about delivering up their priſoner. The Scots thought this a proper time for the recovery of their arrears due to them by the Engliſh. A great deal was really due them, and they claimed much more than actually belonged to them. At laſt after various debates between them and the parliament, in which they pretended to great honour, and inſiſted upon many punctilios, it was agreed, that upon payment of L. 400,000, the Scots ſhould deliver up the king to his enemies; and this was cheerfully complied with. Thus the Scots juſtly fell under the cenſure of having ſold their king who had thrown himſelf upon their mercy; a ſtain peculiar to the nation, and unparalleled in hiſtory either ancient or modern. It muſt, however, be acknowledged, that the infamy of this bargain had ſuch an influence on the Scots parliament, that they once voted that the king ſhould be protected and his liberty inſiſted on. But the general aſſembly interpoſed; and pronounced, that as he had refuſed to take the covenant which was preſſed on him, it became not the godly to concern themſelves about his fortunes. In conſequence of this, the parliament were obliged to retract their vote. The king, being delivered over to the Engliſh commiſſioners, was conducted under a guard to Holdenby in the county of Northampton, where he was very rigorouſly confined; his ancient ſervants being diſmiſſed, himſelf debarred from viſits, and all communication cut off with his friends or family.

146 The army begin to uſurp the ſovereign power.

The civil war being now over, the king abſolved his followers from their allegiance, and the parliament had now no enemy to fear but their own troops. From this quarter their danger only aroſe; and it was not long before they found themſelves in the ſame unfortunate ſituation to which they had reduced the king. The majority of the houſe were Preſbyterians, but the majority of the army were independents. The former, ſoon after the retreat of the Scots, ſeeing every thing reduced

147
A military parliament formed.

148
Cromwell ſeizes the king.

reduced to obedience, propoſed to diſband a conſiderable part of the army, and ſend the reſt over to Ireland. This was by no means reliſhed, and Cromwell took care to heighten the diſſatisfaction. Inſtead of preparing to diſband, therefore, the ſoldiers reſolved to petition; and they began by deſiring an indemnity, ratified by the king, for any illegal actions which they might have committed during the war. The commons voted that this petition tended to introduce mutiny, &c. and threatened to proceed againſt the promoters of it as enemies to the ſtate and diſturbers of the public peace. The army now began to ſet up for themſelves. In oppoſition to the parliament at Weſtminſter, a military parliament was formed. The principal officers formed a council to repreſent the body of peers; the ſoldiers elected two men out of each company to repreſent the commons, and theſe were called the *agitators of the army;* and of this aſſembly Cromwell took care to be a member. The new parliament ſoon found many grievances to be redreſſed; and ſpecified ſome of the moſt conſiderable. The commons were obliged to yield to every requeſt, and the demands of the agitators roſe in proportion. The commons accuſed the army of mutiny and ſedition; the army retorted the charge, and alleged that the king had been depoſed only to make way for their uſurpations. Cromwell, in the mean time, who ſecretly conducted all the meaſures of the army, while he exclaimed againſt their violence, reſolved to ſeize the king's perſon. Accordingly a party of 500 horſe appeared at Holmby caſtle, under the command of one Joyce, originally a taylor, but now a cornet; and by this man was the king conducted to the army, who were haſtening to their rendezvous at Triplo-heath near Cambridge. Next day Cromwell arrived among them, where he was received with acclamations of joy, and immediately inveſted with the ſupreme command.

The commons now ſaw the deſigns of the army; but it was too late, all reſiſtance was become vain: Cromwell advanced with precipitation, and was in a few days at St Alban's. Even ſubmiſſion was now to no purpoſe; the army ſtill roſe in their demands, in proportion as theſe demands were gratified, till at laſt they claimed a right of modelling the whole government, and ſettling the nation.

149
Sixty-two members of parliament join the army.

Cromwell began by accuſing eleven members of the houſe, the very leaders of the preſbyterian party, as guilty of high treaſon, and being enemies of the army. The commons were willing to protect them; but the army inſiſting on their diſmiſſion, they voluntarily left the houſe. At laſt the citizens of London, finding the conſtitution totally overturned, and a military deſpotiſm beginning to take place, inſtead of the kingly one they were formerly afraid of, began to think ſeriouſly of repreſſing the inſolence of the troops. The common council aſſembled the militia of the city; the works were manned; and a manifeſto publiſhed, aggravating the hoſtile intentions of the army. Finding that the commons, in compliance with the requeſt of the army, had voted that the city-militia ſhould be diſbanded, the multitude roſe, beſieged the door of the houſe, and obliged them to reverſe that vote they had ſo lately paſſed. The aſſembly was, of conſequence, divided into two parties; the greater part ſiding with the citizens; but the minority, with the two ſpeakers at their head, were for encouraging the army. Accordingly the two ſpeakers, with 62 of the members, ſecretly retired from the houſe, and threw themſelves under the protection of the army, who were then at Hounſlow-heath. They were received with ſhouts and acclamations; their integrity was extolled; and the whole force of the ſoldiery, to the number of 20,000 men, now moved forward to reinſtate them in their places.

150
The reſt ſubmit.

In the mean time, the part of the houſe which was left, reſolved to reſiſt the encroachments of the army. They choſe new ſpeakers, gave orders for enliſting troops, ordered the train-bands to man the lines; and the whole city boldly reſolved to reſiſt the invaſion. But this reſolution only held while the enemy was at a diſtance; for when Cromwell appeared, all was obedience and ſubmiſſion: the gates were opened to the general, who attended the two ſpeakers and the reſt of the members peaceably to their habitations. The eleven impeached members being accuſed as cauſes of the tumult, were expelled; and moſt of them retired to the continent. The mayor, ſheriff, and three aldermen, were ſent to the tower; ſeveral citizens, and officers of the militia, were committed to priſon; the lines about the city levelled with the ground; and the command of the Tower was given to Fairfax.

151
Charles reſolves to leave the kingdom.

It now only remained to diſpoſe of the king, who remained a priſoner at Hampton-court. The independent army, at the head of whom was Cromwell, on one hand; and the preſbyterians, in name of both houſes, on the other; treated with him ſeparately in private. He had ſometimes even hopes, that, in theſe ſtruggles for power, he might have been choſen mediator in the diſpute; and he expected that the kingdom at laſt, being ſenſible of the miſeries of anarchy, would of its own accord be huſhed into its former tranquil condition. At this time he was treated with ſome flattering marks of diſtinction; he was permitted to converſe with his old ſervants; his chaplains were permitted to attend him, and celebrate divine ſervice their own way. But the moſt exquiſite pleaſure he enjoyed was in the company of his children, with whom he had ſeveral interviews. The meeting on theſe occaſions was ſo pathetic, that Cromwell himſelf, who was once preſent, could not help being moved, and was heard to declare, that he never beheld ſuch an affecting ſcene before. But theſe inſtances of reſpect were of no long continuance. As ſoon as the army had gained a complete victory over the houſe of commons, the king was treated not only with the greateſt diſreſpect, but even kept in continual alarms for his own perſonal ſafety. The conſequence of this was, that Charles at laſt reſolved to withdraw himſelf from the kingdom. Accordingly, on the 11th of November 1647, attended only by Sir John Berkeley, Aſhburnham, and Leg, he privately left Hampton-court; and his eſcape was not diſcovered till near an hour after; when thoſe who entered his chamber, found on the table ſome letters directed to the parliament, to the general, and to the officer who had attended him. All night he travelled through the foreſt, and arrived next day at Tichfield, a ſeat of the earl of Southampton, where reſided the counteſs dowager, a woman of honour, to whom the king knew he might ſafely entruſt his perſon. Before he arrived at this place, he had gone to the ſea-coſt: and expreſſed great

152 He is ſeized and confined in the iſle of Wight.

anxiety that a ſhip which he ſeemed to look for had not arrived. He could not hope to remain long concealed at Tichfield: the queſtion was, what meaſure ſhould next be embraced? In the neighbourhood lay the iſle of Wight, of which Hammond was governor. This man was entirely dependent on Cromwell, which was a very unfavourable circumſtance: yet becauſe the governor was nephew to Dr Hammond the king's favourite chaplain, and had acquired a good reputation in the army, it was thought proper to have recourſe to him in the preſent exigence, when no other rational expedient could be thought of. Aſhburnham and Berkely were diſpatched to the iſland. They had orders not to inform Hammond of the place where the king lay concealed, till they had firſt obtained a promiſe of him not to deliver up his majeſty, even though the parliament and army ſhould require him; but reſtore him to his liberty, if he could not protect him. The promiſe would have been but a ſlender ſecurity: yet even without exacting it, Aſhburnham imprudently, if not treacherouſly, brought Hammond to Tichfield; and the king was obliged to put himſelf into his hands, and to attend him to Cariſbroke caſtle in the Iſle of Wight, where, though he was received with great demonſtrations of reſpect and kindneſs, he was in reality a priſoner.

153 Cromwell in danger from the levellers.

While the king continued in this forlorn ſituation, Cromwell found himſelf upon the point of loſing all the fruits of his former ſchemes, by having his own principles turned againſt himſelf. Among the Independents, who in general were for no eccleſiaſtical ſubordination, a ſet of men grew up called *levellers*, who diſallowed all ſubordination whatſoever, and declared that they would have no other chaplain, king, or general, but Jeſus Chriſt. Though this would have gone down very well with Cromwell as long as it was only directed againſt his enemies, he did not ſo well reliſh it when applied to himſelf. Having intimation that the levellers were to meet at a certain place, he unexpectedly appeared before them at the head of his red regiment, which had hitherto been deemed invincible. He demanded, in the name of God, what theſe meetings and murmurings meant; he expoſtulated with them upon the danger and conſequence of their precipitant ſchemes, and deſired them immediately to depart. Inſtead of obeying, however, they returned an inſolent anſwer; wherefore ruſhing on them in a fury, he laid two of them dead at his feet. His guards diſperſing the reſt, he cauſed ſeveral of them to be hanged upon the ſpot, and ſent others to London; and thus diſſipated a faction no otherwiſe criminal than in having followed his own example.

154 He defeats the Scots.

Cromwell's authority was greatly increaſed by the laſt mentioned action; but it became irreſiſtible in conſequence of a new and unexpected addition to his ſucceſſes. The Scots, perhaps aſhamed of the reproach of having ſold their king, and ſtimulated farther by the Independents, who took all occaſions to mortify them, raiſed an army in his favour, and the chief command was given to the earl of Hamilton; while Langdale, who profeſſed himſelf at the head of the more bigotted party who had taken the covenant, marched at the head of his ſeparate body, and both invaded the north of England. Though theſe two armies amounted to above 20,000 men, yet Cromwell, at the head of 8000 of his hardy veterans, feared not to give them battle. He attacked them one after another; routed and diſperſed them; took Hamilton priſoner; and, following his blow, entered Scotland, the government of which he ſettled entirely to his ſatisfaction. An inſurrection in Kent was quelled by Fairfax with the ſame eaſe; and nothing but ſucceſs attended all this uſurper's attempts.

155 Negociation between the king and parliament

During theſe contentions, the king, who was kept a priſoner at Cariſbroke caſtle, continued to negociate with the parliament for ſettling the unſpeakable calamities of the kingdom. The parliament now ſaw no other method of deſtroying the military power, but to depreſs it by the kingly. Frequent propoſals for an accommodation paſſed between the captive king and the commons; but the great obſtacle which had all along ſtood in the way, ſtill kept them from agreeing. This was the king's refuſing to aboliſh epiſcopacy, though he conſented to alter the liturgy. However, the treaty was ſtill carried on with vigour, and the parliament for the firſt time ſeemed in earneſt to conclude their negociations. But all was now too late. The victorious army, with Cromwell at their head, advanced to Windſor, and with furious remonſtrances began to demand vengeance on the king. The unhappy monarch had been lately ſent under confinement to that place; and from thence he was now conveyed to Hurſt-caſtle in Hampſhire, oppoſite to the iſle of Wight. The parliament in the mean time began to iſſue ordinances for a more effectual oppoſition to theſe military encroachments, when they were aſtoniſhed by a meſſage from Cromwell, that he intended paying them a viſit next day with his whole army; and in the mean time ordering them to raiſe him L. 40,000 on the city of London.

The commons, though deſtitute of all hopes of prevailing, had ſtill the courage to reſiſt, and to attempt in the face of the whole army to finiſh the treaty they had begun with the king. They had taken into conſideration the whole of his conceſſions; and though they had formerly voted them unſatisfactory, they now renewed the conſultation with great vigour. After a violent debate which laſted three days, it was carried in the king's favour by a majority of 129 againſt 83, that his conceſſions were a foundation for the houſes to proceed upon in ſettling the affairs of the nation. This was the laſt attempt in his favour; for the next day colonel Pride, at the head of two regiments, blockaded the houſe; and ſeizing in the paſſage 41 members of the Preſbyterian party, ſent them to a low room belonging to the houſe, that paſſed by the denomination of *Hell*. Above 160 members more were excluded; and none were allowed to enter but the moſt furious and determined of the Independents, in all not exceeding 60. This atrocious invaſion of parliamentary rights commonly paſſed by the name of *Pride's purge*, and the remaining members were called the *Rump*. Theſe ſoon voted, that the tranſactions of the houſe a few days before were entirely illegal, and that their general's conduct was juſt and neceſſary.

156 Colonel Pride's purge.

157 Charge againſt the king brought in.

Nothing now remained, to complete the wickedneſs of this parliament, but the murder of the king. In this aſſembly, therefore, compoſed of the moſt obſcure citizens, and officers of the army, a committee was appointed to bring in a charge againſt the king; and on their report, a vote paſſed declaring it treaſon in a king to levy war againſt his parliament. It was therefore reſolved, that an high court of juſtice ſhould be appointed, to try his majeſty for this new invented treaſon. For form's ſake, they deſired the concurrence of the few remaining lords in the upper houſe; but there was virtue enough left in that body unanimouſly to reject the propoſal. The commons, however, were not to be ſtopped by ſo ſmall an obſtacle. They voted that the concurrence of the houſe of lords was unneceſſary, and that the people were the origin of all juſt power. To add to their zeal, a woman of Herefordſhire, illuminated by prophetical viſions, deſired admittance, and communicated a revelation ſhe pretended to have received from heaven. She aſſured them that their meaſures were conſecrated from above, and ratified by the ſanction of the Holy Ghoſt. This intelligence gave them great comfort, and much confirmed them in their preſent reſolutions.

Colonel Harriſon, the ſon of a butcher, was commanded to conduct the king from Hurſt-caſtle to Windſor, and from thence to London. His afflicted ſubjects, who ran to have a ſight of their ſovereign, were greatly affected at the change that appeared in his face and perſon. He had permitted his beard to grow; his hair was become venerably grey, rather by the preſſure of anxiety than the hand of time; while the reſt of his apparel bore the marks of misfortune and decay. He had long been attended by an old decrepid ſervant whoſe name was *Sir Philip Warwick*, who could only deplore his maſter's fate without being able to revenge his cauſe. All the exterior ſymbols of ſovereignty were now withdrawn, and his attendants had orders to ſerve him without ceremony. He could not, however, be perſuaded that his adverſaries would bring him to a formal trial; but he every moment expected to be diſpatched by private aſſaſſination.

158
His trial.

From the 6th to the 20th of January was ſpent in making preparations for this extraordinary trial. The court of juſtice conſiſted of 133 perſons named by the commons; but of theſe never above 70 met upon the trial. The members were chiefly compoſed of the principal officers of the army, moſt of them of very mean birth, together with ſome of the lower houſe, and a few citizens of London. Bradſhaw a lawyer was choſen preſident; Coke was appointed ſolicitor for the people of England; Doriſlaus, Steele, and Aſke, were named aſſiſtants. The court ſat in Weſtminſter-hall. When the king was brought forward before the court, he was conducted by the mace-bearer to a chair placed within the bar. Though long detained a priſoner, and now produced as a criminal, he ſtill maintained the dignity of a king. His charge was then read by the ſolicitor, accuſing him of having been the cauſe of all the bloodſhed which followed ſince the commencement of the war; after which Bradſhaw directed his diſcourſe to him, and told him that the court expected his anſwer.

The king began his defence with declining the authority of the court. He repreſented, that having been engaged in treaty with his two houſes of parliament, and having finiſhed almoſt every article, he expected a different treatment from what he had now received. He perceived, he ſaid, no appearance of an upper houſe, which was neceſſary to conſtitute a juſt tribunal. He alleged that he was himſelf the king and fountain of law, and conſequently could not be tried by laws to which he had never given his aſſent; that having been entruſted with the liberties of the people, he would not now betray them by recognizing a power founded in uſurpation; that he was willing, before a proper tribunal, to enter into the particulars of his defence: but that before them he muſt decline any apology for his innocence, leſt he ſhould be conſidered as the betrayer of, and not a martyr for, the conſtitution. Bradſhaw, in order to ſupport the authority of the court, inſiſted, that they had received their authority from the people, the ſource of all right. He preſſed the king not to decline the authority of the court that was delegated by the commons of England, and interrupted and over-ruled him in his attempts to reply. In this manner the king was three times produced before the court, and as often perſiſted in declining its juriſdiction. The fourth and laſt time he was brought before this ſelf-created tribunal, as he was proceeding thither, he was inſulted by the ſoldiers and the mob, who cried out, "Juſtice! juſtice! Execution! execution! but he continued undaunted. His judges having now examined ſome witneſſes, by whom it was proved that the king had appeared in arms againſt the forces commiſſioned by parliament, they pronounced ſentence againſt him. He ſeemed very anxious at this time to be admitted to a conference with the two houſes, and it was ſuppoſed that he intended to reſign the crown to his ſon; but the court refuſed compliance, and conſidered his requeſt as an artifice to delay juſtice.

159
He is inſulted by the ſoldiers.

The behaviour of Charles under all theſe inſtances of low-bred malice was great, firm, and equal. In going through the hall from this execrable tribunal, the ſoldiers and rabble were again inſtigated to cry out, Juſtice and execution! They reviled him with the moſt bitter reproaches. Among other inſults, one miſcreant preſumed to ſpit in the face of his ſovereign. He patiently bore their inſolence: "Poor ſouls (cried he), they would treat their generals in the ſame manner for ſix-pence." Thoſe of the populace who ſtill retained the feelings of humanity expreſſed their ſorrow in ſighs and tears. A ſoldier more compaſſionte than the reſt could not help imploring a bleſſing on his royal head. An officer overhearing him, ſtruck the honeſt centinel to the ground before the king; who could not help ſaying, that the puniſhment exceeded the offence.

160
His execution.

At his return to Whitehall, Charles deſired permiſſion of the houſe to ſee his children, and to be attended in his private devotions by Dr Juxon late biſhop of London. Theſe requeſts were granted, and alſo three days to prepare for execution. Every night between his ſentence and execution, the king ſlept ſound as uſual, though the noiſe of the workmen employed in framing the ſcaffold continually reſounded in his ears. The fatal morning being at laſt arrived, he roſe early; and calling one of his attendants, he bad him employ more than uſual care in dreſſing him, and preparing him for ſo great a ſolemnity. The ſtreet before Whitehall was the place deſtined for his execution; for it was intended that this ſhould increaſe the ſeverity of his puniſhment. He was led through the banqueting-houſe to the ſcaffold adjoining to that edifice, attended by his friend and ſervant biſhop Juxon, a man of the ſame mild and ſteady virtues with his maſter. The ſcaffold, which was covered with black, was guarded by a regiment of ſoldiers under the command of colonel Tomlinſon; and on it were to be ſeen the block, the axe, and two executioners in maſks. The people, in crowds, ſtood at a greater diſtance. The king ſurveyed all theſe ſolemn preparations with calm compoſure; and, as he could not expect to be heard by the people at a diſtance, he addreſſed himſelf to the few perſons who ſtood round him. He there juſtified his own innocence in the late fatal wars: he obſerved, that he had not taken arms till after the parliament had ſhown him the example; and that he had no other object in his warlike preparations, than to preſerve that authority entire which had been tranſmitted to him by his anceſtors. But, though innocent towards his people, he acknowledged the equity of his execution in the eyes of his Maker: he owned that he was juſtly puniſhed for having conſented to the execution of an unjuſt ſentence againſt the earl of Strafford. He forgave all his enemies; exhorted the people to return to their obedience, and acknowledge his ſon as his ſucceſſor; and ſignified his attachment to the Proteſtant religion as profeſſed by the church of England. So ſtrong was the impreſſion made by his dying words on thoſe who could hear him, that colonel Tomlinſon himſelf, to whoſe care he had been committed, acknowledged himſelf a convert. At one blow his head was ſevered from his body. The other executioner then, holding up the head, exclaimed, "This is the head of a traitor."

161 Grief of the nation on that account.

It is impoſſible to deſcribe the grief, indignation, and aſtoniſhment, which took place not only among the ſpectators, who were overwhelmed with a flood of ſorrow, but throughout the whole nation, as ſoon as the report of this fatal execution was conveyed to them. Each blamed himſelf either with active diſloyalty to the king, or a paſſive compliance with his deſtroyers. The very pulpits that uſed to reſound with inſolence and ſedition were now bedewed with tears of unfeigned repentance; and all united in their deteſtation of thoſe dark hypocrites who, to ſatiſfy their own enmity, involved a whole nation in the guilt of treaſon.—Charles was executed on the 30th of January 1649, in the 49th year of his age, and 24th of his reign. He was of a middling ſtature, robuſt, and well-proportioned. His viſage was pleaſant, but melancholy; and it is probable that the continual troubles in which he was involved might have made that impreſſion on his countenance.

162 Piety of the king in his laſt moments.

It being remarked, that the king, the moment before he ſtretched out his neck to the executioner, had ſaid to Juxon, with a very earneſt accent, the ſingle word REMEMBER, great myſteries were ſuppoſed to be concealed under that word; and the generals vehemently inſiſted with the prelate that he ſhould inform them of the king's meaning. Juxon told them that the king, having frequently charged him to inculcate on his ſon the forgiveneſs of his murderers, had taken this opportunity in the laſt moment of his life, when his commands, he ſuppoſed, would be regarded as ſacred and inviolable, to reiterate that deſire; and that his mild ſpirit thus terminated its preſent courſe by an act of benevolence to his greateſt enemies.

163 Diſſolution of the Engliſh monarchy.

The diſſolution of the monarchy in England ſoon followed the death of the monarch. When the peers met on the day appointed in their adjournment, they entered upon buſineſs; and ſent down ſome votes to the commons, of which the latter deigned not to take the leaſt notice. In a few days after, the commons voted, that the houſe of lords was uſeleſs and dangerous; for which reaſon it was aboliſhed. They voted it high treaſon to acknowledge Charles Stuart, ſon of the late king, as ſucceſſor to the throne. A great ſeal was made: on one ſide of which were engraven the arms of England and Ireland, with this inſcription, "The great ſeal of England." On the reverſe was repreſented the houſe of commons ſitting, with this motto: "On the firſt year of freedom, by God's bleſſing reſtored, 1649." The forms of all public buſineſs were changed from being tranſacted in the king's name, to that of the *keepers of the liberties of England*. The court of king's bench was called the court of *public bench*. Nay, ſo cautious on this head, it is ſaid, were ſome of the republicans, that, in reciting the Lord's prayer, they would not ſay "thy kingdom," but "thy *commonwealth*, come." The king's ſtatue in the exchange was thrown down; and on the pedeſtal theſe words were inſcribed: *Exit tyrannus, regum ultimus*; "The tyrant is gone, the laſt of the kings." The commons, it is ſaid, intended to bind the princeſs Elizabeth apprentice to a button-maker; the duke of Glouceſter was to be taught ſome other mechanical employment: but the former ſoon died of grief, as is ſuppoſed, for her father's tragical end; the latter was ſent beyond ſea by Cromwell.

164 Enthuſiaſm and tyranny of the republicans.

The commons next proceeded to puniſh thoſe who had been moſt remarkable for their attachment to their late ſovereign. The duke of Hamilton, lord Capel, and the earl of Holland, were condemned and executed; the earl of Norwich and Sir John Owen were alſo condemned, and afterwards pardoned. Theſe executions irritated the Scots: their loyalty began to return; and the inſolence of the independents, with their victories, inflamed them ſtill more. They determined, therefore, to acknowledge prince Charles for their king, but at the ſame time to abridge his power by every limitation which they had attempted to impoſe on his father.

165 Charles II. invited into Scotland

Charles, after the death of his father, having paſſed ſome time at Paris, and finding no likelihood of aſſiſtance from that quarter, was glad to accept of any conditions. The Scots, however, while they were thus profeſſing loyalty to their king, were nevertheleſs cruelly puniſhing his adherents. Among others, the brave marquis of Montroſe was taken priſoner, as he endeavoured to raiſe the Highlanders in the royal cauſe; and being brought to Edinburgh, was hanged on a gibbet 30 feet high, then quartered, and his limbs ſtuck up in the principal towns of the kingdom. Yet, notwithſtanding all this ſeverity, Charles ventured into Scotland, and had the mortification to enter the gate of Edinburgh where the limbs of that faithful adherent were ſtill expoſed.

166 His hard uſage there.

The young king ſoon found that he had only exchanged his exile for impriſonment. He was ſurrounded and inceſſantly importuned by the fanatical clergymen, who having brought royalty under their feet, were reſolved to keep it ſtill ſubſervient, and to trample upon it with all the contumely of upſtarts. Charles pretended to give ear to their diſcourſes; but, however, made an

attempt

167
Cromwell's ſucceſs in Ireland.

attempt to eſcape. He was overtaken and brought back; when he owned the greatneſs of his fault, and teſtified his repentance for what he had done. Cromwell, in the mean time, who had been appointed by the parliament to command the army in Ireland, proſecuted the war in that kingdom with his uſual ſucceſs. He had to encounter the royaliſts commanded by the duke of Ormond, and the native Iriſh led on by O'Neal. Theſe troops he quickly overcame; and moſt of the towns, intimidated by his cruelty, opened their gates at his approach. He was on the point of reducing the whole kingdom, when he was recalled by the parliament to defend his country againſt the Scots, who had raiſed a conſiderable army in ſupport of the royal cauſe.

168
Infatuation of the Scots

On the return of Cromwell to England, he was choſen commander in chief of the parliamentary forces in the room of Fairfax, who declined oppoſing the preſbyterians. The new general immediately ſet forward for Scotland with an army of 16,000 men, where he was oppoſed by general Leſly, who formed an excellent plan for his own defence. This prudent commander, knowing his men to be inferior in valour and diſcipline, however ſuperior in numbers, to thoſe of Cromwell, kept himſelf carefully in his entrenchments. At laſt Cromwell was drawn into a very diſadvantageous poſt near Dunbar, where his antagoniſt waited deliberately to take advantage of him. From this imminent danger, however, he was delivered by the madneſs of the Scots clergy. They, it ſeems, had been wreſtling in prayer with the Lord night and day, and at laſt fancied that they had obtained the ſuperiority. Revelations were made them, that the heretical army, together with Agag their general, would be delivered into their hand. Upon the aſſurances of theſe viſions, they obliged their general to deſcend into the plain, and give the Engliſh battle. When Cromwell ſaw this mad action, he aſſured his followers, that the Lord had delivered them into his hands, and ordered his army to ſing pſalms, as if already certain of victory. The Scots, though double the number of the Engliſh, were ſoon put to flight, and purſued with great ſlaughter, while Cromwell did not loſe in all above 40 men.

169
They are defeated by Cromwell.

After this defeat, Charles put himſelf at the head of the remains of his army; and theſe he further ſtrengthened by the royaliſts, who had been for ſome time excluded from his ſervice by the covenanters. He was ſo cloſely purſued by Cromwell, however, that he ſoon found it impoſſible to maintain his army. Obſerving, therefore, that the way was open to England, he immediately directed his march towards that country, where he expected to be reinforced by all the royaliſts in that part of the kingdom. In this, however, he was deceived: the Engliſh, terrified at the name of his opponent, dreaded to join him. But his mortification was greatly increaſed, when at Worceſter he was informed, that Cromwell was marching with haſty ſtrides from Scotland with an army of 40,000 men. This news was ſcarcely arrived, when Cromwell himſelf was there. He fell upon the town on all ſides: the whole Scots army was either killed or taken priſoners; and the king himſelf, having given many proofs of perſonal valour, was obliged to fly.

170
Charles defeated at Worceſter.

171
His adventures afterwards.

The young king now entered upon a ſcene of adventures the moſt romantic that can be imagined. After his hair was cut off, the better to diſguiſe his perſon, he worked for ſome days in the habit of a peaſant, cutting faggots in a wood. He next made an attempt to retire into Wales, under the conduct of one Pendrel, a poor farmer, who was ſincerely attached to his cauſe. In this attempt, however, he was diſappointed; every paſs being guarded to prevent their eſcape. Being obliged to return, he met one colonel Careleſs, who had eſcaped the carnage at Worceſter. In his company, the king was obliged to climb a ſpreading oak; among the thick branches of which they ſpent the day together, while they heard the ſoldiers of the enemy in purſuit of them below. From thence he paſſed with imminent danger, feeling all the varieties of famine, fatigue, and pain, till he arrived at the houſe of colonel Lane, a zealous royaliſt in Staffordſhire. There he deliberated about the means of eſcaping into France; and Briſtol being ſuppoſed the propereſt port, it was reſolved that he ſhould ride thither before this gentleman's ſiſter, on a viſit to one Mrs Norton, who lived in the neighbourhood of that city. During this journey, he every day met with perſons whoſe faces he knew, and at one time paſſed through a whole regiment of the enemy's army.

When they arrived at Mrs Norton's, the firſt perſon they ſaw was one of his own chaplains ſitting at the door, and amuſing himſelf with ſeeing people play at bowls. The king, after having taken proper care of his horſe in the ſtable, was ſhown to an apartment which Mrs Lane had provided for him, as it was ſaid he had the ague. The butler, however, being ſent to him with ſome refreſhment, no ſooner beheld his face, which was very pale with anxiety and fatigue, than he recollected his king and maſter; and falling on his knees, while the tears ſtreamed down his cheeks, cried out, "I am rejoiced to ſee your majeſty." The king was alarmed; but made the butler promiſe that he would keep the ſecret from every mortal, even from his maſter; and the honeſt ſervant punctually obeyed him.

No ſhip being found that would for a month ſet ſail from Briſtol either for France or Spain, the king was obliged to go elſewhere for a paſſage. He therefore repaired to the houſe of colonel Wyndham in Dorſetſhire, where he was cordially received. His mother, a venerable matron, ſeemed to think the end of her life nobly rewarded in having it in her power to give protection to her king. She expreſſed no diſſatisfaction at having loſt three ſons and one grandchild in the defence of his cauſe, ſince ſhe was honoured in being inſtrumental in his own preſervation.

Purſuing from thence his journey to the ſea-ſide, he once more had a very narrow eſcape at a little inn, where he ſet up for the night. The day had been appointed for a ſolemn faſt; and a fanatical weaver, who had been a ſoldier in the parliamentary army, was preaching againſt the king in a little chapel fronting the houſe. Charles, to avoid ſuſpicion, was himſelf among the audience. It happened that a ſmith, of the ſame principles with the weaver, had been examining the horſes belonging to the paſſengers, and came to aſſure the preacher, that he knew by the faſhion of the ſhoes, that one of the ſtranger's horſes came from the north. The preacher immediately affirmed, that this horſe could belong to no other than Charles Stuart, and inſtantly went with a conſtable to ſearch the inn. But Charles had taken timely precautions, and left the inn before the conſtable's arrival.

172 He eſcapes to France.

At Shoreham, in Suſſex, a veſſel was at laſt found, in which he embarked. He was known to ſo many, that if he had not ſet ſail at that critical moment, it had been impoſſible for him to eſcape. After 41 days concealment, he arrived ſafely at Feſchamp in Normandy. No leſs than 40 men and women had at different times been privy to his eſcape.

173 Cromwell treats Scotland as a conquered province.

Cromwell in the mean time returned in triumph; and his firſt care was to depreſs the Scots, on account of their having *withſtood the work of the goſpel* as he called it. An act was paſſed for aboliſhing royalty in Scotland, and annexing that kingdom as a conquered province to the Engliſh commonwealth. It was empowered, however, to ſend ſome members to the Engliſh parliament. Judges were appointed to diſtribute juſtice; and the people of that country, now freed from the tyranny of the eccleſiaſtics, were not much diſſatisfied with the government.

174 War with the Dutch.

All parts of the Britiſh dominions being now reduced to perfect ſubjection to the parliament, they next reſolved to chaſtiſe the Dutch, who had given but very ſlight cauſes of complaint. It happened that one Dr Doriſlaus, who was of the number of the late king's judges, being ſent by the parliament as their envoy to Holland, was aſſaſſinated by one of the royal party who had taken refuge there. Some time after, alſo, Mr St John, appointed their ambaſſador to that court, was inſulted by the friends of the prince of Orange. Theſe were thought ſufficient reaſons for a declaration of war againſt the Hollanders by the commonwealth of England. The parliament's chief dependence lay in the activity and courage of Blake their admiral; who, though he had not embarked in naval command till late in life, yet ſurpaſſed all that went before him in courage and dexterity. On the othe other ſide, the Dutch oppoſed to him their famous admiral Van Tromp, to whom their country never ſince produced an equal. Many were the engagements between theſe celebrated admirals, and various was their ſucceſs. Several dreadful encounters ſerved rather to ſhow the excellency of the admirals than to determine their ſuperiority. At laſt the Dutch, who felt many great diſadvantages by the loſs of their trade, and by the total ſuſpenſion of their fiſheries, were willing to treat of a peace. The parliament, however, gave but a very unfavourable anſwer. They ſtudied to keep their navy on foot as long as they could; rightly judging, that while the force of the nation was exerted by ſea, it would diminiſh the formidable power of Cromwell by land.

175 Cromwell reſolves to ſeize the ſovereignty.

This great aſpirer, however, quickly perceived their deſigns; and therefore, ſecure in the attachment of the army, reſolved to ſeize the ſovereign power. He perſuaded the officers to preſent a petition for payment of arrears, and redreſs of grievances. His orders were obeyed: a petition was drawn up and preſented, in which the officers, after demanding their arrears, deſired the parliament to conſider how many years they had ſat, and what pretenſions they had formerly made of their deſigns to new-model the houſe, and eſtabliſh freedom on its broadeſt baſis. They alleged, that it was now full time to give place to others; and however meritorious their actions might have been, yet the reſt of the nation had ſome right, in their turn, to manifeſt their patriotiſm in defence of their country. The houſe was highly offended: they appointed a committee to prepare an act, ordaining that all perſons who preſented ſuch petitions for the future ſhould be deemed guilty of high treaſon. To this the officers made a very warm remonſtrance, and the parliament as angry a reply. Cromwell being informed of this altercation, ſtarted up in the utmoſt ſeeming fury, and turning to major Vernon, cried out, that "he was compelled to do a thing that made the very hair of his head ſtand on end." 176 He turns out the parliament. Then, haſtening to the houſe with 300 ſoldiers, and with the marks of violent indignation on his countenance, he entered, took his place, and attended to the debates for ſome time. When the queſtion was ready to be put, he ſuddenly ſtarted up, and began to load the parliament with the vileſt reproaches for their tyranny, ambition, oppreſſion, and robery of the public. Upon which, ſtamping with his foot, which was the ſignal for the ſoldiers to enter, the place was immediately filled with armed men. Then, addreſſing himſelf to the members, "For ſhame, (ſaid he), get you gone. Give place to honeſter men; to thoſe who will more faithfully diſcharge their truſt. You are no longer a parliament; I tell you, you are no longer a parliament; the Lord has done with you." Sir Harry Vane exclaiming againſt this conduct. "Sir Harry! (cries Cromwell with a loud voice), O Sir Harry Vane! The Lord deliver me from Sir Harry Vane!" Taking hold then of one of the members by his cloak, "Thou art a whoremaſter," cries he; to another, "Thou art an adulterer;" to a third, "Thou art a drunkard; to a fourth, "Thou art a glutton, &c. "It is you (continued he to the members), that have forced me upon this. I have ſought the Lord night and day, that he would rather ſlay me than put me upon this work." Then pointing to the mace, "Take away that bauble," cried he: after which, turning out all the members, and clearing the hall, he ordered the doors to be locked: and putting the keys in his pocket, returned to Whitehall.

177 And chuſes another.

Thus the whole civil and military power centered in Cromwell, who by this bold tranſaction became, in effect, king of Great-Britain, with uncontroulable authority. Being willing, however, to amuſe the people with the form of a commonwealth, he propoſed to give his ſubjects a parliament; but ſuch an one as ſhould be altogether obedient to his commands. For this purpoſe it was decreed, that the ſovereign power ſhould be veſted in 144 perſons, under the denomination of a parliament; and he undertook to make the choice himſelf. The perſons pitched upon were the loweſt, meaneſt, and moſt ignorant among the citizens, and the very dregs of the fanatics. To go further than others in the abſurdities of fanaticiſm was the chief qualification upon which each of theſe valued himſelf. Their very names, borrowed from ſcripture, and rendered ridiculous by their miſapplication, ſerved to ſhow their exceſs of folly. One of them particularly, who was called *Praiſe God Barebone*; a canting leather-ſeller, gave his name to this odd aſſembly, and it was called *Barebone's Parliament*. They were chiefly compoſed of Antinomians; a ſect, that after receiving the ſpirit, ſuppoſed themſelves incapable of error; and the fifth-monarchy-men, who every hour expected Chriſt's ſecond coming on earth. They began by chooſing eight of their tribe to ſeek the Lord in prayer, while the reſt calmly ſat down to deliberate upon the ſuppreſſion of the clergy, the univerſities, and courts of juſtice; and inſtead of all this, it was their intent to ſubſtitute the law of Moſes.

178 Who are again turned out. It was impoſſible ſuch a legiſlature as this could ſtand; even the vulgar began to exclaim againſt it, and Cromwell himſelf to be aſhamed of their abſurdities. He had carefully choſen many perſons among them who were entirely devoted to his intereſts, and theſe he commanded to diſmiſs the aſſembly. Theſe accordingly met by concert earlier than the reſt of their fraternity; and obſerving to each other that this parliament had ſat long enough, they haſtened to Cromwell, with Rouſe their ſpeaker at their head, and into his hands reſigned the authority with which he had inveſted them. Cromwell accepted their reſignation with pleaſure; but being told that ſome of their number were refractory, he ſent colonel White to clear the houſe of ſuch as ventured to remain there. They had placed one Moyer in the chair by the time that the colonel had arrived; and he being aſked by the colonel, What they did there? Moyer replied very gravely, That they were ſeeking the Lord. "Then you may go elſewhere (cried White); for, to my certain knowledge, the Lord hath not been here theſe many years.

179 Cromwell declared protector. The ſhadow of a parliament being thus diſſolved, the officers, by their own authority, declared Cromwell protector of the commonwealth of England. The mayor and aldermen were ſent for to give ſolemnity to his appointment, and he was inſtituted into his new office at Whitehall, in the palace of the kings of England. He was to be addreſſed by the title of *Highneſs*; and his power was proclaimed in London, and other parts of the kingdom. It was now, indeed, in a great meaſure neceſſary that ſome perſon ſhould take the ſupreme command; for affairs were brought into ſuch a ſituation, by the furious animoſities of the contending parties, that nothing but abſolute power could prevent a renewal of former bloodſhed and confuſion. 180 He ſettles the government. The government of the kingdom was adjuſted in the following manner. A council was appointed, which was not to exceed 21, nor to be under 13 perſons. Theſe were to enjoy their offices for life, or during good behaviour; and, in caſe of a vacancy, the remaining members named three, of whom the protector choſe one. The protector was appointed the ſupreme magiſtrate of the commonwealth, with ſuch powers as the king was poſſeſſed of. The power of the ſword was veſted in him jointly with the parliament when ſitting, or with the council at other times. He was obliged to ſummon a parliament once every three years, and to allow them to ſit five months without adjournment. A ſtanding army was eſtabliſhed of 20,000 foot and 10,000 horſe; and funds were aſſigned for their ſupport. The protector enjoyed his office for life; and on his death, his place was to be ſupplied by the council. Of all theſe clauſes the ſtanding army was ſufficient for Cromwell's purpoſe; for, while poſſeſſed of that inſtrument, he could mould the reſt of the conſtitution to his pleaſure at any time. He choſe his council from among his officers, who had been the companions of his dangers and victories, to each of whom he aſſigned a penſion of 1000l. a-year. He took care to have his troops, upon whoſe fidelity he depended for ſupport, paid a month in advance; the magazines were alſo well provided, and the public treaſure managed with frugality and care; while his activity, vigilance, and reſolution, were ſo well exerted, that he diſcovered every conſpiracy againſt his perſon, and every plot for an inſurrection, before they took effect.

181 His vigorous adminiſtration. Thus Cromwell continued to govern, though without aſſuming the title of *king*, in as abſolute a manner as the moſt deſpotic prince in Europe. As he was feared at home, ſo he made himſelf reſpected abroad. The Dutch, having been humbled by repeated defeats, were obliged to ſue for peace. Cromwell obliged them to pay deference to the Britiſh flag. He compelled them to abandon the intereſts of the king, to pay 85,000l. as an indemnification for former expences, and to reſtore to the Engliſh Eaſt India company a part of thoſe dominions which they had been diſpoſſeſſed of by the Dutch during the former reign. The miniſtry of France thought proper to pay deference to the imperious character of the protector: and he having lent that court a body of 6000 men to attack the Spaniſh dominions in the Netherlands, who obtained a ſignal victory, the French put Dunkirk into his hands as a reward for his attachment. By means of the celebrated admiral Blake† he humbled Spain prodigiouſly, as alſo the Algerines and Tuneſines. Penn and Venables, two other admirals, made an attempt on the iſland of Hiſpaniola; but failing of this, they ſteered 182 Jamaica conquered. to Jamaica, which was ſurrendered to them without a blow. Yet ſo little was thought of the importance of this conqueſt, that, on their return, the two admirals were committed to the tower, on account of the failure of the principal object of their equipment.

183 His arbitrary methods of procuring money. It is not to be ſuppoſed that a numerous ſtanding army could be maintained, and ſo many foreign wars carried on, without incurring extraordinary expences. The protector's revenues were ſo much exhauſted, that he was obliged to have recourſe to methods which he probably would not have choſen, had he not been driven to them by neceſſity. One or two conſpiracies entered into by the royaliſts, which were detected and puniſhed, ſerved him as a pretence to lay a heavy tax upon all that party, of the tenth penny on all their poſſeſſions. In order to raiſe this oppreſſive impoſition, ten major-generals were inſtituted, who divided the whole kingdom into ſo many military juriſdictions. Theſe men had power to ſubject whom they pleaſed to this tax, and to impriſon ſuch as denied their juriſdiction. Under colour of theſe powers they exerciſed the moſt arbitrary authority; the people had no protection againſt their exactions; the very maſk of liberty was thrown off, and all property was at the diſpoſal of a military tribunal. It was in vain that the nation cried out for a free parliament. Cromwell aſſembled one in conſequence of their clamours; but as ſpeedily diſſolved it 184 He convenes a parliament. when he found it refractory to his commands. At laſt, as parliaments were always held in ſuch eſtimation by the people, he reſolved to give them one, but ſuch as ſhould be entirely of his own chuſing, and chiefly compoſed of his creatures. Leſt any of a different complexion ſhould enter the houſe, guards were placed at the door, and none admitted but ſuch as produced a warrant from his council.

The principal deſign of convening this aſſembly was, that

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† See the article *Blake*.

185 Who offer him the crown.

that they ſhould offer him the crown, with the title of *king*, and all the other enſigns of royalty. His creatures, therefore, took care to inſinuate the confuſion there was in legal proceedings without the name of a king; that no man was acquainted with the extent or limits of the preſent magiſtrates authority, but thoſe of a king had been well aſcertained by the experience of ages. The motion was at laſt formally made in the houſe, eaſily carried through, and nothing was now wanting but Cromwell's own conſent to have his name enrolled among the kings of England. This conſent, however, he never had reſolution enough to give. His doubts continued for ſome days; and the conference carried on with the members who made him the offer,

186 Which he refuſes.

ſo far as it is on his part intelligible, ſeems to argue that he was deſirous of being compelled to accept the offer; however, the conference ended in his total refuſal.

187 His miſerable ſituation.

With all theſe proffered honours, and with all his deſpotic power, the ſituation of Cromwell was far from being enviable. Perhaps no ſituation, however mean, or loaded with contempt, could be more truly diſtreſsful than his, at the time the nation was loading him with congratulations and addreſſes. He had at laſt rendered himſelf hateful to every party, and he owed his ſafety to their mutual hatred and diffidence of one another. His arts of diſſimulation were exhauſted; none could be deceived by them; even thoſe of his own party and principles diſdaining the uſe to which he had converted his zeal and profeſſions. Though the whole nation ſilently deteſted his adminiſtration, he had not been completely wretched if he could have found domeſtic conſolation. But even his own family had embraced republican principles with ſo much vehemence, that they could not without indignation behold him inveſted with uncontroulable power; and Mrs Claypole, his favourite daughter, upbraided him, on her deathbed, with all the crimes which led him to trample on the throne. To add to all this, not only were conſpiracies formed againſt him, but he was at laſt taught, upon reaſoning principles, that his death was not only deſirable, but his aſſaſſination would be meritorious. A book was publiſhed by colonel Titus, a man who had formerly been attached to his cauſe, entitled *Killing no murder*. Of all the pamphlets that appeared at that time, or perhaps of thoſe that have ſince appeared, this was the moſt eloquent and maſterly. Cromwell read it, and is ſaid never to have ſmiled afterwards.

The uſurper now found, that the grandeur to which he had ſacrificed his former tranquillity was only an inlet to freſh inquietudes. He was haunted with perpetual fears of aſſaſſination. He wore armour under his clothes, and always kept piſtols in his pockets. His aſpect was clouded by a ſettled gloom, and he regarded every ſtranger with ſuſpicion. He was always attended by a numerous guard, and travelled in a hurry. He never returned from any place by the road he went; and never ſlept above three nights together in the ſame chamber.

188 And death.

At laſt he was delivered from this life of horror and anxiety by a tertian ague, of which he died September 3d 1658, after having uſurped the government nine years.

189 Richard Cromwell protector.

Oliver Cromwell was ſucceeded in his office of protector by his ſon Richard, who immediately called a parliament. To this aſſembly the army preſented a remonſtrance, deſiring ſome perſon for their general in whom they could confide. The houſe voted ſuch meetings and remonſtrances unlawful: upon which the officers, ſurrounding Richard's houſe, forced him to diſſolve the parliament; and ſoon after he ſigned an abdication of the government.

190 Is depoſed.

His younger brother Henry, who had been appointed to the command in Ireland, followed Richard's example, and reſigned his commiſſion without ſtriking a blow.

191 Rump parliament reinſtated.

The officers, thus left at liberty, reſolved to reſtore the *rump parliament* as it was called, conſiſting of that remnant of a parliament which had condemned Charles. They were no ſooner reinſtated in their authority, however, than they began to humble the army by caſhiering ſome of the officers, and appointing others on whom they could have more dependence. The officers immediately reſolved to diſſolve the aſſembly.

192 Diſſolved by the army.

Lambert, one of the general officers, drew up a choſen body of troops; and placing them in the ſtreets which led to Weſtminſter-hall, when the ſpeaker Lenthall proceeded in his carriage to the houſe, he ordered the horſes to be turned, and very civilly conducted him home. The other members were likewiſe intercepted; and the army returned to their quarters to obſerve a ſolemn faſt, which generally either preceded or attended their outrages.

193 Military government eſtabliſhed.

A committee was then elected, of 23 perſons; of whom ſeven were officers. Theſe they pretended to inveſt with ſovereign authority; and a military government was eſtabliſhed, which gave the nation a proſpect of endleſs ſervitude and tyranny without redreſs.

194 General Monk's motions.

Upon hearing that the officers had by their own authority diſſolved the parliament, general Monk, who was then in Scotland with 8000 veteran troops, proteſted againſt the meaſure, and reſolved to defend the national privileges. As ſoon as he put his army in motion, he found himſelf eagerly ſought after by all parties; but ſo cautious was he of declaring his mind, that, till the very laſt, it was impoſſible to know which ſide he deſigned to take. A remarkable inſtance of this cautious behaviour was, that, when his own brother came to him with a meſſage from lord Granville in the name of the king, he refuſed all converſation with him, upon hearing that he had told his errand to Mr Price, the general's own chaplain, and a man of known probity and honour.

195 Rump parliament reſtored.

Hearing that the officers were preparing an army to oppoſe him, Monk amuſed them with negociations; and the people, finding themſelves not entirely defenceleſs, began to declare for a free parliament. The *Rump*, finding themſelves invited alſo by the navy and part of the army, again ventured to reſume their ſeats, and to thunder votes in their turn againſt the officers and that part of the army by which they had been ejected. Without taking any notice of Lambert, they ſent orders to the troops to repair immediately to the garriſons appointed for them. The ſoldiers obeyed; and Lambert at laſt found himſelf deſerted by his whole army. Monk in the mean time proceeded with his army to London. The gentry, on his march, flocked round him with addreſſes, expreſſing their deſire of a new parliament; but that general, ſtill continuing his inflexible taciturnity, at laſt came to St Alban's, within a few miles of the capital, leaving all the world in doubt as to his motives and deſigns. Here he ſent the parliament a meſſage, deſiring them to remove ſuch

196 Monk takes up his quarters at Weſtminſter.

197 Puniſhes the city of London.

forces as remained in London to country quarters. Some of the regiments willingly obeyed this order; and ſuch as did not, Monk turned out by force: after which he took up his quarters with his army in Weſtminſter. The houſe voted him thanks for his ſervices: he deſired them to call a free parliament; and this ſoon inſpired the citizens to refuſe ſubmiſſion to the preſent government. They reſolved to pay no taxes until the members formerly excluded by colonel Pride ſhould be replaced. For this they were puniſhed by Monk, at the deſire of the parliament. He arreſted 11 of the moſt obnoxious of the common-council; broke the gates and portculliſes; and having expoſed it to the ſcorn and contempt of all who hated it, he returned in triumph to his quarters at Weſtminſter. The next day, however, he made an apology for this conduct, and promiſed for the future to co-operate with the mayor and common-council in ſuch ſchemes as they ſhould approve.

198 Reſtores the ſecluded members of parliament.

The commons were now greatly alarmed. They tried every method to gain off the general from his new alliance. Some of them even promiſed to inveſt him with the dignity of ſupreme magiſtrate, and to ſupport his uſurpation. But Monk was too juſt, or too wiſe, to hearken to ſuch wild propoſals; he reſolved to reſtore the ſecluded members, and by their means to bring about a new election.

199 New parliament aſſembled.

The reſtoration of the expelled members was eaſily effected; and their number was ſo much ſuperior to that of the *Rump*, that the chiefs of this laſt party now thought proper to withdraw in their turn. The reſtored members began with repealing all thoſe orders by which they had been expelled. They renewed and enlarged the general's commiſſion; fixed a proper ſtipend for the ſupport of the fleet and army: and, having paſſed theſe votes, they diſſolved themſelves, and gave orders for the immediate aſſembling of a new parliament. Mean while, Monk new-modelled his army to the purpoſes he had in view. Some officers, by his direction, preſented him with an addreſs, in which they promiſed to obey implicitly the orders of the enſuing parliament. He approved of this engagement, which he ordered to be ſigned by all the different regiments: and this furniſhed him with a pretence for diſmiſſing all the officers by whom it was rejected.

In the midſt of theſe tranſactions, Lambert, who had been confined in the Tower, eſcaped from his priſon, and began to raiſe forces; and as his activity and principles were ſufficiently known, Monk took the earlieſt precautions to oppoſe his meaſures. He diſpatched againſt him colonel Ingoldſby, with his own regiment, before Lambert had time to aſſemble his dependents. That officer had taken poſſeſſion of Daventry with four troops of horſe: but the greater part of them joined Ingoldſby; to whom he himſelf ſurrendered, not without exhibiting ſtrong marks of puſilanimity.

200 Charles II. leaves Spain.

All this time Monk ſtill perſiſted in his reſerve; nor would he intruſt his ſecret intentions with any perſon, except one Morrice, a gentleman of Devonſhire. He was of a ſedentary and ſtudious diſpoſition, and with him alone did the general delibrate on the great and dangerous enterpriſe of the reſtoration. Sir John Granville, who had a commiſſion from the king, applied for acceſs to the general; but he was deſired to communicate his buſineſs to Morrice. Granville refuſed, though twice urged, to deliver his meſſage to any but the general himſelf: ſo that Monk now finding he could depend on this miniſter's ſecrecy, opened to him his whole intentions; but, with his uſual caution, refuſed to commit any thing to paper. In conſequence of theſe, the king left the Spaniſh territories, where he very narrowly eſcaped being detained at Breda by the governor, under pretence of treating him with proper reſpect and formality. From thence he retired to Holland, where he reſolved to wait further advice.

201 His meſſage to the parliament.

The new parliament being aſſembled, Sir Harbottle Grimſtone was choſen ſpeaker, a man known to be a royaliſt in his heart. The affections of all were turned towards the king; yet ſuch were their fears, and ſuch dangers attended a freedom of ſpeech, that no one dared for ſome days to make any mention of his name. At length Monk gave directions to Anneſly, preſident of the council, to inform them that one Sir John Granville, a ſervant of the king's, had been ſent over by his majeſty, and was now at the door with a letter to the houſe of commons. This meſſage was received with the utmoſt joy. Granville was called in, the letter read, and the king's propoſals immediately accepted of. He offered a general amneſty to all perſons whatſoever, and that without any exceptions but what ſhould be made by parliament. He promiſed to indulge ſcrupulous conſciences with liberty in matters of religion; to leave to the examination of parliament the claims of all ſuch as poſſeſſed lands with conteſted titles; to confirm all theſe conceſſions by acts of parliament; to ſatisfy the army under general Monk with reſpect to their arrears, and to give the ſame rank to his officers when they ſhould be enliſted in the king's army.

202 He lands in England.

In conſequence of this good agreement between king and parliament, Montague the Engliſh admiral waited on his majeſty to inform him that the fleet expected his orders at Scheveling. The duke of York immediately went on board, and took the command as lord high admiral. The king embarked, and landing at Dover, was received by the general, whom he tenderly embraced. He entered London in 1660, on the 29th of May, which was his birth-day; and was attended by an innumerable multitude of people, who teſtified their joy by the loudeſt acclamations.

203 His firſt meaſures popular.

Charles II. was 30 years of age at the time of his reſtoration. Being naturally of an engaging countenance, and poſſeſſed of an open and affable diſpoſition, he was the favourite of all ranks of his ſubjects. They had now felt the miſeries of anarchy, and in proportion to theſe miſeries was the ſatisfaction they felt on the acceſſion of their young monarch. His firſt meaſures were calculated to give univerſal ſatisfaction. He ſeemed deſirous of loſing the memory of paſt animoſities, and of uniting every party in affection for their prince and country. He admitted into his council the moſt eminent men of the nation, without regard to former diſtinctions. The preſbyterians ſhared this honour equally with the royaliſts. Calamy and Baxter, preſbyterian clergymen, were even made chaplains to the king. Admiral Montague was created earl of Sandwich, and general Monk duke of Albemarle. Morrice, the general's friend, was created ſecretary of ſtate. But what gave the greateſt contentment to the nation was the judicious choice which the king at firſt made of his principal miniſters and favourites. Sir Edward Hyde, created Earl of Clarendon, was prime miniſter and chancellor. The marquis, created duke of Ormond, was ſteward of the houſehold; the earl of Southampton high treaſurer; Sir Edward Nicholas ſecretary of ſtate. Theſe men, united together in the ſtricteſt friendſhip, and combining in the ſame laudable inclinations, ſupported each others credit, and purſued the intereſts of the public.

The parliament having been ſummoned without the king's conſent, received at firſt only the title of a *convention;* and it was not till after an act paſſed for that purpoſe, that they were acknowledged by the name of *parliament*. Both houſes owned the guilt of the former rebellion, and gratefully received in their own name, and in that of all the ſubjects, his majeſty's gracious pardon and indemnity. The king had before promiſed an indemnity to all criminals, but ſuch as ſhould be excepted by parliament: he now iſſued a proclamation, declaring, that ſuch of the late king's judges, as did not ſurrender themſelves within 14 days ſhould receive no pardon. Nineteen ſurrendered themſelves; ſome were taken in their flight; others eſcaped beyond ſea. The peers ſeemed inclined to great ſeverity on this occaſion; but were reſtrained by the king, who in the moſt earneſt terms preſſed the act of general indemnification.

204 Regicides puniſhed. After repeated ſolicitations, the act of indemnity paſſed both houſes, with the exception of thoſe who had an immediate hand in the king's death. Even Cromwell, Ireton, and Bradſhaw, though dead, were conſidered as proper objects of reſentment: their bodies were dug from their graves; dragged to the place of execution; and afterhanging ſome time, buried under the gallows. Of the reſt who ſat in judgment on the late monarch's trial, ſome were dead, and ſome thought worthy of pardon. Ten only, out of 80, were doomed to immediate deſtruction; and theſe were enthuſiaſts who had all along acted from principle, and who, in the general ſpirit of rage excited againſt them, ſhowed a fortitude that would have done honour to a better cauſe.

This was all the blood which was ſhed at the reſtoration. The reſt of the king's judges were reprived, and afterwards diſperſed into ſeveral priſons. The army was diſbanded, that had for ſo many years governed the nation: prelacy, and all the ceremonies of the church of England were reſtored; at the ſame time that the king pretended to preſerve the air of moderation and neutrality. In fact, with regard to religion, Charles, in his gay hours, was a profeſſed deiſt; but in the latter part of his life he ſhowed an inclination to the Catholic perſuaſion, which he had ſtrongly imbibed in his infancy and exile.

205 Death of the duke of Glouceſter. On the 13th of September this year, died the young duke of Glouceſter, a prince of great hopes. The king was never ſo deeply affected by any incident in his life. The princeſs of Orange, having come to England, in order to partake of the joy attending the reſtoration of her family, with whom ſhe lived in great friendſhip, ſoon after ſickened and died. The queen-mother paid a viſit to her ſon, and obtained his conſent to the marriage of the princeſs Henrietta with the duke of Orleans, brother to the French king. The parliament
206 Parliament diſſolved. having met on the 6th of November, and carried on buſineſs with the greateſt unanimity and diſpatch, were diſſolved by the king on the 29th of December 1660.

207 General ſtate of the nation during Charles II's reign. During the reign of Charles II. the ſpirit of the people ſeemed to take a turn quite oppoſite to that in the time of Charles I. The latter found his ſubjects animated with a ferocious though ignorant zeal for liberty. They knew not what it was to be free, and therefore imagined that liberty conſiſted in throwing off entirely the royal authority. They gained their point: the unhappy monarch was dethroned and murdered; but inſtead of liberty, they found themſelves involved in much worſe tyranny than before. Being happily freed from this tyranny by the reſtoration, they ran into the contrary extreme; and inſtead of an unbounded ſpirit of oppoſition, there was nothing now to be found but as unbounded a ſpirit of ſubmiſſion; and through the ſlaviſh ſubmiſſions and conceſſions of the people in this reign, Charles found means to render himſelf at laſt almoſt quite abſolute, and to govern without requiring, or indeed without having any occaſion for parliament.

A like revolution took place with regard to religious matters. During the former reign a ſpirit of the moſt gloomy enthuſiaſm had overſpread the whole iſland, and men imagined that the Deity was only to be pleaſed by their denying themſelves every ſocial pleaſure, and refuſing every thing that tended to make life agreeable. The extreme hypocriſy of Cromwell and his aſſociates, and the abſurd conduct of others, ſhowed that this was not religion; but, in avoiding this error, they ran into one equally dangerous; and every thing religious or ſerious was diſcountenanced. Nothing but riot and diſſipation took place every where. The court ſet them the example: nothing but ſcenes of gallantry and feſtivity were to be ſeen; the horrors of the late war became the ſubject of ridicule; the formality of the ſectaries was diſplayed on the ſtage, and even laughed at from the pulpit. In ſhort, the beſt mode of religion now was to have as little as poſſible; and to avoid not only the hypocriſy of the ſectaries, but even the common duties of morality.

208 Ingratitude of Charles. In the midſt of this riot and diſſipation, the old and faithful followers of the royal family were left unrewarded. Numbers who had fought both for the king and his father, and who had loſt their whole fortunes in his ſervice, ſtill continued to pine in want and oblivion; while in the mean time their perſecutors, who had acquired fortunes during the civil war, were permitted to enjoy them without moleſtation. The wretched royaliſts petitioned and murmured in vain; the monarch fled from their expoſtulations to ſcenes of mirth and feſtivity; and the act of indemnity was generally ſaid to have been an act of *forgiveneſs* to the king's enemies, and of *oblivion* to his friends.

209 Submiſſive diſpoſition of both parliaments. In 1661, the Scots and Engliſh parliaments ſeemed to vie with each other in their proſtrations to the king. In England, monarchy and epiſcopacy were raiſed to the greateſt ſplendour. The biſhops were permitted to reſume their ſeats in the houſe of peers; all military authority was acknowledged to be veſted in the king. He was empowered to appoint commiſſioners for regulating corporations, and expelling ſuch members as had intruded themſelves by violence, or profeſſed principles dangerous to the conſtitution. An act of uniformity was paſſed, by which it was required that every

very clergyman ſhould be re-ordained, if he had not before received epiſcopal ordination; that he ſhould declare his aſſent to every thing contained in the book of Common prayer, and ſhould take the oath of canonical obedience. In conſequence of this law, above 2000 of the Preſbyterian clergy reſigned their cures at once. In Scotland the right of the king was aſſerted in the fulleſt and moſt poſitive terms to be hereditary, divine, and indefeaſible. His power was extended to the lives and poſſeſſions of his ſubjects, and from his original grant was ſaid to come all that they enjoyed. They voted him an additional revenue of 40,000l.; and all their former violences were treated with a degree of the utmoſt deteſtation.

210
The nation diſguſted with the king's extravagance

This intoxication of loyalty, however, began ſoon to wear off. The king's profuſion and extravagance in his pleaſures, together with his indolence in adminiſtration, furniſhed opportunities of making very diſadvantageous compariſons between him and Oliver Cromwell. Theſe animoſities were heightened by the ejected clergy, eſpecially when they ſaw Dunkirk, which had been acquired during the uſurper's vigorous adminiſtration, ſold to the French for 40,000l. and that merely to ſupply the king's extravagance. From this time (Auguſt 17th 1662), Charles found himſelf perpetually oppoſed, and his parliaments granted ſupplies much more reluctantly than before.

211
Marriage with the infanta of Portugal.

A few months before, the continual exigencies of the king had forced him to conclude a marriage with the Infanta of Portugal for the ſake of her portion, which was 500,000l. in money, together with the fortreſs of Tangier in Africa, and of Bombay in the Eaſt Indies. The chancellor Clarendon, the dukes of Ormond and Southampton, urged many reaſons againſt this match, particularly the likelihood of her never having any children; but all their objections could not prevail, and therefore Clarendon ſet himſelf to promote it as far as lay in his power. Still, however, the king's neceſſities were greater than his ſupplies. He therefore reſolved to ſacrifice his miniſter the great Clarendon to the reſentment of the parliament, to whom he was become obnoxious, in order to procure ſome more ſupplies for himſelf. In 1663, an extraordinary ſupply was demanded: the king ſent for the commons, on the 12th of June, to Whitehall. He complained of their inattention; and by acquainting them of a conſpiracy to ſeize the caſtle of Dublin, he hoped to furniſh a reaſon for demanding a preſent ſupply. Four ſubſidies were immediately granted, and the clergy in convocation followed the example of the commons. On this occaſion the earl of Briſtol ventured to impeach the chancellor in the houſe of peers; but as he did not ſupport his charge, the affair was dropped for the preſent.

212
War with the Dutch.

With a view probably of having the money to be employed for that purpoſe in his hands, Charles was induced to declare war againſt the Dutch in 1664. In this war the Engliſh, under the command of Sir Robert Holmes, expelled the Dutch from Cape-Corſe caſtle on the coaſt of Africa, and likewiſe ſeized on their ſettlements of Cape Verd and the iſle of Goree. Sailing from thence to America, the admiral poſſeſſed himſelf of Nova Belgia, now the ſtate of *New-York*. On the other hand, De Ruyter, the Dutch admiral, diſpoſſeſſed the Engliſh of all their ſettlements in Guinea except Cape Corſe. He afterwards ſailed to America, where he attacked Barbadoes and Long-Iſland, but was repulſed. Soon after, the two moſt conſiderable fleets of each nation met; the one under the duke of York, to the number of 114 ſail; the other commanded by Opdam admiral of the Dutch navy, of nearly equal force.

213
Terrible battles at ſea.

The engagement began at four in the morning, and both ſides fought with equal intrepidity. The duke of York was in the hotteſt part of the engagement, and behaved with great ſpirit and compoſure, while many of his lords and attendants were killed beſide him. In the heat of the action the Dutch admiral's ſhip blew up; which ſo diſcouraged and diſheartened them, that they fled towards their own coaſt, having 30 ſhips ſunk and taken, while the victors loſt only one. This ſucceſs of the Engliſh ſo much excited the jealouſy of the neighbouring ſtates, that France and Denmark immediately reſolved to protect the republic from ſuch formidable enemies. De Ruyter the great Dutch admiral, on his return from Guinea, was appointed, at the head of 76 ſail, to join the duke of Beaufort the French admiral, who it was ſuppoſed was then entering the Britiſh channel from Toulon. The duke of Albemarle and prince Rupert now commanded the Britiſh fleet, which did not exceed 74 ſail. Albemarle detached prince Rupert with 20 ſhips to oppoſe the duke of Beaufort; againſt which piece of raſhneſs Sir George Ayſcue proteſted in vain. The fleets thus engaging upon unequal terms, a moſt memorable battle enſued. The firſt day, the Dutch admiral Evertzen was killed by a cannon-ball, one of their ſhips was blown up, and three of the Engliſh ſhips taken; the combatants were parted by darkneſs. The ſecond day they renewed the battle with incredible fury. Sixteen freſh ſhips joined the Dutch; and the Engliſh were ſo ſhattered, that their fighting ſhips were reduced to 28. Upon retreating towards their own coaſt, the Dutch followed them; where another dreadful conflict was beginning, but parted by the darkneſs of the night as before. The morning of the third day the Engliſh continued their retreat, and the Dutch their purſuit. Albemarle came to the deſperate reſolution of blowing up his own ſhip rather than ſubmit to the enemy, when he found himſelf happily reinforced by prince Rupert with 16 ſhips of the line. By this time it was night; and the next day the fleets came again to a cloſe combat, which was continued with great violence, till they were parted by a miſt. Sir George Ayſcue having the misfortune to ſtrike on the Galoper ſands, was taken, with a ſhip of 100 guns.

Both ſides claimed the victory, but the Dutch certainly had the advantange in this engagement. A ſecond, however, equally bloody, happened ſoon after, with larger fleets on both ſides, commanded by the ſame admirals. In this the Dutch were vanquiſhed; but they were ſoon in a condition to face their enemies, by the junction of Beaufort the French admiral.

214
Dutch fleet appears in the Thames

The Dutch fleet appeared in the Thames, conducted by their great admiral. The Engliſh were thrown into the utmoſt conſternation: a chain had been drawn acroſs the river Medway; and ſome fortifications had been added to the forts along the bank. But all theſe were unequal to the preſent force: Sheerneſs was ſoon taken; the Dutch paſſed forward and broke the chain, though fortified by ſome ſhips ſunk by Albemarle's orders. Deſtroying the ſhipping in their paſſage, they ſtill advanced, with ſix men of war and five fire-ſhips, as far as Upnore caſtle, where they burned three men of war. The whole city of London was in conſternation; it was expected that the Dutch might ſail up next tide to London-bridge, and deſtroy not only the ſhipping, but even the buildings of the metropolis. The Dutch, however, were unable to proſecute that project from the failure of the French who had promiſed them aſſiſtance. Spreading therefore an alarm along the coaſt, and having inſulted Norwich, they returned to their own coaſts.

215 Plague and fire at London.

During theſe tranſactions abroad, happened a great plague at London, which deſtroyed 100,000 of the inhabitants. This calamity was ſoon followed by another, ſtill more dreadful if poſſible. A fire broke out in a baker's houſe in Pudding-lane near the bridge, and ſpread with ſuch rapidity, that no efforts could extinguiſh it, till it laid in aſhes the moſt conſiderable part of the city. This calamity, though it reduced thouſands to beggary, proved in the end both beneficial and ornamental to the city. It roſe from its ruins in greater beauty than ever; the ſtreets being widened, and the houſes built of brick inſtead of wood, became thus more wholeſome and ſecure. In ſo great a calamity it is remarkable that not a ſingle life was loſt.

Theſe complicated misfortunes did not fail to excite many murmurs among the people: The blame of the fire was laid on the papiſts: the Dutch war was exclaimed againſt as unſucceſsful and unneceſſary, as being an attempt to humble that nation who were equal enemies to Popery with themſelves. Charles himſelf alſo began to be ſenſible, that all the ends for which he had undertaken the Dutch war were likely to be entirely fruſtrated. Inſtead of being able to lay up money for himſelf, the ſupplies of parliament had hitherto been ſo ſcanty, that he found himſelf conſiderably in debt.

216 Peace with Holland concluded.

A treaty therefore was ſet on foot, which was concluded at Breda on the 21ſt of July 1667. By this treaty the only advantage gained by Britain was, the ceſſation of the colony of New-York.

217 Clarendon diſgraced.

It was therefore judged diſgraceful, and the blame of it thrown upon the unhappy earl of Clarendon. Along with this, he was charged with the ſale of Dunkirk; the bad payment of the ſea-men; the diſgrace by the Dutch fleet; and his own ambition. His daughter, while yet in Paris, had commenced an amour with the duke of York; and under a ſolemn promiſe of marriage had admitted him to her bed. Her lover, however, either of his own accord, or through the perſuaſions of his brother Charles, afterwards married her; and this too was imputed as a crime to Clarendon. On theſe accuſations, the king, who on account of his rigid virtue had never much loved this nobleman, ordered the ſeals to be taken from him, and given to Sir Orlando Bridgemen. Clarendon was again impeached; and though the charges were manifeſtly frivolous, yet ſo ſtrong was the popular torrent againſt him, that he thought proper to withdraw into France.

218 Alliance with Holland and Sweden.

Soon after, the king formed an alliance with Holland and Sweden, in order to prevent the French king from completing his conqueſt of the Netherlands. The greateſt part of this country he had already ſubdued, when he was unexpectedly ſtopped by this league; in which it was agreed by the contracting powers, that they would conſtitute themſelves arbiters of the differences between France and Spain, and check the exorbitant pretenſions of either.

219 Arbitrary proceedings of Charles.

The king now began to act in a very arbitrary manner. He had long wiſhed to extend his prerogative, and to be able to furniſh himſelf with whatever ſums he might want for his pleaſures, and therefore was moſt likely to be pleaſed with thoſe miniſters who could flatter both his wiſhes at once. Theſe he found in Clifford, Aſhley, Buckingham, Arlington, and Lauderdale, a junto diſtinguiſhed by the name of the *cabal;* a word formed by the initials of their names.

220 New war with Holland.

The firſt effects of their advice was a ſecret alliance with France, and a rupture with Holland. Soon after this, the duke of York declared himſelf a Papiſt; and liberty of conſcience was proclaimed to all ſectaries, whether diſſenters or Papiſts: a proclamation was iſſued containing very rigorous clauſes in favour of preſſing; another full of menaces againſt thoſe who ſhould ſpeak undutifully of his majeſty's meaſures; and even againſt thoſe who heard ſuch diſcourſes, unleſs they informed in due time againſt the offenders. All theſe things gave very great and juſt offence to the people; but they were eſpecially alarmed at the alliance with France, and juſtly afraid of the treachery of that nation.

221 A deſperate naval engagement.

On the 28th of May 1672, the Engliſh fleet under the duke of York was ſurpriſed by the Dutch in Southwold bay. About eight in the morning began a moſt furious engagement. The gallant Sandwich, who commanded the Engliſh van, drove his ſhip into the midſt of the enemy, beat off the admiral that ventured to attack him, ſunk another ſhip that attempted to board him, and three fire ſhips that offered to grapple with him. Though his veſſel was torn with ſhot, and out of 1000 men there only remained 400, he ſtill continued to fight. At laſt, a fire-ſhip, more fortunate than the reſt, having laid hold of his veſſel, her deſtruction became inevitable, and the earl himſelf was drowned in attempting to ſwim to ſome other ſhip. Night parted the combatants; the Dutch retired, and were not followed by the Engliſh. The loſs ſuſtained by the two maritime powers was nearly equal; but the French ſuffered very little, not having entered into the heat of the engagement. It was even ſuppoſed that they had orders for this conduct, and to ſpare their own ſhips, while the Dutch and Engliſh ſhould weaken each other by their mutual animoſities.

223 Succeſs of Louis XIV. againſt the Dutch.

The combined powers were much more ſucceſsful againſt the Dutch by land. Louis conquered all before him, croſſed the Rhine, took all the frontier towns of the enemy, and threatened the new republic with a final diſſolution. Terms were propoſed to them by the two conquerors. Louis offered them ſuch as would have deprived them of all power of reſiſting an invaſion from France by land. Thoſe of Charles expoſed them equally to every invaſion by ſea. At laſt the murmurs of the Engliſh at ſeeing this brave and induſtrious people, the ſupporters of the Proteſtant cauſe, totally ſunk and on the brink of deſtruction, were too loud not to reach the king.

223 A parliament called.

He was obliged to call a parliament, to take the ſenſe of the nation upon his conduct; and he ſoon ſaw how his ſubjects ſtood affected.

The parliament met on the 4th of February 1673. They began with repreſſing ſome of the king's extraordinary ſtretches of prerogative, and taking means for uniformity

224 Teſt act framed.

uniformity in religious matters. A law was paſſed entitled the *teſt act*, impoſing an oath on all who ſhould enjoy any public benefice. Beſides the taking the oaths of allegiance and the king's ſupremacy, they were obliged to receive the ſacrament once a-year in the eſtabliſhed church, and to abjure all belief in the doctrine of tranſubſtantiation. As the diſſenters alſo had ſeconded the efforts of the commons againſt the king's declaration of indulgence to Roman Catholics, a bill was paſſed for their eaſe and relief, which, however, went with ſome difficulty through the houſe of peers. The Dutch in the mean time continued to defend themſelves with ſuch valour, that the commons began to deſpair of ſucceſs. They therefore reſolved that the ſtanding army was a grievance: they next declared, that they would grant no more ſupplies to carry on the Dutch war, unleſs it appeared that the enemy were ſo obſtinate as to refuſe all reaſonable conditions. To cut ſhort theſe diſagreeable altercations, the king reſolved to prorogue the parliament; and, with that intention, went unexpectedly to the houſe of peers, from whence he ſent the uſher of the black-rod to ſummon the houſe of commons to attend. It happened that the uſher and the ſpeaker met nearly at the door of the houſe; but the ſpeaker being within, ſome of the members ſuddenly ſhut the door, and cried, "To the chair." Upon which the following motions were inſtantly made in a tumultuous manner: That the alliance with France was a grievance; that the evil counſellors of the king were a grievance; that the earl of Lauderdale was a grievance: and then the houſe roſe in great confuſion. The king ſoon ſaw that he could expect no ſupply from the commons for carrying on the war which was ſo diſagreeable to them; he reſolved therefore, to make a ſeparate peace with the Dutch, on terms which they had propoſed by the Spaniſh ambaſſador. For form's ſake, he aſked the advice of his parliament; who concurring heartily in his intentions, a peace was concluded accordingly.

225 Tumult in the houſe of commons.

226 National diſcontents

The prepoſſeſſion which Charles had all along ſhown for France, and his manifeſt inclination upon all occaſions to attach himſelf to that kingdom, had given great offence to his people. Along with this, other circumſtances conſpired to raiſe a general diſcontent. The toleration of Catholics, ſo much wiſhed for by the king; the bigotry of the duke of York, the heir apparent to the crown, and his zeal for the propagation of the Catholic religion; excited a conſternation not altogether without foundation, as if the Proteſtant religion was in danger. This fear and diſcontent was carefully kept up and fomented by wicked and deſigning men, who to promote their own intereſts would not ſcruple to advance the groſſeſt falſehoods. In 1678, an account of a plot formed by the papiſts for deſtroying the king and the proteſtant religion, was given in by one Kirby a chemiſt, Dr Tong, a weak credulous clergyman, and Titus Oates, who had likewiſe been a clergyman, but one of the moſt abandoned miſcreants that can be imagined. The circumſtances attending this pretended diſcovery were ſo perfectly incredible, that it appears amazing how any perſon of common ſenſe could give ear to them†. Nevertheleſs, ſo much were the minds of the nation in general inflamed againſt the Catholics at this time, that it not only produced the deſtruction of individuals of the Romiſh perſuaſion, but an univerſal maſſacre of that unhappy ſect was apprehended. The parliament, who ought to have repreſſed theſe deluſions, and brought back the people to calm deliberate inquiry, were found more credulous than even the vulgar themſelves. The cry of plot was immediately echoed from one houſe to the other; the country party could not ſlip ſo favourable an opportunity of managing the paſſions of the people; the courtiers were afraid of being thought diſloyal if they ſhould doubt the guilt of thoſe who were accuſed of deſigns againſt the king's perſon. Danby, the prime miniſter, himſelf entered into it very furiouſly, and perſiſted in his inquiries notwithſtanding all the king's advices to the contrary. Charles himſelf, who was the perſon that ought to have been moſt concerned, was the only one who treated it with contempt. Nothing, however, could ſtop the popular fury; and for a time the king was obliged to give way to it.

† See *Oates*.

227 Lord Danby impeached.

During the time of this general uproar and perſecution, the lord treaſurer Danby was impeached in the houſe of commons by Seymour the ſpeaker. The principal charge againſt him was, his having written a letter to Montague the king's ambaſſador at Paris, directing him to ſell the king's good offices at the treaty of Nimeguen, to the king of France, for a certain ſum of money; contrary to the general intereſts of the confederates, and even of thoſe of his own kingdoms. Tho' the charge was juſt, yet Danby had the happineſs to find the king reſolved to defend him. Charles aſſured the parliament, that, as he had acted in every thing by his orders, he held him entirely blameleſs; and though he would deprive him of all his employments, yet he would poſitively inſiſt on his perſonal ſafety. The lords were obliged to ſubmit; however, they went on to impeach him, and Danby was ſent to the Tower, but no worſe conſequences followed.

228 Excluſion bill brought in.

Theſe furious proceedings had been carried on by an houſe of commons that had continued undiſſolved for above 17 years. They were now diſſolved, and another parliament was called; which, however, proved as unmanageable as the preceding. The members reſolved to check the growth of Popery by ſtriking at the root of the evil; and therefore brought in a bill for the total excluſion of the duke of York from the crown of England and Ireland, which paſſed the lower houſe by a majority of 79. They next voted the king's ſtanding army and guards to be illegal. They proceeded to eſtabliſh limits to the king's power of impriſoning delinquents at will. It was now alſo that the celebrated ſtatute called the *habeas corpus act* was paſſed, which confirms the ſubject in an abſolute ſecurity from oppreſſive power.

During theſe troubles the duke of York had retired to Bruſſels; but an indiſpoſition of the king led him back to England, to be ready, in caſe of any ſiniſter accident, to aſſert his right to the throne. After prevailing upon his brother to diſgrace his natural ſon the duke of Monmouth, who was now become very popular, he himſelf retired to Scotland, under pretence of quieting the apprehenſions of the Engliſh nation, but in reality to ſtrengthen his intereſts in that part of the empire. This seceſſion ſerved ſtill more to inflame the country party, who were ſtrongly attached to the duke of Monmouth, and were reſolved to ſupport him againſt the duke of York. Mobs, petitions, pope-burnings, were artifices employed to keep up the terrors of Popery, and alarm the court. The parliament had ſhown favour to the various tribes of informers, and that ſerved to increaſe the number of theſe miſcreants; but plots themſelves alſo become more numerous. Plot was ſet up againſt plot; and the people were kept ſuſpended in the moſt dreadful apprehenſion.

229
Petitioners and abhorrers, who.

But it was not by plots alone that the adverſe parties endeavoured to ſupplant each other. Tumultuous petitions on the one hand, and flattering addreſſes on the other, were ſent up from all quarters. Wherever the country party prevailed, petitions were ſent to the king filled with grievances and apprehenſions. Wherever the church or court party prevailed, addreſſes were framed, containing expreſſions of the higheſt regard to his majeſty, and the deepeſt abhorrence of thoſe who endeavoured to diſturb the public tranquillity. Thus the nation came to be diſtinguiſhed into *petitioners* and *abhorrers*. *Whig* and *Tory*, alſo, were now firſt uſed as terms of reproach. The whigs were ſo denominated from a cant name given to the ſour preſbyterian conventiclers, (*whig* being *milk turned ſour*). The tories were denominated from the Iriſh banditti ſo called, whoſe uſual manner of bidding people deliver was by the Iriſh word *Toree*, or "Give me."

230
Attempt to eſtabliſh epiſcopacy in Scotland

231
Occaſions diſcontent.

All this time the king had tyrannized over the Scots in a very cruel manner. Being apprized of the tendency of preſbyterian principles to a republican form of government, Charles, like his predeceſſors, had endeavoured to introduce epiſcopacy there, but in a much more violent manner than had been formerly attempted. The rights of patrons had for ſome years been aboliſhed; and the power of electing miniſters had been veſted in the kirk-ſeſſion and lay elders: but it was now enacted, that all incumbents who had been admitted upon this title ſhould receive a preſentation, and be inſtituted anew by the biſhop, under the penalty of deprivation. In conſequence of this, 350 pariſhes were at once declared vacant. New miniſters were ſought for all over the kingdom, and none was ſo vicious or ignorant as to be rejected. The people, as might have been expected, were diſpleaſed to the higheſt degree; they reſolved, however, to give no ſign of mutiny or ſedition, notwithſtanding their diſcontent. This ſubmiſſion made their caſe ſtill worſe; it being fooliſhly imagined, that, as they did not complain for a little ill uſage, they would ſubmit altogether if they were worſe treated.

232
Preſbyterians perſecuted.

Affairs remained in a peaceable ſituation, till, in 1664, a very ſevere act was paſſed in England againſt conventicles; and this ſeverity was imitated by the Scots parliament, who paſſed an act of the ſame kind. Military force was next let looſe. Wherever the people had generally forſaken their churches, the guards were quartered throughout the country. They were commanded by Sir James Turner, a man of a very furious temper and diſſolute life. He went about and received liſts from the clergy of thoſe who abſented themſelves from the churches, or were ſuppoſed to frequent conventicles. Without any proof, or legal conviction, he demanded a fine from them; and quartered ſoldiers on the ſuppoſed criminals till he received payment. An inſurrection being dreaded during the Dutch war, new forces were levied, and entruſted to the command of Dalziel and Drummond, two men of very cruel diſpoſitions, and the Scots parliament gave full ſcope to all their enormities.

233
An inſurrection.

234
Inſurgents defeated at Pentland-hills.

Repreſentations were now made to the king, who promiſed ſome redreſs. But his lenity came too late. The people, in 1668, roſe in arms. They ſurpriſed Turner in Dumfries, and reſolved to have put him to death; but finding his orders to be more violent than his execution of them, they ſpared his life. At Lanark they renewed the covenant, and publiſhed their maniſeſto; where they profeſſed their ſubmiſſion to the king, and only deſired the re-eſtabliſhment of preſbytery, and of their former miniſters. Their force never exceeded 2000 men; and though the country in general bore them great favour, mens ſpirits were ſo ſubdued, that the inſurgents could expect no farther increaſe of numbers. Dalziel took the field to oppoſe them. The number of the covenanters was now reduced to 800, and theſe no way capable of contending with regular forces. Having advanced near Edinburgh, they attempted to find their way back into the weſt by Pentland hills. Here they were attacked by the king's troops, and received the firſt charge very reſolutely; but that was all the action. Immediately they fell into confuſion, and fled. About 40 were killed on the ſpot, and 130 taken priſoners.

235
Cruelty of archbiſhop Sharpe.

236
Laſt words of Mr Maccail.

So long ago as the year 1661, the preſbyterians had deputed one Sharpe to lay their grievances before the king. Inſtead of this, their deputy abandoned the cauſe altogether, became their violent enemy, and as a reward of his treachery was made archbiſhop of St Andrew's. After the battle of Pentland-hills, this man was the foremoſt to take vengeance on the unhappy inſurgents, whoſe oppreſſed ſtate and inoffenſive behaviour had made them objects of univerſal compaſſion. Ten were hanged on one gibbet in Edinburgh; 35 before their own doors in different places. They might all have ſaved their lives, if they would have renounced the covenant; but this they abſolutely refuſed. The executions were going on, when the king wrote a letter to the privy council, in which he ordered that ſuch of the priſoners as ſhould ſimply promiſe to obey the laws for the future ſhould be ſet at liberty, and that the incorrigible ſhould be ſent to the plantations. This letter was brought to the council by Burnet, but was not immediately delivered by Sharpe. What his motives were for this delay, we pretend not to ſay; but certain it is, that no action of his life will bear a worſe conſtruction than this. It had been cuſtomary to put theſe poor creatures to very ſevere tortures, in order to make them confeſs that to be falſehood, which they believed to be true. By Sharpe's delay, one Hugh Maccail had been tortured, who would otherwiſe have eſcaped; and ſo violent were the torments he endured, that he expired under them. He ſeemed to die in an ecſtacy of joy. His laſt words were uttered with an accent which ſtruck all the byſtanders with aſtoniſhment. "Farewell (ſaid he) ſun, moon, and ſtars; farewell world and time; farewell weak frail body; welcome eternity; welcome angels and ſaints; welcome Saviour of the world; and welcome God the judge of all."

237
Act againſt conventicles.

In 1670, an act againſt conventicles was paſſed, ſeemingly with a deſign of mitigating the former perſecuting laws; though even this was ſevere enough. By this act, the hearer in a conventicle (that is, in a diſſenting aſſembly where more than five beſide the family were preſent) was fined 5s. for the firſt offence, and 10s. for the ſecond; the preacher L.20 for the firſt offence, and L. 40 for the ſecond. The perſon in whoſe houſe the conventicle met was fined a like ſum with the preacher. One remarkable clauſe was, that if any diſpute ſhould ariſe with regard to the interpretation of any part of the act, the judges ſhould always explain the doubt in the ſenſe leaſt favourable to conventicles, it being the intention of parliament entirely to ſuppreſs them.

238 Schemes of comprehenſion and indulgence.

As the violent methods uſed by the king were found ineffectual to obtain his purpoſe in Scotland, in 1673 a ſcheme of comprehenſion was tried, by which it was propoſed to diminiſh greatly the authority of the biſhops, to aboliſh their negative voice in the eccleſiaſtical courts, and to leave them little more than the right of precedency among the preſbyters: but this too was rejected by the people, who well knew its tendency. The next ſcheme was an indulgence. By this, the moſt popular of the expelled preachers, without requiring any terms of ſubmiſſion to the eſtabliſhed religion, were ſettled in vacant churches; and ſmall ſalaries of about L. 20 a-year were offered to the reſt, till they ſhould be otherwiſe eſtabliſhed. This bounty was rejected as the wages of criminal ſilence, and the replaced miniſters ſoon repented of their compliance; conventicles multiplied, and the covenanters daily met in arms at their places of worſhip, though they uſually diſperſed themſelves after divine ſervice.

239 Perſecution renewed.

Theſe mild methods being rejected, a renewal of the perſecution commenced under the adminiſtration of the duke of Lauderdale, and in which archbiſhop Sharpe had a principal hand. It was an old law, and but ſeldom put in execution, that a man who was accuſed of any crime, and did not appear to take his trial, might be *intercommuned*; that is, he might be publicly outlawed; and whoever afterwards, either on account of buſineſs, relation, or charity, had the leaſt intercourſe with him, was ſubjected to the ſame penalties which the law could inflict on the criminal himſelf. A great many writs of intercommuning were now iſſued againſt the covenanters; by which abſurd method of proceeding, crimes and puniſhments were multiplied to an extreme degree.

240 Archbiſhop Sharpe murdered.

Application was made to Charles for ſome redreſs of theſe grievances: but he was too much taken up with his pleaſures to take any effectual means of putting a ſtop to them; nay, even while he retracted them, he was perſuaded to avow and praiſe them in a letter to the privy council. The conſequence of all this was, that the covenanters were at laſt ſo much enraged againſt Sharpe, whom they conſidered as an apoſtate, and experienced to be an unrelenting perſecutor, that, on the 3d of May 1679, he was way-laid and murdered with all the circumſtances of unrelenting cruelty. The murder of Sharpe produced a perſecution ſtill more violent, which at laſt brought on another inſurrection.

241 Second inſurrection.

The covenanters finding themſelves obliged to meet in large bodies, and bring arms along with them for their own ſecurity, ſet forth a declaration againſt prelacy, which they publiſhed at Rutherglen, a ſmall borough near Glaſgow; and in the market-place there they burned ſeveral acts of parliament which had eſtabliſhed that mode of eccleſiaſtical government, and had prohibited all conventicles. For this purpoſe they choſe the 29th of May, the anniverſary of the reſtoration; and previouſly extinguiſhed the bonfires that had been kindled on that occaſion. Count Graham, afterwards viſcount Dundee, an active and enterprizing officer, attacked a great conventicle upon Loudon-hill, but was repulſed with the loſs of 30 men. The covenanters then finding themſelves unwarily engaged in rebellion, were obliged to perſevere; and therefore puſhed on to Glaſgow, which, though repulſed at firſt, they afterwards made themſelves maſters of. Here they diſpoſſeſſed the eſtabliſhed clergy, and iſſued proclamations, in which they declared that they fought againſt the king's ſupremacy, againſt Popery and prelacy, and againſt a Popiſh ſucceſſor.

442 Inſurgents defeated at Bothwel-bridge.

Charles, being now alarmed, diſpatched againſt the covenanters a ſmall body of Engliſh cavalry under the duke of Monmouth. He joined the Scots guards, and ſome regiments of militia levied from the well-affected counties; and with great celerity marched in queſt of the inſurgents. They had taken poſt at Bothwel-bridge between Hamiton and Glaſgow; where there was no acceſs but by the bridge, and where a ſmall body was able to defend it againſt the king's army. The whole army of the covenanters never exceeded 8000 men, and they had in reality no other generals than their clergymen. Monmouth attacked the bridge, and the covenanters maintained their poſt as long as their ammunition laſted. When they ſent for more, they received orders to quit their poſt and retire; and this imprudent meaſure occaſioned an immediate defeat. Monmouth paſſed the bridge without oppoſition, and drew up his forces oppoſite to the enemy. His cannon alone put them to the rout. About 700 were killed in the purſuit; for properly ſpeaking, there was no action. Twelve hundred were taken priſoners, and treated with humanity by Monmouth. Such as promiſed to live peaceably under the preſent government were diſmiſſed; and about 300 who refuſed this condition were ſhipped for Barbadoes, but unfortunately periſhed by the way. Two of their clergymen were hanged. Soon after, an act of indemnity was paſſed: but Lauderdale took care that it ſhould afford little protection to the unhappy covenanters; for though orders were given to connive thenceforward at all conventicles, he found means under a variety of pretences to elude the execution of them.

243 Violent proceedings of parliament.

It is now certainly known, that king Charles II. had formed a ſcheme of overturning the eſtabliſhed religion, and ſubſtituting Popery in its place; as alſo of rendering himſelf abſolute. In this, however, he met with violent oppoſition from his parliaments; and as this one of 1679 ſeemed even to ſurpaſs their predeceſſors in violence, the king was induced to diſſolve them and call another in 1680. By this ſtep, however, he was no gainer. They voted the legality of petitioning the king; and fell with extreme violence on the abhorrers, who in their addreſſes to the crown had expreſſed their diſapprobation of thoſe petitions. Great numbers of theſe were ſeized by their order in all parts of England, and committed to cloſe cuſtody: the liberty of the ſubject, which had been ſo carefully guarded by their own recent law, was every day violated by their arbitrary and capricious impriſonments. One Stowel of Exeter put a ſtop to their proceedings: he refuſed to obey the ſerjeant at arms who was ſent to apprehend him; he ſtood upon his defence, and ſaid he knew no law by which the houſe of commons pretended to commit him. The houſe, finding it equally dangerous to proceed or recede, got off by an evaſion. They voted that Stowel was indiſpoſed: and a month's time was allowed him for his recovery. It is happy for the nation, that ſhould the commons at any time overleap the bounds of their authority, and capriciouſly order men to be put in priſon, there is no power, in caſe of reſiſtance, that can compel the priſoners to ſubmit to their decrees.

The chief point, however, laboured by the preſent parliament was, to obtain the excluſion bill, which, though the former houſe had voted, was never yet paſſed into a law. It paſſed by a great majority in the houſe of commons, but was thrown out by the houſe of peers. All the biſhops except three voted againſt it; for they were of opinion that the church of England was in much greater danger from the prevalence of preſbyterianiſm than Popery. The commons were extremely mortified at the rejection of their favourite bill: in revenge, they paſſed ſeveral other diſagreeable acts, among which one was, That, till the excluſion bill was paſſed, they could not, conſiſtent with the truſt repoſed in them, grant the king any manner of ſupply; and that whoever ſhould hereafter lend, by way of advance, and money upon any branches of the king's revenue, ſhould be reſponſible to parliament for his conduct. Charles, therefore, finding that there were no hopes of extorting either money or obedience from the commons, came to a reſolution of once more diſſolving the parliament. His uſher of the black rod accordingly came to diſſolve them while they were voting that the diſſenters ſhould be encouraged, and that the Papiſts had burned the city of London.

244 Parliament diſſolved.

245 New one called at Oxford.

It was for ſome time a doubt whether the king would ever call another parliament: his neceſſities, however, ſurmounted all his fears of their violence; and, in 1681, he ſummoned his parliament to meet him at Oxford, that he might thus have an opportunity of puniſhing the city of London by ſhowing his ſuſpicions of their loyalty. In this, as in all former parliaments, the country party predominated; and they trode exactly in the ſame paths with their predeceſſors. The ſame ſpeaker was choſen, and the excluſion bill urged more fiercely than before. Ernely, one of the king's miniſters, propoſed that the duke ſhould be baniſhed 500 miles from England; and that on the king's deceaſe the next heir ſhould be conſtituted regent with regal power. Yet even this expedient, which left the duke the bare title of *king*, could not obtain the attention of the houſe. Nothing but a total excluſion could ſatisfy them.

246 Caſe of Fitzharris.

Each party had now for ſome time reviled and ridiculed each other in pamphlets and libels; and this practice at laſt was attended with an incident that deſerves notice. One Fitzharris, an Iriſh Papiſt, employed a Scotſman, named *Fuerhard*, to write a libel againſt the king and the duke of York. The Scot was actually a ſpy for the contrary party; and ſuppoſing this a trick to entrap him, he diſcovered the whole to Sir William Waller, an eminent juſtice of the peace; and, to convince him of the truth of his information, poſted the magiſtrate and two other perſons privately, where they heard the whole conference between Fitzharris and himſelf. The libel compoſed between them was replete with the utmoſt rancour and ſcurrility. Waller carried the intelligence to the king, and obtained a warrant for committing Fitzharris, who happened at that very time to have a copy of the libel in his pocket. Seeing himſelf in the hands of a party from whom he expected no mercy, he reſolved to ſide with them, and throw the odium of the libel upon the court, who, he ſaid, were willing to draw up a libel which ſhould be imputed to the excluſioners, and thus render them hateful to the people. He enhanced his ſervices to the country-party by a new Popiſh plot more tremendous than any of the foregoing, and in which he brought in the duke of York as a principal accomplice.

The king impriſoned Fitzharris; the commons avowed his cauſe. They voted that he ſhould be impeached by themſelves, to ſcreen him from the ordinary forms of juſtice: the lords rejected the impeachment; the commons aſſerted their right: a commotion was likely to enſue; and the king, to break off the conteſt, went to the houſe and diſſolved the parliament, with a fixed reſolution never to call another.

247 Parliament diſſolved.

248 Arbitrary proceedings of the king.

From this moment the king ruled with deſpotic power. His temper, which had always been eaſy and merciful, now became arbitrary and cruel; he entertained ſpies and informers round the throne, and impriſoned all ſuch as he thought moſt daring in their deſigns. He reſolved to humble the preſbyterians: they were diveſted of their employments and their places; and their offices given to ſuch as held with the court, and approved the doctrine of non-reſiſtance. The clergy began to teſtify their zeal and their principles by their writings and ſermons; but though among theſe the partizans of the king were the moſt numerous, thoſe of the oppoſite faction were the moſt enterprizing. The king openly eſpouſed the cauſe of the former; and thus placing himſelf at the head of a faction, he deprived the city of London, which had long headed the popular party, of their charter. It was not till after an abject ſubmiſſion that he reſtored it to them, having previouſly ſubjected the election of their magiſtrates to his immediate authority.

249 London deprived of its charter.

Terrors alſo were not wanting to confirm this new ſpecies of monarchy. Fitzharris was brought to a trial before a jury, and condemned and executed. The whole gang of ſpies, witneſſes, informers, ſuborners, which had long been encouraged and ſupported by the leading patriots, finding now that the king was entirely maſter, turned ſhort upon their ancient drivers, and offered their evidence againſt thoſe who firſt put them in motion. The king's miniſters gave them encouragement; and in a ſhort time the ſame injuſtice and the ſame cruelties were practiſed againſt preſbyterian ſchemes that had formerly been practiſed againſt Catholic treaſons. The king's chief reſentment was levelled againſt the earl of Shafteſbury; and, indeed, not without reaſon, as he had had a very active hand in the late diſturbances. No ſums were ſpared to ſeek for evidence, or even to ſuborn witneſſes, againſt this intriguing and formidable man. A bill of indictment being preſented to the grand jury, witneſſes were examined, who ſwore to ſuch incredible circumſtances as muſt have invalidated their teſtimony, even if they had not been branded as perjured villains. Among his papers, indeed, a draught of an aſſociation was found, which might have been conſtrued into treaſon; but it was not in the earl's hand-writing, nor could it be proved that he had ever communicated this ſcheme to any body, or ſignified his approbation of any ſuch project. The ſheriffs had ſummoned a jury, whoſe principles coincided with thoſe of the earl; and that probably, more than any want of proof, procured his ſafety.

250 Other corporations reſign theirs.

In 1683, the city of London was deprived of its charter; which was reſtored only upon terms of the utmoſt ſubmiſſion, and giving up the nomination of their own magiſtrates. This was ſo mortifying a circumſtance, that all the other corporations in England ſoon began to fear the ſame treatment, and were ſucceſſively induced to ſurrender their charters into the hands of the king. Conſiderable ſums were exacted for reſtoring theſe charters; and all the offices of power and profit were left at the diſpoſal of the crown. Reſiſtance now, however juſtifiable, could not be ſafe; and all prudent men ſaw no other expedient but ſubmitting patiently to the preſent grievances.

251 Conſpiracy againſt the king.

There was a party, however, in England, that ſtill cheriſhed their former ideas of freedom, and reſolved to reſtore liberty to their country by dethroning the king who acted in ſuch a deſpotic manner. The principal conſpirators were Monmouth, Shafteſbury, Ruſſel, Eſſex, Howard, Algernon Sidney, and John Hamden, grandſon to the great man of that name. Monmouth engaged the earl of Macclesfield, Lord Brandon, Sir Gilbert Gerard, and other gentlemen in Cheſhire. Lord Ruſſel fixed a correſpondence with Sir William Courtney, Sir Francis Knowles, and Sir Francis Drake, who promiſed to raiſe the weſt. Shafteſbury, with one Ferguſon, an independent clergyman, and a reſtleſs plotter, managed the city, upon which the confederates chiefly relied. Theſe ſchemes had been laid in 1681: but the caution of Lord Ruſſel, who induced the duke of Monmouth to put off the enterprize, ſaved the kingdom from the horrors of a civil war: while Shafteſbury was ſo ſtruck with a ſenſe of his impending danger, that he left his houſe, and, lurking about the city, attempted, but in vain, to drive the Londoners to an open inſurrection. At laſt, enraged at the numberleſs cautions and delays which clogged and defeated his projects, he threatened to begin with his own friends ſingly. However, after a long ſtruggle between fear and rage, he abandoned all hopes of ſucceſs, and fled to Amſterdam, where he ſoon after died.

The loſs of Shafteſbury, though it retarded, did not ſuppreſs, the deſigns of the conſpirators. The remaining ſix formed a council, they correſponded with Argyle and the malecontents in Scotland; and reſolved to proſecute the ſcheme of the inſurrection, tho' they widely differed in principles from one another. Monmouth aſpired at the crown; Ruſſel and Hamden propoſed to exclude the duke of York from the ſucceſſion, and redreſs the grievances of the nation; Sidney was for reſtoring the republic, and Eſſex joined in the ſame wiſh. Lord Howard was an abandoned man, who, having no principles, ſought to embroil the nation, to gratify his private intereſt in the confuſion.

252 Deſign of aſſaſſinating him formed.

Beſides theſe, there was a ſet of ſubordinate conſpirators, who frequently met together, and carried on projects quite unknown to Monmouth and his council. Among theſe was colonel Rumſey, an old republican officer; lieutenant-colonel Walcot, of the ſame ſtamp; Goodenough, under ſheriff of London, a zealous and noted party-man; Ferguſon, an independent miniſter; and ſeveral attorneys, merchants, and tradeſmen of London. But Rumſey and Ferguſon were the only perſons that had acceſs to the great leaders of the conſpiracy. Theſe men undertook the deſperate reſolution of aſſaſſinating the king in his way to New-market; Rumbold, one of the party, poſſeſſed a farm upon that road, called the *Rye-houſe*, and from thence the conſpiracy was called the *Rye-houſe plot*. They deliberated on a ſcheme of ſtopping the king's coach by overturning a cart on the high way at this place, and ſhooting him through the hedges. The houſe in which the king lived at New-market accidentally took fire, and he was obliged to leave New-market eight days ſooner than was expected; to which circumſtance he owed his ſafety. Soon after this the conſpiracy was diſcovered; Ruſſel, Sidney, and Walcot, were executed; Eſſex cut his own throat; Hamden was fined 40,000l.; and ſcarce one eſcaped who had been in any manner concerned, except the duke of Monmouth, who was the moſt culpable of all.

253 It miſcarries.

This was the laſt blood that was ſhed on account of plots or conſpiracies, which continued during the greateſt part of this reign. Severe puniſhments, however, were inflicted on many who treated the duke of York unworthily. The famous Titus Oates was fined 100,000l. for calling him a Popiſh traitor; and he was impriſoned till he ſhould pay it, which he was abſolutely incapable of. A ſimilar ſentence was paſſed upon Dutton Colt. Sir Samuel Barnadiſton was fined 10,000l. for having, in ſome private letters, reflected on the government. The government of Charles was now as abſolute as that of any prince in Europe; but, to pleaſe his ſubjects by an act of popularity, he judged it proper to marry the lady Anne, his niece, to prince George brother to the king of Denmark. This was the laſt remarkable tranſaction of this extraordinary reign.

254 Death of Charles II.

On February 2d 1685, about eight in the morning, the king was ſeized with a fit of the apoplexy; being dreſſed, and juſt come out of his cloſet, where he had been for ſome time after he roſe from bed. By being blooded, he was reſtored perfectly to his ſenſes; and there were great hopes of his recovery the next day. On the fourth day the phyſicians deſpaired of his life, and therefore ſent for the queen. He was in his perfect ſenſes when ſhe arrived. She threw herſelf on her knees, and aſked his pardon for all her offences. He replied, that ſhe had offended in nothing; but that he had been guilty of offences againſt her, and aſked her pardon. He ſpoke with great affection to the duke of York, and gave him excellent counſel for his future conduct. He adviſed him to adhere to the laws with ſtrictneſs and invariably to ſupport the church of England. The duke ſeemed anxious to convince him before he died how little he intended to follow his advice. Having removed the biſhops, and ſeveral of the lords who attended the bed of the king, he ſent for Huddleſton, a Romiſh prieſt. In the preſence of the duke, the earl of Bath, and Trevannion a captain in the guards, Huſtdleſton gave the extreme unction to the king, and adminiſtered to him the ſacrament according to the rites of the church of Rome. All this was done in the ſpace of half an hour. The doors were then thrown open. Six prelates, who had before attended the king, were ſent for to give him the ſacrament. Kenn, biſhop of Bath and Wells, read the viſitation of the ſick; and, after he ſaid that he repented of his ſins, the abſolution. The king aſſiſted with ſeeming devotion at the ſervice; but his mouth being diſtorted with fits, and his throat contracted, he could not ſwallow the elements. He profeſſed, however, his ſatisfaction in the church of England; and expired on the 6th of February, between 11 and 12 o'clock; having reigned 25 years, and lived 55.

The firſt act of James II.'s reign was to aſſemble the privy council: where, after ſome praiſes beſtowed on the memory of his predeceſſor, he made profeſſions of his reſolution to maintain the eſtabliſhed government both in church and ſtate; and as he had heretofore ventured his life in defence of the nation, he would ſtill go as far as any man in maintaining all its juſt rights and privileges.

255 Servile addreſſes to James II.

This diſcourſe was received with great applauſe, not only by the council, but by the whole nation. Addreſſes came from all quarters, full of duty, nay of the moſt ſervile adulation. From this charge, however, we muſt except thoſe of the Quakers, which is remarkable for its good ſenſe and ſimplicity. "We are come (ſaid they) to teſtify our ſorrow for the death of our good friend Charles, and our joy for thy being made our governor. We are told that thou art not of the perſuaſion of the church of England no more than we: wherefore we hope that thou wilt grant us the ſame liberty which thou alloweſt thyſelf. Which doing, we wiſh thee all manner of happineſs."

256 Quakers addreſs.

257 Imprudent behaviour of the new king.

The king, however, ſoon ſhowed, that he either was not ſincere in his promiſes, or that he entertained ſo lofty an idea of his own legal power, that even his utmoſt ſincerity could tend very little to the ſecurity of the liberties of the people. All the cuſtoms, and the greater part of the exciſe, which had been voted to the late king for his life only, were levied by James without a new act for that purpoſe. He went openly to maſs with all the enſigns of his dignity; and even ſent one Caryl as his agent to Rome to make ſubmiſſions to the Pope, and to pave the way for the re-admiſſion of England into the boſom of the Catholic church. From the ſuggeſtions of theſe men all his meaſures were undertaken. One day when the Spaniſh ambaſſador ventured to adviſe his majeſty againſt putting too much confidence in ſuch kind of people, "Is it not the cuſtom in Spain (ſaid James), for the king to conſult with his confeſſor?" "Yes (anſwered the ambaſſador), and that is the reaſon why our affairs ſucceed ſo very ill."

James's firſt parliament, which was compoſed moſtly of zealous tories, was ſtrongly inclined to comply with the meaſures of the crown. They voted unanimouſly, that they ſhould ſettle on the preſent king, during life, all the revenue enjoyed by the late king till the time of his deceaſe. For this favour, James aſſured them, that he whold ſecure them in the full enjoyment of their laws; but with regard to religion, no anſwer could be extorted, for that he was reſolved to alter. In every thing, however, religion excepted, James merited every praiſe. He applied himſelf to buſineſs with unremitting attention. He managed his revenue with the ſtricteſt œconomy. He retrenched ſuperfluous expences, and ſhowed himſelf zealous for the glory of the nation. He endeavoured to expel from court the vice which had prevailed ſo much during the former reign, and to reſtore decency and morality. He preſided daily at the council, at the boards of admiralty and treaſury. He even entered into the whole detail of the concerns of the great departments of the ſtate. But his bigotry for the Romiſh religion ſullied all his good qualities, and rendered him feared for his violence, where he was not deſpiſed for his weakneſs.

258 In ſome reſpects he behaves well.

259 Monmouth's conſpiracy.

But whilſt every thing was ſubmitted in tranquillity to James at home, a ſtorm was gathering abroad to diſturb his repoſe. For a long time the prince of Orange had entertained hopes of aſcending the Britiſh throne, and had even uſed all his endeavours to exclude James from it. Monmouth, who, ſince his laſt conſpiracy, had been pardoned, but ordered to depart the kingdom, and retired to Holland. He was received by the prince of Orange with the higheſt marks of diſtinction, and even became his chief favourite through whom all favours were to be obtained. When the news of Charle's death arrived, indeed, the prince made a ſhow of altering his note, and diſmiſſed Monmouth, though he ſtill kept a cloſe correſpondence with him. The duke retired to Bruſſels, where, under the auſpices of the prince of Orange, he reſolved to invade England, with a deſign of ſeizing the crown for himſelf. He was ſeconded by the duke of Argyle, who formed the ſcheme of an inſurrection in Scotland; and while Monmouth attempted to make a riſing in the weſt of England, it was reſolved that Argyle ſhould alſo try his endeavours in the north. The generoſity of the prince of Orange, however, did not correſpond with the warmth of his profeſſions. The unfortunate duke derived from his own plate and jewels his whole ſupply for the war; and the enthuſiaſm of a rich widow ſupplied Argyle with 10,000l. wherewith he purchaſed three veſſels, which he loaded with arms and ammunition.

260 Defeat and death of Argyle.

Argyle was the firſt who landed in Scotland, where he publiſhed his manifeſtoes, put himſelf at the head of 2500 men, and ſtrove to influence the people in his favour. But a formidable body of the king's forces coming againſt him, his army fell away; and he himſelf, after being wounded in attempting to eſcape, was taken priſoner by a peaſant who found him ſtanding up to the neck in water. He was from thence carried to Edinburgh, where after ſuffering many indignities he was publicly executed.

261 Monmouth lands in England.

By this time Monmouth had landed in Dorſetſhire with ſcarce 100 followers. His name, however, was ſo popular, and ſo great was the hatred of the people to James on account of his religion, that in four days he had aſſembled a body of above 2000 men. They were indeed all of them the loweſt of the people, and his declarations were ſuited entirely to their prejudices. He called the king the duke of York; and denominated him a traitor, a tyrant, a murderer, and a Popiſh uſurper. He imputed to him the fire of London, and even affirmed that he had poiſoned the late king.

Monmouth continued to make a rapid progreſs, and in a ſhort time found himſelf at the head of 6000 men; but was daily obliged to diſmiſs great numbers for want of arms. The king was not a little alarmed at his invaſion. Six regiments of Britiſh troops were called over from Holland; and a body of regulars, to the number of 3000, were ſent, under the command of the earl of Feverſham and Churchill, to check the progreſs of the rebels.

262
Defeated at Sedgemore.

They took poſt at Sedgemore, a village in the neighbourhood of Bridgewater, and were joined by conſiderable numbers of the country militia. Here Monmouth reſolved, by a deſperate effort, to loſe his life, or gain the kingdom. He drove the royal infantry from their ground, and was on the point of gaining a complete victory, when the cowardice of Gray, who commanded the horſe, brought all to ruin. This nobleman fled at the firſt onſet; and the rebels, being charged in flank, gave way after a three-hours conteſt. About 300 were killed in the engagement, and 1000 in the purſuit. Monmouth fled above 20 miles from the field of battle, till his horſe ſunk under him. He then alighted; and, exchanging clothes with a ſhepherd, fled on foot, attended by a German count who had accompanied him from Holland. Being quite exhauſted with hunger and fatigue, they both lay down in a field, and covered themſelves with fern.

263
Is taken in a moſt miſerable ſituation.

The ſhepherd, being found in Monmouth's clothes by the purſuers, increaſed the diligence of the ſearch; and by the means of blood-hounds he was detected in his miſerable ſituation, with raw peaſe in his pocket, on which he had lived for ſome days. He burſt into tears when ſeized by his enemies; and petitioned, with the moſt abject ſubmiſſions, for his life.

264
Attempts in vain to obtain mercy.

On his way to London, he wrote a ſubmiſſive letter to the king, promiſing diſcoveries, ſhould he be admitted into his preſence. The curioſity of James being excited by the letter, he ſent Sheldon a gentleman of the bed-chamber to meet Monmouth. In his converſation with Sheldon, he aſked who was in chief confidence with the king; and being anſwered that it was Sunderland, Monmouth knocked his breaſt in a ſurprize, and ſaid, "Why then, as I hope for ſalvation, he promiſed to meet ME." He deſired Sheldon to inform the king, that ſeveral of his accomplices in rebellion were in the confidence of his majeſty; and he gave him a particular account of the part which the prince of Orange had acted in this whole affair.

Sheldon, on his return from the duke of Monmouth, began to give an account to the king of what he had learned from the unhappy priſoner. Sunderland, pretending buſineſs, came into the room. Sheldon ſtopped, and ſignified his deſire to ſpeak in private with the king. James told him he might ſay any thing before that lord. Sheldon was in great perplexity; but being urged, he told all that Monmouth had aſſerted. Sunderland appeared, for ſome time, confuſed; at length he ſaid, with a laugh, "If that is all he can diſcover to ſave his life, he will derive little good from his information." Monmouth himſelf was ſoon after brought before the king. Sunderland by an artifice inſured the death of the unfortunate duke, to ſave himſelf and the other adherents of the prince of Orange. When he ſaw Monmouth's letter to James, and heard the diſcoveries made by Sheldon, he is ſaid to have adviſed him, that, as he could aſſure him of the certainty of a pardon, he ought to deny what he had ſaid in prejudice of his friends, who could ſerve him on ſome other more favourable occaſion. The credulous duke, ſwayed by the advice of Sunderland, ſuppreſſed what he had ſaid to Sheldon, when he was examined by the king. He mentioned nothing of the concern which the prince of Orange had taken in the invaſion; though a point on which James was already ſufficiently informed. D'Avaux, the French miniſter to the States, had given a circumſtantial account of the whole conduct of the prince to Louis XIV. who had ordered it to be privately communicated to the king of England. The miniſter who had been ſent from Holland to congratulate James on the ſuppreſſion of Argyle's rebellion, was in a grievous agony when he heard that the king was reſolved to ſee Monmouth. "Though he found that he ſaid nothing of his maſter (ſaid James), he was never quiet till Monmouth was dead."

The unfortunate duke made various attempts to obtain mercy. He wrote to the queen dowager; he ſent a letter to the reigning queen, as well as to the king himſelf. He begged his life, when admitted into his preſence, with a meanneſs unſuitable to his pretenſions and high rank. But all his entreaties and ſubmiſſions were of no avail. James told him, that he was much affected with his misfortunes, but that his crime was too dangerous in its example to be left unpuniſhed. In his laſt moments he behaved with a magnanimity worthy of his former courage. When he came to the ſcaffold, he behaved with decency and even with dignity. He ſpoke little; he made no confeſſion; nor did he accuſe any of his friends.

265
Terribly mangled by the executioner.

Circumſtances are ſaid to have attended his death that created a horror among the ſpectators. The executioner miſſed his blow, and ſtruck him ſlightly on the ſhoulder. Monmouth raiſed his head from the block, and looked him full in the face, as if reproaching him for his miſtake. He ſtruck him twice again, but with feeble ſtrokes; and then threw the axe from his hands. The ſheriff forced him to renew his attempt; and the head of the duke who ſeemed already dead, was at laſt ſevered from his body.

266
Rebels cruelly treated

Thoſe concerned in the Duke of Monmouth's conſpiracy were puniſhed with the utmoſt ſeverity. Immediately after the battle of Sedgemore, Feverſham hanged up above 20 priſoners; and was proceeding in his executions, when the Biſhop of Bath and Wells informed him that theſe unhappy men were now by law intitled to a trial, and that their execution would be deemed a real murder. Nineteen were put to death in the ſame manner at Bridgewater, by colonel Kirke, a man of a ſavage and bloody diſpoſition. This vile fellow, practiſed in the arts of ſlaughter at Tangier, where he ſerved in garriſon, took pleaſure in committing inſtances of wanton barbarity. He ravaged the whole country, without making any diſtinction between friend and foe. His own regiment, for their peculiar barbarity, went under the ironical title of *Kirke's lambs*. It doth not, however, appear that theſe cruelties were committed by the direction, or even with the approbation, of James; any more than the legal ſlaughters that were committed by Judge Jefferies, who was ſent down to try the delinquents. The natural brutality of this man's temper was inflamed by continual intoxication. No fewer than 80 were executed by his orders at Dorcheſter; and on the whole, at Exeter, Taunton, and Wells, 250 are computed to have fallen by the hand of juſtice as it was called; nor were women exempted from the general ſeverity, but ſuffered for harbouring their neareſt kindred. Jefferies on his return was immediately created a peer, and ſoon after veſted with the dignity of chancellor. In juſtice to the king, however, it muſt be owned, that in his memoirs he complains with apparent indignation, of "the ſtrange havock made by Jefferies and Kirke in the weſt;" and that he attributed the unpopularity, which afterwards deprived him of the crown, to the violence and barbarity of thoſe pretended friends of his authority. He even aſcribes their ſeverities, in ſome degree, to a formed deſign of rendering his government odious to his ſubjects; and from hence it is probable, that no exact or impartial accounts of theſe cruelties had reached his ears, at leaſt till long after they were committed.

267 James endeavours to eſtabliſh Popery.

James now began to throw off the maſk, and to endeavour openly to eſtabliſh Popery and arbitrary power. He told the houſe of commons, that the militia were found by experience to be of no uſe; that it was neceſſary to augment the ſtanding army; and that he had employed a great many Catholic officers, in whoſe favour he had thought proper to diſpenſe with the teſt required to be taken by all who were employed by the crown. He found them uſeful, he ſaid, and he was determined to keep them employed. Theſe ſtretches of power naturally led the lords and commons into ſome degree of oppoſition; but they ſoon acquieſced in the king's meaſures, and then the parliament was diſſolved for their tardy compliance. This was happy for the nation; for it was perhaps impoſſible to pick out another houſe of commons that could be more ready to acquieſce in the meaſures of the crown; but the diſſolution of this parliament was generally looked upon as a ſign that James never intended to call another.

268 Parliament diſſolved.

269 Catholics promoted.

The parliament being diſmiſſed, James's next ſtep was to ſecure a Catholic intereſt in the privy council. Accordingly four Catholic lords were admitted, viz. Powis, Arundel, Belaſis, and Dover. Sunderland, who ſaw that the only way to gain preferment was by Popery, became a convert. Rocheſter, the treaſurer, was turned out of his office, becauſe he refuſed to conform. Even in Ireland, where the duke of Ormond had long ſupported the royal cauſe, this nobleman was diſplaced as being a Proteſtant; and the lord Tyrconnel, a furious Roman-catholic, was placed in his ſtead. In his zeal for Popery, it is ſaid, that James ſtooped ſo low as even to attempt the converſion of colonel Kirke: but the daring ſoldier told him, that he was pre-engaged; for he had promiſed the king of Morocco, when he was quartered at Tangiers, that, if ever he changed his religion, he would turn Mahometan.

270 Engliſh clergy oppoſe the court meaſures.

At laſt the clergy of the church of England began to take the alarm, and commenced an oppoſition to court meaſures. The pulpits now thundered out againſt Popery; and it was urged, that it was more formidable from the ſupport granted it by the king. It was in vain that James attempted to impoſe ſilence on theſe topics; inſtead of avoiding the controverſy, the Proteſtant preachers purſued it with greater warmth.

To effect his deſigns, the king determined to revive the high commiſſion court, which had formerly given the nation ſo much diſguſt, and which had been aboliſhed for ever by act of parliament. An eccleſiaſtical commiſſion was iſſued out anew, by which ſeven commiſſioners were inveſted with a full and unlimited authority over the whole church of England.—The next ſtep was to allow a liberty of conſcience to all ſectaries; and he was taught to believe that the truth of the Catholic religion would then, upon a fair trial, gain the victory. In ſuch a caſe, the ſame power that granted liberty of conſcience might reſtrain it; and the Catholic religion alone be allowed to predominate. He therefore iſſued a declaration of general indulgence, and aſſerted that non-conformity to the eſtabliſhed religion was no longer penal. In Scotland, he ordered his parliament to grant a toleration only to the Catholics, without interceding in the leaſt for the other diſſenters who were much more numerous. In Ireland, the Proteſtants were totally expelled from all offices of truſt and profit, and Catholics put in their places. Theſe meaſures ſufficiently diſguſted every part of the Britiſh empire; but to complete the work, James publicly ſent the earl of Caſtlemaine ambaſſador extraordinary to Rome, in order to expreſs his obedience to the Pope, and reconcile his kingdoms to the Catholic communion. This proceeding was too precipitate to be reliſhed even by the Pope himſelf; and therefore the only return he made to this embaſſy was the ſending a nuncio into England. The nuncio made a public and ſolemn entry into Windſor; which did not fail to add to the general diſcontent; and becauſe the duke of Somerſet refuſed to attend the ceremony, he was diſmiſſed from his employment of one of the lords of the bedchamber.

271 James ſends an ambaſſador to Rome.

Soon after this, the Jeſuits were permitted to erect colleges in different parts of the kingdom, and to exerciſe the Catholic worſhip in the moſt public manner. Father Francis, a benedictine monk, was recommended by the king to the univerſity of Cambridge, for the degree of maſter of arts. The univerſity rejected him on account of his religion; and preſented a petition to the king, beſeeching him to recal his mandate. James diſregarded their petition, and denied their deputies a hearing; the vice-chancellor himſelf was ſummoned to appear before the high commiſſion court, and deprived of his office: yet the univerſity perſiſted, and father Francis was refuſed. The place of preſident of Magdalen college being vacant, the king ſent a mandate in favour of one Farmer, a new convert, and a man of bad character in other reſpects. The fellows of the college made very ſubmiſſive applications for recalling his mandate; but the election day coming on before they received an anſwer, they choſe Dr Hough, a man of learning, integrity, and reſolution. The king was incenſed at their preſumption; an inferior eccleſiaſtical court was ſent down, who finding Farmer a man of ſcandalous character, iſſued a mandate for a new election. The man now recommended by the king was doctor Parker; a man of an abandoned character, but very willing to embrace the Catholic religion. The fellows refuſed to comply with this injunction; which ſo irritated the king, that he came down to Oxford in perſon, and ordered the fellows to be brought before him. He reproached them with their inſolence and diſobedience; and commanded them to chooſe Parker without delay. Another refuſal on their ſide ſerved ſtill more to exaſperate him; and finding them reſolute in the defence of their privileges, he ejected them all except two from their benefices, and Parker was put in poſſeſſion of the place. Upon this, the college was filled with Catholics; and Charnock, one of the two that remained, was made vice-preſident.

272 Diſpute with the univerſity of Cambridge

273 College filled with Catholics.

In 1688, a ſecond declaration for liberty of conſcience

ſcience was publiſhed almoſt in the ſame terms with the former; but with this peculiar injunction, that all divines ſhould read it after ſervice in their churches. The clergy reſolved to diſobey this order. Loyde biſhop of St Aſaph, Kenn of Bath and Wells, Turner of Ely, Lake of Chicheſter, White of Peterborough, and Trelawney of Briſtol, together with Sancroft the primate, concerted an addreſs in form of a petition to the king, which, with the warmeſt expreſſions of zeal and ſubmiſſion, remonſtrated that they could not read his declaration conſiſtent with their conſciences, or the reſpect they owed the Proteſtant religion. The king received their petition with marks of ſurpriſe and diſpleaſure. He ſaid he did not expect ſuch an addreſs from the church of England, particularly from ſome amongſt them; and perſiſted in his orders for their obeying his mandate.

As the petition was delivered in private, the king ſummoned the biſhops before the council, and there queſtioned them whether they would acknowledge it. They for ſome time declined giving an anſwer; but being urged by the chancellor, they at laſt owned the petition. 274 Biſhops impriſoned. On their refuſal to give bail, an order was immediately drawn for their commitment to the Tower, and the crown lawyers received directions to proſecute them for a ſeditious libel. 275 The whole city in commotion in their favour. The king gave orders that they ſhould be conveyed to the Tower by water, as the whole city was in commotion in their favour. The people were no ſooner informed of their danger, than they ran to the river-ſide in prodigious multitudes, craving their bleſſing; calling upon heaven to protect them, &c. The very ſoldiers by whom they were guarded, kneeled down before them, and implored their forgiveneſs.

The 29th of June 1688 was fixed for the trial of the biſhops; and their return was ſtill more ſplendidly attended than their impriſonment. Twenty-nine peers, a great number of gentlemen, and an immenſe crowd of people, waited upon them to Weſtminſter-hall. The diſpute was learnedly managed by the lawyers on both ſides. The jury withdrew into a chamber where they paſſed the whole night; but next morning they returned into court, and pronounced the biſhops not guilty. 276 They are acquitted. Weſtminſter-hall inſtantly rang with loud acclamations, which were communicated to the whole extent of the city. They even reached the camp at Hounſlow, where the king was at dinner in lord Feverſham's tent. His majeſty demanding the cauſe of thoſe rejoicings, and being informed that it was nothing but the ſoldiers ſhouting for the delivery of the biſhops; "Call you that nothing! (cried he); but ſo much the worſe for them." Immediately after this, the king ſtruck out two of the judges, Powel and Holloway, who had appeared to favour the biſhops. He iſſued orders to proſecute all thoſe clergymen who had not read his declaration, and all had refuſed it except 200. He ſent alſo a mandate to the new fellows, whom he had obtruded on Magdalen college, to elect for preſident, in the room of Parker lately deceaſed, one Gifford, a doctor of the Sorbonne, and titular biſhop of Madura.

277 Attachment of the army to the Proteſtant religion. As the king found the clergymen every where averſe to his meaſures, he was willing next to try what he could do with the army. He thought if one regiment ſhould promiſe implicit obedience, their example would ſoon induce others to comply. He therefore ordered one of the regiments to be drawn up in his preſence, and deſired that ſuch as were againſt his late declaration of liberty of conſcience ſhould lay down their arms. He was ſurpriſed to ſee the whole battalion ground their arms, except two officers and a few Roman-catholic ſoldiers.—278 Birth of a prince of Wales. A fortunate circumſtance happened about this time in his family. A few days before the acquittal of the biſhops, the queen was brought-to-bed of a ſon, who was baptiſed by the name of JAMES. This would, if any thing could at that time have ſerved to eſtabliſh him on the throne: but ſo great was the animoſity gainſt him, that a ſtory was propagated that the child was ſuppoſititious; and ſo great was the monarch's pride, that he ſcorned to take any precautions to refute the calumny.

Though the enthuſiaſm of James himſelf bordered upon madneſs, the moſt wild of his religious projects ſeem to have been ſuggeſted by his enemies to accompliſh his ruin. 279 Treachery of Sunderland. The earl of Sunderland, whom he chiefly truſted, was a man of abandoned principles, inſatiable avarice, and fitted by nature for ſtratagem, deception, and intrigue. The love of money was his ruling paſſion, and he ſold his influence to the higheſt bidder. To ſuch a degree was he mercenary, that he became at once the penſioner of the prince of Orange and of the king of France. 280 Schemes of the prince of Orange. The former who had long fixed his eye on the Engliſh throne, watched James's motions, and took every advantage of his errors. He had laid his ſchemes ſo extenſively, that nothing but the birth of a male heir to the crown of England could poſſibly prevent him from an almoſt immediate poſſeſſion of the kingdom. He had the addreſs to render two-thirds of the powers of Europe intereſted in his ſucceſs. The treaty of Augſburg, formed to break the power of France, could not accompliſh its object without the acceſſion of England. The houſe of Auſtria in both its branches, preferred their political views to their zeal for the Romiſh faith, and promoted the dethronement of James as the only means to humble Louis XIV. Odeſchalchi, who under the name of Innocent XI. filled then the papal chair, was gained to the meaſures of the prince of Orange by other conſiderations, as well as through his fixed averſion to France. The prince of Orange ſent his intimate friend the prince of Vaudemont to Rome, to procure the aid of the Pope. He explained to his Holineſs, that the Catholic princes were in the wrong to expect any advantage to their faith from James, as his being a declared Papiſt rendered his people averſe to all his meaſures. As for himſelf, ſhould he have the good fortune to mount the throne of England, he might take any ſtep in favour of the Roman-catholics without jealouſy; and he promiſed to procure a toleration for the Papiſts, ſhould the Pope, the emperor, and the king of Spain, favour his attempt. This negociation procured the deſired effect. Innocent contributed, with the money of the church, to expel a Roman-catholic prince from his throne.

Though the conteſt with the biſhops had completed the king's unpopularity, he derived the ſuddenneſs of his ruin from the birth of a prince of Wales. That circumſtance inceaſed the fears of his ſubjects in proportion as it raiſed his ſecurity and hopes. In the reign [illegible] a prince to be educated under the prejudices of ſuch a father nothing but a continuance of the ſame unconſtitutional meaſures could be expected. So low indeed was his credit ſunk among his people at this time, and ſuch preſcience they all ſeemed to have of his fate, that the child had like to have died before a wet nurſe could be procured to ſuckle him.

281
He applies to James's ſubjects.

The prince of Orange, ſeeing the national diſcontent now raiſed to the higheſt pitch, reſolved to take advantage of it. He began by giving one Dykevelt, his envoy, inſtructions to apply in his name to every religious ſect in the kingdom. To the church-party he ſent aſſurances of favour and regard; and proteſted, that his education in Holland had no way prejudiced him againſt epiſcopacy. To the non-conformiſts he ſent exhortations not to be deceived by the inſidious careſſes of their known enemy, but to wait for a real and ſincere protector, &c. In conſequence of theſe inſinuations, the prince ſoon received invitations from the moſt conſiderable perſons in the kingdom. Admirals Herbert and Ruſſel aſſured him in perſon of their own and the national attachment. Henry Sydney, brother to Algernon, and uncle to the earl of Sunderland, came over to him with aſſurances of an univerſal combination againſt the king. Lord Dumblaine, ſon to the earl of Danby, being maſter of a frigate, made ſeveral voyages to Holland, and carried from many of the nobility tenders of duty and even conſiderable ſums of money to the prince of Orange. Soon after, the biſhop of London, the earls of Danby, Nottingham, Devonſhire, Dorſet, and ſeveral other lords, gentlemen, and principal citizens united in their addreſſes to him, and intreated his ſpeedy deſcent. The people, though long, divided between whig and tory, now joined againſt their unhappy ſovereign as a common enemy. William therefore determined to accept of their invitations; and this the more readily, as he perceived the malecontents had conducted themſelves with prudence and ſecrecy. Having the principal ſervants of James in pay, he was minutely informed of the moſt ſecret actions and even deſigns of that prince. His intelligence came, through Sidney, from Sunderland, who betrayed the very meaſures which he himſelf had adviſed. The prince had a fleet ready to ſail, and troops provided for action, before the beginning of June 1688.

282
By whom he is invited into England.

283
James warned of his danger by Louis XIV.

The king of France was the firſt who gave James warning of his danger, and offered to aſſiſt him in repelling it. But he declined this friendly offer, leſt it ſhould be ſaid that he had entered into a private treaty with that monarch to the prejudice of the Proteſtant religion. Being alſo deceived and betrayed by Sunderland, he had the weakneſs to believe, that the reports of an invaſion were invented in order to frighten him into a ſtrict connection with France. He gave credit to the repeated aſſurances of the ſtates, that the armament prepared in their ports was not deſigned againſt England. Nay, he even believed the aſſertions of the prince himſelf, whoſe intereſt it was to deceive. Sunderland deſcanted againſt the poſſibility of an invaſion, and turned to ridicule all who believed the report. Having by the prior conſent of James taken poſſeſſion of all the foreign correſpondence, he ſuppreſſed every intelligence that might alarm; and even all others whom James truſted, except Dartmouth, affected long to give no faith to the reports of an invaſion.

284
He rejects all aſſiſtance.

Louis finding his firſt offers rejected, next propoſed to march down his army to the frontiers of the Dutch provinces, and thus detain their forces at home for their own defence. But this propoſal met with no better reception than the former. Still Louis was unwilling to abandon a friend and ally whoſe intereſt he regarded as cloſely connected with his own. He ventured to remonſtrate with the Dutch againſt the preparations they were making to invade England. The Dutch treated his remonſtrance as an officious impertinence, and James himſelf declined his meditation.

285
His aſtoniſhment on the news of an intended invaſion.

The king of England, having thus rejected the aſſiſtance of his friends, and being left to face the danger alone, was aſtoniſhed with an advice from his miniſter in Holland, that an invaſion was not only projected, but avowed. When he firſt read the letter containing this information, he grew pale, and the letter dropt from his hand. He ſaw himſelf on the brink of deſtruction, and knew not to whom to apply for protection. In this emergency, Louis wrote to James in his own hand, that to divert the Dutch from their intended invaſion of England, he would lay ſiege to Maeſtricht with 30,000 men. James communicated this intelligence to Sunderland, and he to the prince of Orange. Six thouſand men were thrown into Maeſtricht; and the deſign of Louis, as being impracticable, was laid aſide. On this, Louis, being diſguſted with James, turned his arms towards Germany. The dauphin laid ſiege to Philipſburgh on the 5th of October; and prince Clement of Bavaria, by throwing a ſtrong garriſon into Cologn, effectually ſecured the ſtates of Holland from any ſudden danger from the arms of France.

286
He is again betrayed by Sunderland.

287
James attempts to pacify his ſubjects;

James had now no reſource but in retreating from thoſe precipitate meaſures which had plunged him into inextricable diſtreſs. He paid court to the Dutch, and offered to enter into any alliance with them for their common ſecurity. He replaced in all the counties of England all the deputy lieutenants and juſtices who had been deprived of their commiſſions for their adherence to the teſt and penal laws. He reſtored the charters of ſuch corporations as he had poſſeſſed himſelf of; he annulled the high commiſſion court; he reinſtated the expelled preſident and fellows of Magdalen college; and was even reduced to careſs thoſe biſhops whom he had ſo lately perſecuted and inſulted.

288
But in vain.

All theſe conceſſions, however, were now too late; they were regarded as the effects of fear, and not of repentance. Indeed, it is ſaid, he very ſoon gave proofs of his inſincerity: for, hearing that the Dutch fleet was diſperſed, he recalled thoſe conceſſions he had made in favour of Magdalen college; and to ſhow his attachment to the Romiſh church, at the baptiſm of the prince of Wales, he appointed the pope one of the ſponſors.

289
William lands in England.

In the mean time, William ſet ſail from Helvoetſluys with a fleet of near 500 veſſels, and an army of above 14,000 men. Fortune, however, ſeemed at firſt every way unfavourable to his enterprize. He was driven back by a dreadful ſtorm; but he ſoon refitted his fleet, and again ſet ſail for England. It was given out that his invaſion was deſigned for the coaſts of France; and many of the Engliſh, who ſaw the fleet paſs along their coaſts, little ſuſpected the place of its deſtination. It happened that the ſame wind which ſent the Dutch to their place of deſtination, detained the Engliſh fleet in the river: ſo that the Dutch paſſed the ſtraits of Dover without moleſtation; and after a voyage of two days landed at Broxholme in Torbay, on the 5th of November, the anniverſary of the gunpowder treaſon.

But though the invitation from the Engliſh was very general, the prince for ſome time had the mortification to find himſelf joined by very few. He continued for ten days in expectation of being joined by the malecontents, and at laſt was going to deſpair of ſucceſs. But juſt when he began to deliberate about reimbarking his forces, he was joined by ſeveral perſons of conſequence, and the whole country ſoon after flocked to his ſtandard. The firſt perſon that joined the prince was major Burrington, and he was quickly followed by the gentry of the counties of Devon and Somerſet. Sir Edward Seymour made propoſals for an aſſociation, which was ſigned by great numbers; and every day there appeared ſome effect of that univerſal combination into which the nation had entered againſt the meaſures of the king.

290
Defection of king James's army.

This was followed by the defection of the army, Lord Colcheſter, ſon to the earl Rivers, firſt deſerted to the prince. Lord Cornbury ſon to the earl of Clarendon, carried off the greateſt part of three regiments of cavalry at once; and ſeveral officers of diſtinction informed Feverſham, their general, that they could not in honour fight againſt the prince of Orange. Soon after this the unhappy monarch found himſelf deſerted by his own ſervants and creatures. Lord Churchill had been raiſed from the rank of a page, and had been inveſted with an high command in the army; he had been created a peer, and owed his whole fortune to the king's bounty: yet even he deſerted among the reſt; and carried with him the duke of Grafton natural ſon to the late king, colonel Berkly, and ſome others.

291
Diſtreſſed ſituation of the king.

In this univerſal defection, James, not knowing where to turn, began to think of requeſting aſſiſtance from France when it was now too late. He wrote to Leopold, emperor of Germany: but in vain; that monarch only returning for anſwer, That what he had foreſeen had happened. James had ſome dependence on his fleet; but they were entirely diſaffected. In a word, his intereſts were deſerted by all, for he had long deſerted them himſelf. He ſtill found his army, however, to amount to 20,000 men; and had he led them immediately to battle, it is poſſible they might then have fought in his favour. But James's misfortunes had deprived him of his natural firmneſs and reſolution; and, ſeeing himſelf deſerted by thoſe in whom he thought he could have placed moſt confidence, he became ſuſpicious of all, and was in a manner deprived even of the power of deliberation. In this extremity of diſtreſs, the prince of Denmark, and Anne James's favourite daughter, perceiving the deſperation of his circumſtances, cruelly reſolved to take part with the prince of Orange. When the king was informed of this, he was ſtung with the moſt bitter anguiſh. "God help me (cried he), my own children have forſaken me." To add to his diſtreſs as a parent, he was accuſed of being acceſſary to the death of his own child. Her nurſe, and her uncle the earl of Clarendon, went up and down like diſtracted perſons, affirming, that the papiſts had murdered the princeſs. They publicly aſked the queen's ſervants whether they had conveyed her? and they contributed to inflame the populace, whoſe zeal had already inflamed them to tumult and diſorder. It was, however, ſoon known that ſhe fled, under the conduct of the biſhop of London, to Northampton.

292
Haughty behaviour of William.

On the 30th of November 1688, James ſent three of his noblemen to treat with the prince of Orange. But though the latter knew very well that the king's commiſſioners were in his intereſts, his behaviour ſhowed plainly that he now thought the time of treating was paſt. For ſome time he would not admit them to an audience; and, when he did, would give no ſatisfactory anſwer. James now began to be afraid of his perſonal ſafety. But what moſt affected him was the terrors of the queen for herſelf and her infant ſon. He therefore reſolved to ſend them abroad. They croſſed the river in a boat, at Whitehall, in a ſtormy and rainy day. They were carried to Graveſend in a coach, under the conduct of the count de Lauzun. A yacht, commanded by captain Gray, which lay there ready for the purpoſe, ſoon tranſported them in ſafety to Calais.

293
James attempts to leave the kingdom.

The king was now ſo diſpirited and diſtracted, that he reſolved to leave the kingdom at once, and thus throw every thing into confuſion. He threw the great ſeal into the Thames; he left none with any authority to conduct affairs in his abſence; and he vainly hoped to derive advantage to his affairs from anarchy and diſorder. About twelve at night, on the 10th of December, he diſguiſed himſelf, took a boat at Whitehall, and croſſed the river. Sir Edward Hales, with another friend, met him at Vauxhall with horſes. He mounted; and being conducted through by-ways, by a guide, he paſſed in the night-time to the Medway, which he croſſed by Ailesford-bridge. At Woolpeck he took freſh horſes, ſent thither before by Shelden one of his equerries who was in the ſecret of his flight. He arrived at ten o'clock at Embyferry near Feverſham, where a cuſtomhouſe hoy, hired by Sir Edward Hales, lay ready to receive them on board. But the wind blew freſh, and the veſſel had no ballaſt. The maſter, therefore, eaſily perſuaded the king to permit him to take in ballaſt at Shilneſs. It being half ebb when they ran aſhore, they deſigned to ſail as ſoon as the veſſel ſhould be afloat. But when the veſſel was almoſt afloat, ſhe was boarded by three fiſher-boats belonging to Feverſham, containing 50 men. They ſeized the king and his two companions, under pretence of their being Papiſts that wanted to eſcape from the kingdom. They turned up Feverſham water with the tide; but ſtill the king remained unknown. Sir Edward Hales placed privately 50 guineas in the hands of the captain, as an earneſt of more ſhould he permit them to eſcape. He promiſed: but was ſo far from keeping his word, that he took what money they had, under pretences of ſecuring it from the ſeamen; and, having poſſeſſed himſelf of their all, he left them to their fate. The unfortunate fugitives were at length carried in a coach to Feverſham, amid the inſults, clamours, and ſhouts, of the ſailors. When the king was brought to the inn, a ſeaman, who had ſerved under him, knew him, and melted into tears; and James himſelf was ſo much moved at this inſtance of his affection, that he wept. The other fiſhermen, who had treated him with ſuch indignity before, when they ſaw his tears, fell upon their knees. The lower inhabitants of the whole village gathered round him; but the better ſort fled from his preſence. The ſeamen, however, formed themſelves into a guard round him,

294
Is ſeized and inſulted.

295 His great diſtreſs.

him, and declared that "a hair of his head ſhould not be touched." In the mean time, Sir James Oxendon, under the pretence of guarding him from the rabble, came with the militia to prevent his eſcape. The king found a change in his condition when he was taken out of the hands of the ſailors. The commanders of the militia ſhowed him no reſpect. He was even inſulted by the common ſoldiers. A letter which he intended to ſend to London for clothes, a change of linen, and ſome money, was ſtopped by thoſe who pretended to protect his perſon.

All things in the mean time ran into confuſion at London, and the prince of Orange exerciſed in his own perſon all the functions of royalty. He iſſued a declaration to the diſbanded army to reaſſemble themſelves. He ordered the ſecretary at war to bring him a liſt of the king's troops. He commanded the lord Churchill to collect his troop of horſe-guards. He ſent the duke of Grafton to take poſſeſſion in his name of Tilbury fort. The aſſembly of peers adjourned to the council-chamber at Whitehall; and, to give the appearance of legality to their meeting, choſe the marquis of Halifax for their preſident. While this aſſembly was ſitting, on the 13th of December, a poor countryman, who had been engaged by James, brought an open letter from that unfortunate prince to London. It had no ſuperſcription; and it was addreſſed to none. It contained, in one ſentence only, his deplorable condition when in the hands of a deſperate rabble. This poor meſſenger of their fallen ſovereign had long waited at the council door, without being able to attract the notice of any who paſſed. The earl of Mulgrave at length, appriſed of his buſineſs, had the courage to introduce him to the council. He delivered his open letter, and told the ſtate of the king with tears. The aſſembly were ſo much moved, that they ſent the earl of Feverſham with 200 of the guards towards Feverſham. His inſtructions were to reſcue him firſt from danger, and afterwards to attend him to the ſea-coaſt, ſhould he chooſe to retire. He choſe, however, to return to London; but the prince of Orange ſent a meſſage to him, deſiring him to advance no nearer the capital than Rocheſter. The meſſenger miſſed James by the way. The king ſent Feverſham with a letter to the prince of Orange, requeſting his preſence in London to ſettle the nation. He himſelf proceeded to that place, and arrived on the 16th of December. Doubting the fidelity of the troops who were quartered at Weſtminſter, he choſe to paſs through the city to Whitehall. Never prince returning with victory to his capital was received with louder acclamations of joy. All the ſtreets were covered with bonfires. The bells were rung, and the air was rent with repeated ſhouts of gladneſs. All orders of men crowded to his coach; and, when he arrived at Whitehall, his apartments were crowded with people who came to expreſs their joy at his return.

296 James returns to London.

The prince of Orange received the news of his return with an haughty air. His aim from the beginning was to force him by threats and ſeverities to relinquiſh the throne. The Dutch guards were ordered to take poſſeſſion of Whitehall, and to diſplace the Engliſh. The king was ſoon after commanded by a meſſage, which he received in bed at midnight, to leave his palace next morning, and to depart for Ham, a ſeat of the ducheſs of Lauderdale's. He deſired, however, permiſſion to retire to Rocheſter, a town not far from the ſea-coaſt, and oppoſite to France. This was readily granted; and it was now perceived that the harſh meaſures of the prince had taken effect, and that the king meditated an eſcape to France.

297 Commanded by William to leave his palace.

The king, ſurrounded by the Dutch guards, arrived at Rocheſter on the 19th of December. The reſtraint put upon his perſon, and the manner in which he had been forced from London, raiſed the indignation of many, and the compaſſion of all. The Engliſh army, both officers and ſoldiers began to murmur; and had it not been for the timidity and precipitation of James himſelf, the nation had certainly returned to their allegiance. He remained three nights at Rocheſter, in the midſt of a few faithful friends. The earls of Arran, Dumbarton, Aileſbury, Litchfield, and Middleton were there; and, with other officers of merit, the gallant lord Dundee. They argued againſt his flight with united efforts. Several biſhops, ſome peers, and many officers, intreated his ſtay in ſome part of England. Meſſage followed meſſage from London. They repreſented that the opinions of men began to change, and that events would daily riſe in favour of his authority. Dundee added his native ardour to his advice. "The queſtion, Sir, (ſaid he), is, Whether you ſhall ſtay in England, or fly to France? Whether you ſhall truſt the returning zeal of your native ſubjects, or rely on a foreign power? Here you ought to ſtand. Keep poſſeſſion of a part, and the whole will ſubmit by degrees. Reſume the ſpirit of a king. Summon your ſubjects to their allegiance. Your army, though diſbanded, is not diſperſed. Give me your commiſſion. I will gather 10,000 of your troops. I will carry your ſtandard at their head through England, and drive before you the Dutch and their prince." The king replied, "that he believed it might be done; but that it would raiſe a civil war, and he would not do ſo much miſchief to a nation that would ſo ſoon come to their ſenſes again." Middleton urged his ſtay, though in the remoteſt part of the kingdom. "Your majeſty, (ſaid he), may throw things into confuſion by your departure; but it will be but the anarchy of a month: a new government will ſoon be ſettled, and you and your family will be ruined." Theſe ſpirited remonſtrances had no effect upon James. He reſolved to quit the kingdom: and having communicated his deſign to a few of his friends, he paſſed at midnight through the back-door of the houſe where he lodged, and with his ſon the duke of Berwick, and Biddulph one of his ſervants went in a boat to a ſmack, which lay waiting for him without the fort of Sheerneſs. By reaſon of a hard gale they were forced to bear up towards Leigh, and to anchor on the Eſſex ſide, under the lee of the land. When the gale ſlackened, they reached the Buoy of the Narrows without tacking; but not being able to weather the Goodwin, they were forced to ſail through the Downs. Seven ſhips lay there at anchor; but the ſmack paſſed unqueſtioned along. Unable to fetch Calais, ſhe bore away for Boulogne, and anchored before Ambleteuſe. The king landed at three o'clock in the morning of Tueſday, December 25th; and taking poſt, ſoon joined his queen at St Germains.

298 He is preſſed to ſtay in the kingdom.

299 But refuſes.

300 He lands in France.

James having thus abandoned his dominions, the prince of Orange remained maſter of them of courſe. By the advice of the houſe of lords, the only member of the legiſlature remaining, he was deſired to ſummon a parliament by circular letters; but the prince, unwilling to act upon ſo imperfect an authority, convened all the members who had ſat in the houſe of commons during any parliament of Charles II. and to theſe were added the mayor, aldermen and fifty of the common council of London: and the prince, being thus ſupported by an aſſembly deriving its authority from himſelf, wrote circular letters to the counties and corporations of England to call a new parliament.

301
The throne declared vacant.

The houſe being met, which was moſtly compoſed of the Whig party, thanks were given to the prince of Orange for the deliverance he had brought them; after which they proceeded to ſettle the kingdom. A vote ſoon paſſed both houſes, that king James II. having endeavoured to ſubvert the conſtitution of the kingdom, by breaking the original contract between the king and his people, and having by the advice of Jeſuits and other wicked perſons violated the fundamental laws, and withdrawn himſelf out of the kingdom, had abdicated the government; and that the throne was thereby vacant.

302
William raiſed to the ſovereignty.

The king being thus depoſed, it was eaſy for William to get himſelf appointed as his ſucceſſor. Propoſals were made for electing a regent. Others were for inveſting the princeſs of Orange with regal power, and declaring the young prince ſuppoſititious. To theſe propoſals, however, William oppoſed the following deciſive argument, viz. That "he had been called over to defend the liberties of the Britiſh nation, and that he had happily effected his purpoſe; that he had heard of ſeveral ſchemes propoſed for the eſtabliſhing of the government; that if they choſe a regent, he thought it incumbent on him to inform them that he would not be that regent; that he would not accept of the crown under the princeſs his wife, though he was convinced of her merits: that therefore, if either of theſe ſchemes was adopted, he could give them no aſſiſtance in the ſettlement of the nation; but would return home to his own country, ſatisfied with his aims to ſecure the freedom of theirs. Upon this, after a long debate in both houſes, a new ſovereign was preferred to a regent by a majority of two voices. It was agreed that the prince and princeſs of Orange, ſhould reign jointly as king and queen of Britain; while the adminiſtration of government ſhould be placed in the hands of the prince only. The marquis of Halifax, as ſpeaker of the houſe of lords, made a ſolemn tender of the crown to their highneſſes, in the name of the peers and commons of Britain. The prince accepted the offer; and that very day, February 13th, 1689, William and Mary were proclaimed king and queen of Great Britain.

Though Mary was comprehended in the royal title, ſhe never poſſeſſed either the authority of a queen, or the influence of a wife. Her eaſy temper had long been ſubdued by the ſtern ſeverity of a huſband who had very few amiable qualities. Being brought up in a manner under the tuition of her ſpouſe, and in ſome degree confined by his orders, ſhe was accuſtomed to adopt implicitly his political maxims and even his thoughts; and in conſequence of her want of importance with him, ſhe ceaſed to be an object of conſequence in the eyes of the nation.

William began his reign with iſſuing a proclamation for continuing in office all proteſtants that had been in place on the firſt of the preceding December. On the 17th of the month he formed his privy council, which conſiſted chiefly of ſuch perſons as had been moſt active in raiſing him to the throne. To gratify as many as poſſible of his friends, the ſeveral boards, and even the chancery were put into commiſſion. The benches of the exchequer and common law were filled with perſons who had diſtinguiſhed themſelves againſt the meaſures of the late king. The earl of Nottingham who had violently oppoſed the elevation of William, and the earl of Shrewſbury who had adhered to his views, were made ſecretaries of ſtate. The marquis of Halifax, and the earl of Danby, though rivals in policy, were admitted into the cabinet; the firſt as lord privy ſeal, the ſecond as preſident of the council. His Dutch friends in the mean time were not forgotten by the king. Bentinck, his favourite, was made a privy counſellor, groom of the ſtole, and privy purſe. Auverquerque was appointed maſter of the horſe. Zuylſtein received the office of maſter of the robes. Schomberg was placed at the head of the ordnance.

303
National diſcontents.

Though theſe inſtances of gratitude were no doubt neceſſary to William, the generality of the nation were diſpleaſed. The tories were offended at being excluded from his favour, eſpecially as they had departed from their principles in order to ſerve him. The nation in general were much prejudiced againſt foreigners, and univerſal diſcontent enſued upon ſeeing them preferred. The king, who had been bred a Calviniſt, was alſo very ſtrongly inclined to favour that ſect; and his prejudices in favour of Calviniſm were almoſt equal to thoſe of James in favour of Popery. Finding, therefore, the clergy of the church of England little inclined to take the oaths to the new government, he began openly to indulge his own prejudices in favour of diſſenters. Having come to the houſe of lords to paſs ſome bills, on the 16th of March, he made a ſpeech, urging the neceſſity of admitting all Proteſtants indiſcriminately into the public ſervice. He told his parliament, that he had ſomething to communicate, which would conduce as much to their ſettlement as to the diſappointment of their enemies. He informed them, that he was employed in filling up the vacancies in offices of truſt; and he hoped that they were ſenſible of the neceſſity of a law to ſettle the oaths to be taken by ſuch perſons as ſhould be admitted into place. As he doubted not, he ſaid, that they would ſufficiently provide againſt Papiſts, ſo he hoped that they would leave room for the admiſſion of all Proteſtants that were able and willing to ſerve.

304
His ſcheme in favor of diſſenters rejected.

This propoſition was rejected with vehemence. The adherents of the church complained that the ruin which they feared from the Papiſts in the preceding reign was now to be dreaded from the Proteſtant diſſenters. They affirmed, that if the eſtabliſhed religion was to be deſtroyed, it mattered little by whoſe hands it muſt fall. A bill brought in by the miniſtry for abrogating the former oaths of ſupremacy and allegiance was rejected.

An attempt to diſpenſe with the ſacramental teſt was made without ſucceſs in another form. The court party propoſed that any man ſhould be ſufficiently qualified for an office by producing a certificate of his having received the ſacrament in any Proteſtant congregation. But this motion was alſo rejected in the houſe of lords by a great majority. William repeated his attempts of a comprehenſion; but he was ultimately unſucceſsful, and in the coronation-oath the church-party inſerted a clauſe highly favourable to themſelves, viz. that the king ſhould maintain the proteſtant religion "as eſtabliſhed by law." To this clauſe William is ſaid to have diſcovered an apparent unwillingneſs to ſwear.

305 Tottering condition of William's government.

For theſe and other reaſons the government of William was for ſome time but in a very tottering condition. The king, either through want of health or inclination, interfered but little in the affairs of the nation. Ireland was ſtrangely neglected. Halifax and Danby, who had in a manner raiſed the king to the throne, caballed with his enemies. They perceived that the people, with the ſame levity that induced them to deſert their former ſovereign, were beginning to be diſcontented with their new prince. Every thing ſeemed to tend to a change. Halifax himſelf declared, that were James to conform with the Proteſtants, he could not be kept four months from reaſcending his throne. Danby averred, that, were the late king to give ſatisfaction for the ſecurity of religion, it would be difficult to oppoſe his reſtoration. From theſe apparent diſcontents of the nation, the friends and emiſſaries of James aſſumed more boldneſs. They tampered with the ſervants of the crown, and inflamed the army. The former they alarmed with the proſpects of a ſudden change; the latter they rouſed into indignation by the manifeſt preference given by William to his countrymen the Dutch.

306 He is acknowledged king in Scotland.

Though the kingdom of Scotland did not at firſt recognize the authority of William, yet the party of James never attained ſufficient ſtrength to be of any effectual ſervice to him in that kingdom. Thirty Scots peers, and near 80 gentlemen, then in London, had waited in the beginning of January on the prince of Orange. Without any authority from the regency ſtill ſubſiſting in Edinburgh, they formed themſelves into a kind of convention. The prince of Orange in a formal manner aſked their advice. He withdrew, and they adjourned to the council chamber at Whitehall. The duke of Hamilton being choſen preſident, explained the diſtracted ſtate of Scotland. He repreſented that diſorders, anarchy, and confuſion, prevailed; and he urged the neceſſity of placing the power ſomewhere till a convention of ſtates ſhould be called to form a laſting and ſolid ſettlement. When the heads of their addreſs to the prince of Orange were ſettled, and ordered to be engroſſed, the earl of Arran unexpectedly aroſe, and propoſed to invite back the king. The meeting, however, adhered to the prince of Orange; and waited on him in a body, requeſting him to take the adminiſtration into his hands. He thanked them for the truſt they had repoſed in him; and a convention was ordered to meet at Edinburgh on the 14th of March, and it was provided that no exception or limitation whatever ſhould be made, except that the members ſhould be Proteſtants.

A ſeceſſion, however, was made from this convention, in favour of James. The archbiſhop of Glaſgow, the earl of Balcarras, and the viſcount Dundee, were authoriſed by an inſtrument ſigned by the late king, at that time in Ireland, to call a convention of the ſtates at Stirling. But this meaſure was diſappointed, firſt by the wavering diſpoſition of the marquis of Athol, and afterwards by the delay and folly of the party. At laſt, the viſcount Dundee, being alarmed by an information of a deſign formed by the covenanters to aſſaſſinate him, left Edinburgh at the head of 50 horſe. When he paſſed under the walls of the caſtle, the duke of Gordon, who held that place, and favoured the cauſe of James, called him to a conference. He ſcrambled up the precipice, and informed the duke of his deſigns in favour of the late king. He conjured him to hold out the caſtle, under a certainty of being relieved. The novelty of the ſight collected multitudes of ſpectators. The convention were alarmed. The preſident ordered the doors to be locked, and the keys to be laid upon the table. The drums were beat to alarm in the town. A parcel of ill-armed retainers were gathered together in the ſtreet by the earl of Leven. Dundee in the mean time rode off with his party. But when they found themſelves ſecure, the duke of Hamilton adjourned the convention, which relieved the adherents of James from dreadful apprehenſions for their own ſafety. Fifty members retired from Edinburgh; and that circumſtance procured an unanimity in all the ſucceeding reſolutions of the convention. Soon after this it was determined in a committee, that James had *forefaulted* his right to the crown, by which was meant that he had perpetually excluded himſelf and his whole race from the crown, which was thereby become vacant. This reſolution was approved by the convention, and another was drawn up for raiſing William and Mary to the vacant throne; in conſequence of which they were proclaimed at Edinburgh on the 11th of April 1689.

307 Attempts of lord Dundee in favour of James.

The caſtle of Edinburgh was ſtill kept, in the name of James, by the duke of Gordon: but deſpairing of any relief, and preſſed by a ſiege, he ſurrendered it on the 13th of June, upon honorable terms. The adherents of James, terrified with this unexpected miſfortune, now turned their eyes to the viſcount Dundee. That nobleman having been in vain urged by the convention to return, they had declared him a fugitive, an outlaw, and a rebel. General Mackay had been ſent to Scotland by William with four regiments of foot, and one of dragoons; and Dundee being appriſed of his deſign to ſurpriſe him, retired to the Grampian mountains with a few horſe. He marched from thence to Gordon caſtle, where he was joined by the earl of Dunfermline with 50 gentlemen. He then paſſed through the county of Murray to Inverneſs. Macdonald of Keppoch lay with 700 men before that town; after having ravaged, in this way from his own country, the lands of the clan of Macintoſh. Dundee having promiſed to the magiſtrates of the Inverneſs to repay, at the king's return, the money extorted from them by Macdonald, induced the latter to join him with all his men. He could not prevent them, however, from firſt returning home with their ſpoil. He accompanied them to Lochaber, and on the 8th of May arrived in Badenoch. From thence he wrote letters to the chiefs of all the clans, appointing them to meet at a general rendezvous in Lochaber, on the 18th of the ſame month. In the mean time, paſſing ſuddenly through Athol, he ſurpriſed the town of Perth. In hopes of gaining to his party the two troops of Scots dragoons who lay at Dundee, he marched ſuddenly to that place: but the fidelity of captain Balfour, who commanded them, diſappointed his views. Having raiſed the land-tax as he paſſed, Dundee returned through Athol and Rannoch to hold the diet of rendezvous at Lochaber. Here he was reinforced by ſeveral Highland chieftains, ſo that his army amounted to 1500 men. He purſued Mackay for four days, who had advanced to Inverneſs, but afterwards retreated to Strathbogie, leaving the whole Highlands expoſed to the enemy.

Soon after, however, Dundee found himſelf ſurrounded with many difficulties. The officers of the Scots dragoons, who held a ſecret correſpondence with him, wrote him falſe intelligence, as an excuſe for their own fears. They informed him that a party of Iriſh, who had endeavoured to land in Scotland, under the duke of Berwick, were driven back, and the duke himſelf taken priſoner; and that Mackay had been reinforced with a regiment of Engliſh horſe, and another of foot. On this intelligence, Dundee retreated to Badenoch. The natives of the low country who ſerved in his army quitted him without leave; and the Highlanders plundered the country wherever they came: at laſt he himſelf fell ſick, while Mackay hovered on his rear. A ſlight ſkirmiſh happened, in which the Highlanders prevailed; but they loſt their baggage during the action. Dundee at length arrived at Ruthven; but Mackay being reinforced with a body of 1200 men advanced againſt him, and other regiments had arrived at Perth and Dumblain. The Highlanders now deſerted every night by hundreds; their gallant leader himſelf was forced to retire to Lochaber, where only 200 of his whole force remained with him; and to complete his misfortunes, he received at the ſame time news of the ſurrender of the caſtle of Edinburgh.

308 He is ſlain at Killicranky.

On the 23d of June, letters arrived from king James, with a promiſe of immediate ſucccours from Ireland; upon which Dundee ordered the neighbouring clans to aſſemble round his ſtandard. But ſtill he had ſcarce any thing but the mere bodies of his men with which he could proſecute the war. The Highlanders were armed only with their own proper weapons, and he had no more than 40 pounds of powder in his whole army. All difficulties, however, were ſurmounted by the active ſpirit of the general, for whom the army entertained an enthuſiaſtic zeal. On the 17th of July, he met the king's forces under general Mackay, near the paſs of Killicranky. An engagement enſued, in which the Highlanders were victorious. Two thouſand of Mackays men were loſt, either in the field or in the purſuit; but the victory coſt the Highlanders very dear, for their brave general was mortally wounded. He ſurvived the battle, however; and wrote an account of the victory to king James: he even imagined his wound was not mortal; but he died the next morning at Blair. With him ended all the hopes of James in Scotland. Colonel Cannon, who ſucceeded Dundee in the command, poſſeſſed neither his popularity nor his abilities. After ſome inſignificant actions, in which the valour of the ſoldiers were more conſpicuous than the conduct of their leader; the Highlanders diſperſed themſelves in diſguſt; and the war ſoon after ended favourably for William, without any repulſe given to his enemies.

309 Ireland neglected by William.

During the troubles in England, which had terminated in placing William on the throne, the two parties in Ireland were in a kind of tranquillity by their mutual fears. The Proteſtants were terrified at the proſpect of another maſſacre; and the Papiſts expected every day to be invaded by the joint force of the Engliſh and Dutch. Their terrors, however, were ill-founded; for though Tyrconnel ſent ſeveral meſſages to the prince, that he was ready to deliver up the kingdom to any force that might make a ſurrender decent, his offers were always rejected. William was perſuaded by the marquis of Halifax, that, ſhould Ireland yield, no pretence could remain for keeping an army in pay; that then, having no army to protect his authority, he might as eaſily be turned out as he had been brought in; that the Engliſh nation could never remain long in a ſtate of good humour; and that he might perceive they already began to be diſcontented. Theſe inſidious arguments induced William to neglect Ireland in ſuch a manner as to be looked upon to be one of the greateſt blemiſhes in his whole reign. His enemies, indeed, though perhaps without any good foundation, aſſign a worſe cauſe, *viz.* that ſhould England be confirmed under his government, Ireland could not long hold out; and that the obſtinacy of his Iriſh enemies would give a pretence for forfeitures to gratify his Engliſh, but eſpecially his foreign friends.

310 An inſurrection in favour of James.

311 Proteſtants take arms in their own defence.

Tyrconnel, diſappointed in his views of ſurrendering Ireland to the prince of Orange, affected to adhere to James. The whole military force of the kingdom at that time amounted only to 4000 men, and of theſe only 600 were in Dublin; and what was ſtill worſe, all of them were ſo much diſpoſed to quit the ſervice, that the lord deputy was obliged to iſſue commiſſions for levying new forces. Upon this, an half-armed rabble, rather than army, roſe ſuddenly in various parts of the kingdom. Having no pay from the king, they ſubſiſted by depredation, and regarded no diſcipline. The Proteſtants in the north armed themſelves in their own defence; and the city of Londonderry, relying on its ſituation, and a ſlight wall, ſhut its gates againſt the new-raiſed army. Proteſtant parties in the mean time roſe every where, declaring their reſolution to unite in ſelf-defence, to preſerve the Proteſtant religion, to continue their dependence on England, and to promote the meeting of a free parliament.

312 They are defeated at Drumore.

To preſerve appearances, William now ſent general Hamilton, an Iriſhman and a Roman catholic, to treat with Tyrconnel; but inſtead of perſuading that lord to yield to William, this meſſenger adviſed him to adhere to James. In the mean time James himſelf aſſured the lord deputy, that he was ready to ſail from Breſt with a powerful armament. Hamilton, aſſuming ſpirit from the hopes of this aid, marched againſt the northern inſurgents. They were routed with conſiderable ſlaughter at Drumore; and Hilſborough, where they had fixed their head-quarters, was taken without reſiſtance: the city of Londonderry, however, reſolved to hold out to the laſt extremity.

313 James lands in Ireland.

On the 7th of March 1689, James embarked at Breſt. The whole force of his expedition conſiſted of 14 ſhips of war, 6 frigates, and 3 fire-ſhips. Twelve hundred of his native ſubjects in the pay of France, and 100 French officers, compoſed the whole army of James. He landed at Kinſale without oppoſition on the 12th of the month, where he was received with the utmoſt demonſtrations of joy. His firſt care was to ſecure, in the fort of Kinſale, the money, arms, and ammunition, which he brought from France; and put the town in ſome poſture of defence: which having done, he advanced to Cork. Tyrconnel arrived at this place ſoon after, and brought intelligence of the rout at Drumore. The king was ſo much pleaſed with his attachment and ſervices, that he created him a duke; after which, he himſelf advanced towards Dublin. The condition of the rabble, who poured round him under the name of an *army*, was not calculated to raiſe his hopes of ſucceſs. The moſt of them were only provided with clubs; ſome had ſticks tipt with iron; and even of thoſe who were beſt armed, ſcarce two in a hundred had muſkets fit for ſervice. Their very numbers diſtreſſed their ſovereign, and ruined the country; inſomuch that James reſolved to diſband the greateſt part of them. More than 100,000 were already on foot in the different parts of the iſland. Of theſe he reſerved 14 regiments of horſe and dragoons, and 35 regiments of foot; the reſt he ordered to their reſpective homes, and armed thoſe that were retained in the beſt manner he could.

Being received at Dublin with an appearance of univerſal joy, James proceeded immediately to buſineſs. He ordered, by proclamation, all Proteſtants who had abandoned the kingdom to return. He commanded, in a ſecond proclamation, all Papiſts, except thoſe in his army, to lay up their arms, and put an end to the robberies and depredations which they had committed in the violence of their zeal. He raiſed the value of the currency by a proclamation; and he ſummoned a parliament to meet on the 7th of May, to ſettle the affairs of the kingdom. The Proteſtant clergy repreſented their grievances in an addreſs; and the univerſity of Dublin appeared with complaints and congratulations. He aſſured the firſt of his abſolute protection, and a full redreſs; but he promiſed the latter not only to defend, but even to enlarge, their privileges.

314 Is forced to raiſe the ſiege of Londonderry. † See *Londonderry*.

On the 8th of April James left Dublin, reſolving to lead his army againſt the inſurgents in perſon. They retired before him, and the king laid ſiege to Londonderry. The beſieged made ſuch a vigorous reſiſtance as has made the place remarkable ever ſince †: but being reduced to the laſt extremity, they would have been obliged to ſurrender, had not they been relieved on the 28th of July, by ſeven ſhips laden with proviſions; upon which the ſiege was immediately raiſed.

315 Is driven into diſagreeable meaſures.

In the mean time, the diſtreſſed ſituation of James, and his abſolute dependence upon France, drove him into meaſures which otherwiſe he could never have thought of. His ſoldiers for ſome time had been ſupported by their officers, or ſubſiſted by depredation. The funds of the officers were at laſt exhauſted, and the country itſelf could no longer bear the riot and injuſtice of the ſoldiers. Preſſed by theſe difficulties, James, by the advice of his council, reſolved to coin pieces of copper, which ſhould be received for ſilver. He ſaw well enough the inconveniences of this meaſure; but all Ireland poſſeſſed not the means of paying the army, in current coin, to the middle of June. Of the French remittances only 200,000 livres remained; and the king found it abſolutely neceſſary to reſerve that ſum, to forward his meaſures with regard to Britain, and to procure intelligence of the motions of his enemies. The army was ſatisfied even with this appearance of money, and the people received the fictitious coin in hopes of being repaid in a more favourable ſtate of affairs. A tax of 20,000*l.* a month, granted for 13 months by the parliament, furniſhed government with an appearance of reſources; and in the mean time the king endeavoured to ſupport the former revenue. He opened a trade with France to ſupply the want of commerce with England. But the French, knowing their own importance, and the neceſſity of the unfortunate monarch's affairs, claimed and obtained advantages in traffic which offended his own ſubjects.

316 Ireland invaded by William's army;

To add to the diſtreſs of James, Ireland was now invaded by 10,000 men under the command of the duke of Schomberg. They appeared on the 12th of Auguſt 1689, in 90 tranſports, on the coaſt of Donaghadee, in the county of Down. Next day Schomberg landed without oppoſition his army, horſes, and train of artillery. Having marced to Belfaſt on the 15th, he continued in that place four days to refreſh his troops. He inveſted Carrickfergus, and threw into it 1000 bombs, which laid the houſes in aſhes. The garriſon having expended their powder to the laſt barrel, marched out with all the honours of war. But Schomberg's ſoldiers broke the capitulation. They diſarmed and ſtripped the inhabitants, without any regard to ſex or quality; even women, ſtark naked, were publicly whipped between the lines; and all this under pretence of cruelties of the ſame kind having been committed by the Papiſts.

Though Schomberg was an experienced general, who had paſſed a life of 80 years almoſt continually in the field, he found himſelf at a loſs how to carry on the war in Ireland. He did not conſider the dangers that threatened the health of his troops by confining them too long in one place; and he kept them in a low moiſt camp near Dundalk, almoſt without firing of any kind; ſo that the men fell into fevers and fluxes, and died in great numbers. The enemy were not leſs afflicted with ſimilar diſorders. Both camps remained for ſome time in ſight of each other; and at laſt, the rainy ſeaſon approaching, both armies quitted their camps at the ſame time, and retired into winter quarters.

317 And by William in perſon.

The bad ſucceſs of the campaign, and the miſerable ſituation of the Proteſtants in Ireland, at length induced William to attempt their relief in perſon. Accordingly he left London on the 4th of June 1690, and arrived at Carrickfergus on the 14th of that month. From thence he paſſed to Liſburn, the head-quarters of the duke of Schomberg. He reviewed at Lough-Britland his army, which conſiſted of 36,000 men, and was compoſed of Engliſh, Dutch, Germans, Danes, and French. Being ſupplied with every neceſſary, and in high health and ſpirits, they ſeemed abſolutely certain of victory. 318 Battle at the Boyne. The Iriſh army having abandoned Ardee at their approach, fell back to the ſouth of the Boyne. On the banks of that river they were joined by James, who had marched from Dublin at the head of his French auxiliaries. The banks of the Boyne were ſteep; the ſouth ſide hilly, and fortified with ditches. The river itſelf was deep, and it roſe very high with the tide. Theſe advantages induced James, contrary to the opinion of his officers, to keep poſſeſſion of this poſt. His army was inferior in numbers, diſcipline, and every thing, to his enemies: but flight, he thought, would diſpirit his troops, and tarniſh his own reputation; he therefore reſolved to put the fate of Ireland on the iſſue of a battle. Urged by his friends in England, and encouraged by a projected invaſion of that kingdom by France, he had reſolved to quit Ireland; and to this he was farther encouraged by the aſſurance of aid from a powerful fleet that had already entered the narrow ſeas. But the ſtrength of his ſituation, and the ſudden appearance of the enemy, which made even a retreat dangerous, induced him to defer his purpoſe.

319 William in danger.

William was no ſooner arrived, than he rode along the river's ſide, in ſight of both armies, to make proper obſervations on the plan of battle; but in the mean time, being perceived by the enemy, a cannon was privately brought out and planted againſt him where he was ſitting. The ſhot killed ſeveral of his followers, and he himſelf was wounded in the ſhoulder. The news of his being ſlain was inſtantly propagated thro' the Iriſh camp, and even ſent off to Paris; but William, as ſoon as his wound was dreſſed, rode through the camp, and quickly undeceived his army.

320 James defeated.

The next day, (June 30th), the battle began at ſix in the morning. James's forces behaved with great reſolution, but were at laſt defeated with the loſs of 1500 men. The Proteſtants loſt but about one-third of that number; but among theſe was the brave general the duke of Schomberg. He was killed by a diſcharge from his own troops, who, not knowing that he had been accidentally hurried into the midſt of the enemy, fired upon the body of men who ſurrounded him. During the action, James ſtood on the hill of Dunmore, ſurrounded with ſome ſquadrons of horſe; and at intervals was heard to exclaim, when he ſaw his own troops repulſing thoſe of the enemy, "O ſpare my Engliſh ſubjects!" While his troops were yet fighting, he quitted his ſtation; and leaving orders to guard the paſs at Duleek, made the beſt of his way to Dublin.

321 He flies to France.

He adviſed the magiſtrates of the city to make the beſt terms they could with the victors; and he himſelf ſet out for Waterford, where he immediately embarked for France. When he firſt deſerted his troops at the Boyne, O'Regan, an old Iriſh captain, was heard to ſay, "That if the Engliſh would exchange generals, the conquered army would fight them over again."

322 War continued in his abſence.

The victory at the Boyne was by no means deciſive, and the friends of James reſolved to continue their oppoſition to William. Sarsfield, a popular and experienced general, put himſelf at the head of the army that had been routed at the Boyne, and went farther into the country to defend the banks of the river Shannon. James appointed one St Ruth to command over Sarsfield, which gave the Iriſh univerſal diſcontent. On the other hand, general Ginckle, who had been appointed to command the Engliſh army in the abſence of William, who was gone over to England, advanced towards the Shannon to meet the enemy. The only place where it was fordable was at Athlone, a ſtrong walled town built on both ſides of the river, and in the hands of king Jame's party. The Engliſh ſoon made themſelves maſters of that part which was on the hither ſide of the river; but the part on the oppoſite bank being defended with great vigour, was for a long while thought impregnable. At length it was reſolved in a council of war, that a body of forlorn hope ſhould ford the ſtream in the face of the enemy; and this deſperate enterprize was performed with great reſolution; the enemy were driven from their works, and the town ſurrendered a diſcretion. St Ruth marched his army to its relief, but he came too late; for he no ſooner approached, than his own guns were turned againſt him: upon which he inſtantly marched off, and took poſt at Aughrim, at ten miles diſtance, where he determined to wait the Engliſh army. Ginckle did not decline the combat, though he had only 18,000 men, while the Iriſh were above 25,000 ſtrong. A deſperate engagement enſued; but at laſt Sir Ruth being killed, his troops gave way on all ſides, and retreated to Limeric, where they determined to make a final ſtand, after having loſt near 5000 of their beſt men.

323 St Ruth, James's general, defeated and killed.

324 Limeric beſieged.

Ginckle, wiſhing to put an end to the war at once, ſuffered as many of the Iriſh as choſe, to retire to Limeric. In this laſt retreat the Iriſh forces made a brave defence. The ſiege commenced Auguſt 25th 1691. Six weeks were ſpent before the place without any deciſive effect. The garriſon was well ſupplied with proviſions, and provided with all means of defence. The winter was approaching, and Ginckle had orders to finiſh the war upon any terms.

325 Favourable terms allowed them by Ginckle.

He therefore offered ſuch conditions as the Iriſh, had they been victors, could ſcarce have refuſed with prudence. He agreed, that all in arms ſhould receive their pardon: that their eſtates ſhould be reſtored, their attainders annulled, and their outlawries reverſed: that none ſhould be liable for debts incurred through deeds done in the courſe of hoſtilities: that all Roman catholics ſhould enjoy the ſame toleration with regard to their religion, as in the reign of Charles II.: that the gentry ſhould be permitted to make uſe of arms: that the inferior ſort ſhould be allowed to exerciſe their callings and profeſſions: that no oaths but that of allegiance ſhould be required of high or low: that ſhould the troops, or any number of them, chooſe to retire into any foreign ſervice, they ſhould be conveyed to the continent, at the expence of the king. Sarsfield, who had obtained the title of *earl of Lucan* from James after his abdication, was permitted to retain a dignity which the laws could not recogniſe. The lords juſtices had arrived from Dublin on the firſt of October. They ſigned the articles together with Ginckle; and thus the Iriſh Papiſts put a happy period to a war which threatened their party with abſolute ruin. In conſequence of this treaty, about 14,000 of thoſe who had fought for king James went over to France, having tranſports provided by government for conveying them thither. When they arrived, James thanked them for their loyalty, and told them that they ſhould ſtill fight for their old maſter; and that he had obtained an order from the king of France, for their being new clothed, and put into quarters of refreſhment. In this manner all James's expectations from Ireland were entirely fruſtrated, and the kingdom ſubmitted quietly to the Engliſh government.

326 Maſſacre at Glenco.

In the beginning of the year 1692, an action of unexampled barbarity diſgraced the government of William in Scotland. In the preceding Auguſt, in conſequence of a pacification with the Highlanders, a proclamation of indemnity had been iſſued to ſuch inſurgents as ſhould take the oaths to the king and queen, on or before the laſt day of September. The chiefs of the few tribes who had been in arms for James complied ſoon after with the proclamation: but Macdonald of

Glenco failed in ſubmitting within the limited time; more, however, from accident than deſign. In the end of December, he came to colonel Hill, who commanded the garriſon in fort William, to take the oaths of allegiance to the government. Hill, having furniſhed Macdonald with a letter to Sir Colin Campbell, ſheriff of the county of Argyle, directed him to repair immediately to Inverary, to make his ſubmiſſion in a legal manner before that magiſtrate. The way to Inverary lay through almoſt impaſſable mountains; the ſeaſon was extremely rigorous, and the whole country covered with a deep ſnow. So eager, however, was Macdonald to take the oaths, before the limited time ſhould expire, that, tho' the road lay within half a mile of his own houſe, he would not ſtop to viſit his family. After various obſtructions, he arrived at Inverary. The time was elapſed, and the ſheriff heſitated to receive his ſubmiſſion; but Macdonald prevailed on him by his importunities, and even tears. Sir John Dalrymple, afterwards earl of Stair, attended king William as ſecretary of ſtate for Scotland. He took advantage of Macdonald's neglecting to take the oaths within the time preſcribed, and procured from the king a warrant of military execution againſt him and his whole tribe. As a mark of his own eagerneſs, or to ſave Dalrymple, William ſigned the warrant, both above and below, with his own hand. The ſecretary, in letters expreſſive of a brutal ferocity of mind, urged the officers who commanded in the Highlands to execute their orders with the utmoſt rigour. Campbell of Glenlyon, a captain in Argyle's regiment, and two ſubalterns, were ordered, with 120 men, to repair to Glenco on the firſt of February. Campbell, being uncle to young Macdonald's wife, was received by the father with all manner of friendſhip and hoſpitality. The men were treated in the houſes of his tenants with free quarters and kind entertainment. Till the 13th of the month, the troops lived in good humour and familiarity with the people. The officers, on the very night of the maſſacre, paſſed the evening and played at cards in Macdonald's houſe. In the night, lieutenant Lindſay, with a party of ſoldiers, called in a friendly manner at his door. He was inſtantly admitted. Macdonald, as he was riſing to receive his gueſt, was ſhot dead behind his back, with two bullets. His wife had already put on her clothes; but ſhe was ſtripped naked by the ſoldiers, who tore the rings off her fingers with their teeth. The ſlaughter was become general. To prevent the pity of the ſoldiers to their hoſts, their quarters had been changed the night before. Neither age nor infirmity was ſpared. Some women, in defending their children, were killed. Boys, imploring mercy, were ſhot by officers, on whoſe knees they hung. In one place, nine perſons, as they ſat enjoying themſelves at table, were ſhot dead by the ſoldiers. At Inveriggen, in Campbell's own quarters, nine men were firſt bound by the ſoldiers, and then ſhot at intervals, one by one. Near 40 perſons were maſſacred by the troops. Several, who fled to the mountains, periſhed by famine and the inclemency of the ſeaſon. Thoſe who eſcaped owed their lives to a tempeſtuous night. Lieutenant colonel Hamilton, who had the charge of the execution from Dalrymple, was on his march with 400 men, to guard all the paſſes from the valley of Glenco; but was obliged to ſtop by the ſeverity of the weather, which proved the ſafety of the unfortunate tribe. He entered the valley next day; laid all the houſes in aſhes; and carried away all the cattle and ſpoil, which were divided among the officers and ſoldiers.

It can ſcarce be imagined that a maſſacre attended with ſuch circumſtances of treachery and breach of the laws of hoſpitality, could paſs without ſome animadverſion; though the expreſſions of Cunningham, a writer very partial to the character of king William, ſeem to account it a fault that it ſhould ever have been inquired into. "Mr James Johnſtone, one of the ſecretaries of ſtate (ſays he), from motives of revenge, cauſed the affair of Glenco to be laid before parliament. This being ſomewhat diſingeniouſly managed, was the occaſion of much trouble to many people. The earl of Breadalbin was committed to the caſtle of Edinburgh: but the lord viſcount Stair, who lay under ſome ſuſpicion on that account, in a very artful ſpeech endeavoured to reſolve the whole matter into a miſapprehenſion of dates; which, he alledged, had led both the actor in the ſlaughter complained of, and thoſe who now accuſed him, into miſtakes. In concluſion he affirmed, that neither the king nor any other perſon was to be blamed, ſave only the miſled captain, who did not rightly underſtand the orders that had been given him." The moſt diſgraceful circumſtances of the maſſacre are by the ſame author concealed; as he only tells us, that "it unhappily fell out, that the whole clan of Glenco, being ſomewhat too late in making their ſubmiſſion to king William, were put to the ſword by the hands and orders of captain Campbell; which gave great offence to the king. It is certain the king had cauſe of reſentment againſt ſome of his courtiers on account of this foul action; but he thought fit not to queſtion them for it till he could ſettle himſelf more firmly on the throne."

327
Account of the Darien expedition.

It is not improbable, that partly to efface the remembrance of this maſſacre, and the ſham inquiry abovementioned, the king now cauſed his commiſſioner to declare in the Scots parliament (the ſame that had inquired into the affair of Glenco), "That if the members found it would tend to the advancement of trade, that an act ſhould be paſſed for the encouragement of ſuch as ſhould acquire and eſtabliſh a plantation in Africa, America, or any other part of the world where plantations might be lawfully acquired, that his majeſty was willing to declare he would grant to the ſubjects of this kingdom, in favour of theſe plantations, ſuch rights and privileges as he granted, in like caſes, to the ſubjects of his other dominions." Relying on this and other flattering promiſes, the nobility and gentry of Scotland advanced L.400,000 towards the eſtabliſhment of a company for carrying on an Eaſt and Weſt-India trade; and 1200 veterans who had ſerved in king William's wars were ſent to effect a ſettlement on the peninſula of Darien, which lies between the Atlantic and Pacific oceans, and in the narroweſt place is not above 60 miles over; and of conſequence is equally well adapted for trading with both the Indies.

The new colony were well received by the natives, and matters began to wear a promiſing aſpect, when the king, on the earneſt ſolicitations of the Engliſh and Dutch Eaſt India companies, reſolved to gratify the latter at the expence of his Scottiſh ſubjects; and knowing that the new colony muſt want ſupplies of proviſions, he ſent orders to the governor of Jamaica and the Engliſh ſettlements in America to iſſue proclamations prohibiting, under the ſevereſt penalties, all his majeſty's ſubjects from holding any correſpondence with the Scottiſh colony, or aſſiſting it in any ſhape with arms, ammunition, or proviſions: "Thus (ſays Mr Knox) the king's heart was hardened againſt theſe new ſettlers, whom he abandoned to their fate, though many of them had been covered with wounds in fighting his battles.

"Thus vaniſhed all the hopes of the Scottiſh nation, which had engaged in this deſign with incredible alacrity, and with the moſt ſanguine expectations that the misfortunes of their country would by this new channel of commerce, be completely healed.

"The diſtreſſes of the people, upon receiving authentic accounts of the fortune of their colony, ſcarcely admit of any deſcription. They were not only diſappointed in their expectations of wealth and a renewal of their commerce; but hundreds, who had ventured their all, were abſolutely ruined by the miſcarriage of the deſign.

"The whole nation ſeemed to join in the clamour that was raiſed againſt their ſovereign. They taxed him with double dealing, inhumanity, and baſe ingratitude, to a people who had laviſhed their treaſure and beſt blood in ſupport of his government, and in the gratification of his ambition; and had their power been equal to their acrimony, in all probability the iſland would have been involved in a civil war."

Such is the account of this tranſaction given by Mr Knox; on the other hand, Mr Cunningham tells us, that "the ſame parliament (which had inquired into the Glenco affair) alſo had under their conſideration a ſcheme for ſettling a trade and planting a colony in America, which proved afterwards an occaſion of manifold evils, and was matter of great complaint both to the Engliſh and the Spaniards. The Scots, carrying on the ſettlement of the colony which had been juſt mentioned with extravagant parade, and noiſe, and ſubſcriptions, filled not only England, but all other countries alſo, with apprehenſions leſt Scotland ſhould, in proceſs of time, become the emporium of all the trade of Europe. But they never conſidered how few would truſt their fortunes to the diſpoſal of ſuch a numerous nobility, nor calculated the frauds of their own managers; by which means the whole affair was afterwards ruined. Diſcords ariſing on this head between the two kingdoms, old hoſtilities were recalled to mind; the cattle were driven off from the borders; the cuſtoms were defrauded, and other injuries committed; and at laſt the Spaniards complained of the Scots. Therefore to prevent the miſchiefs which might ariſe to both kingdoms, the king had nothing ſo much at heart as to bring about an union upon as fair terms as he could," &c.

328
Plots in favour of James.

The total reduction of Ireland, and the diſperſion and extermination of the Highland chieftains who favoured his cauſe, did not entirely put and end to the hopes of James. His chief expectations next were founded on a conſpiracy among his Engliſh adherents, and in the ſuccours promiſed him by the French king. A plot was firſt formed in Scotland by Sir James Montgomery; a perſon who, from being an adherent to William, now turned againſt him: but as the project was ill contrived, ſo it was as lightly diſcovered by the inſtigator. To this another ſucceeded, which ſeemed to threaten more ſerious conſequences, as it was managed by the whig party, who were the moſt formidable in the ſtate. A number of theſe joined themſelves to the tories, and both made advances to the adherents of the late king. They aſſembled together; and the reſult of their deliberations was, that the reſtoration of James was to be effected entirely by foreign forces: that he ſhould ſail for Scotland, and be there joined by 5000 Swedes; who, becauſe they were of the Proteſtant religion, would, it was thought, remove a part of the odium which attended an invaſion by foreigners: it was concerted that aſſiſtance ſhould at the ſame time be ſent from France, and that full liberty of conſcience ſhould be proclaimed throughout the kingdom. In order to loſe no time, it was reſolved to ſend over to France two truſty perſons to conſult with the baniſhed monarch; and lord Preſton and Mr Aſhton were the two perſons appointed for this embaſſy. Both of them, however, were ſeized when they leaſt expected it, by order of lord Caermarthen. Both were condemned, and Aſhton was executed without making any confeſſion; but lord Preſton had not the ſame reſolution. Upon an offer of pardon, he diſcovered a great number of aſſociates, among whom the duke of Ormond, lord Dartmouth, and lord Clarendon, were foremoſt.

329
He is ſupported by the French.

The French at laſt became ſenſible of their bad policy in not having better ſupported the cauſe of James, and therefore reſolved to make a deſcent upon England in his favour. In purſuance of this ſcheme, the French king ſupplied James with an army conſiſting of a body of French troops, ſome Engliſh and Scots refugees, and the Iriſh regiments, which had been tranſported into France from Limeric, and were now become excellent ſoldiers by long diſcipline and ſevere duty. This army was aſſembled between Cherbourg and La Hogue, and commanded by king James in perſon. More than 300 tranſports were provided for landing it on the oppoſite coaſt; and Tourville, the French admiral, at the head of 63 ſhips of the line, was appointed to favour the deſcent. His orders were, at all events, to attack the enemy, in caſe they ſhould oppoſe him; ſo that every thing promiſed the baniſhed king a change of fortune.

Theſe preparations on the ſide of France were ſoon known at the Engliſh court, and every precaution taken for a vigorous oppoſition. All the ſecret machinations of the baniſhed king's adherents were diſcovered to the Engliſh miniſtry by ſpies; and by theſe they found that the tories were more faithful than even the whigs who had placed king William on the throne. The duke of Marlborough, lord Godolphin, and even the princeſs Anne herſelf, were violently ſuſpected of diſaffection. Preparations, however, were made, with great tranquillity and reſolution, to reſiſt the growing ſtorm. Admiral Ruſſel was ordered to put to ſea with all poſſible expedition; and he ſoon appeared with 99 ſhips of the line, beſides frigates and fire-ſhips. At the head of this formidable fleet he ſet ſail for the coaſt of France; and, near La Hogue, he diſcovered the enemy under Tourville, who prepared to give him battle. The engagement began between the two admirals with great fury, and the reſt of the fleet ſoon followed their example.

330 Who are defeated.

The battle laſted for ten hours; but at laſt victory declared on the ſide of numbers: the French fled for Conquet road, having loſt four ſhips in the firſt day's action. The purſuit continued for two days following: three French ſhips of the line were deſtroyed the next day; and 18 more, which had taken refuge in the bay of La Hogue, were burnt by Sir George Rooke. In this manner were all the French preparations fruſtrated; and ſo deciſive was the blow, that from this time France ſeemed to relinquiſh all claims to the ocean.

This engagement, which happened on the 21ſt of May 1692, put a final period to the hopes of James. No further attempts were made in his favour, except ſome plots to aſſaſſinate king William, which ended only in the deſtruction of thoſe who formed them. But it was never thoroughly proved that James countenanced theſe plots in the leaſt; it rather appears, that in all caſes he expreſſed the utmoſt abhorrence of ſuch attempts.

331 James offered the crown of Poland;

In 1697, the abbe de Polignac, ambaſſador from France in Poland, wrote to his maſter, that thoughts were entertained of the late king of Britain, in the new election which happened on the death of John Sobieſki king of Poland; and that James had been already named by ſome of the diets as his ſucceſſor. Louis was eager to ſeize an opportunity of ridding himſelf with honour of a prince whoſe pretenſions he could no longer ſupport.

332 Which he refuſes.

The friends of James were alſo ſanguine for the project; but he himſelf refuſed it. He told them, that "he would ever retain a grateful remembrance of his friends in Poland. That, however, he would not accept of the crown, had it actually been offered; much leſs would he endeavour to obtain by ſolicitation any crown which was not actually his due. That his acceptance of any other ſceptre would amount to an abdication indeed of that which he deemed his right. That therefore he was reſolved to remain in his preſent forlorn condition, poſſeſſing leſs hopes than ever of being reſtored, rather than to do the leaſt act of prejudice to his family."

333 William engages to own James's ſon for his own ſucceſſor;

The ſame year, at an interview between king William and Louis XIV. it was propoſed that the prince of Wales (James's ſon) ſhould ſucceed to the throne of England after the death of William. The king with little heſitation agreed to this requeſt. He even ſolemnly engaged to procure the repeal of the act of ſettlement; and to declare, by another, the prince of Wales his ſucceſſor to the throne.

334 Which James refuſes.

Even this propoſal was rejected by James. He told the king of France, that though he could ſuffer with patience the uſurpation of his nephew upon his right, he would never permit his own ſon to be guilty of the ſame injuſtice. He urged, that ſhould the ſon reign in his father's lifetime, that circumſtance would amount to a formal renunciation. That the prince of Wales, by ſucceeding to the prince of Orange, would yield his ſole right, which was that of his father, &c.

335 His death.

From this time James loſt every hope of being reſtored to the throne, and reſigned himſelf entirely to the auſterities of religious enthuſiaſm. His conſtitution, though vigorous and athletic, had for ſome time begun to yield to the infirmities of age, and to that melancholy which ſuperſtition as well as his uncommon misfortunes had impreſſed on his mind. In the beginning of September 1701, when he was, according to his daily cuſtom, at public prayers, he fell ſuddenly into a lethargy; and though he recovered his ſenſes ſoon after, he languiſhed for ſome days, and expired on the 6th of September. The French king, with great humanity, paid him ſeveral viſits during his ſickneſs; and exhibited every ſymptom of compaſſion, affection, and even reſpect.

Louis, being under a difficulty how to proceed upon the unexpected death of James, called a council to take their advice, whether he ſhould own the prince of Wales as king of Great Britain and Ireland. The king himſelf had heſitated long in this delicate point. But the dauphin, the duke of Burgundy, and all the princes of the blood, declared, that it was unbecoming the dignity of the crown of France not to own that the titles of the father devolved immediately upon the ſon. Louis approved of this reſolution, and determined to acquaint the dying king with it in perſon. When he arrived at St Germains, he acquainted firſt the queen, and then her ſon, of his deſign. He then approached the bed in which James lay almoſt inſenſible with his diſorder. The king, rouſing himſelf, began to thank his moſt Chriſtian majeſty for all his favours; but Louis interrupted him. "Sir (ſaid he), what I have done is but a ſmall matter; but what I have to ſay is of the utmoſt importance."

336 Pretender owned by Louis to be the king of Britain.

The people then began to retire. "Let no perſon withdraw (ſaid Louis). I come to acquaint you, Sir, that when God ſhall pleaſe to call your majeſty from this world, I ſhall take your family into my protection, and acknowledge your ſon, as he then will certainly be, king of Great Britain and Ireland."

Though the defeat of the French fleet at La Hogue had put king William out of all danger from any further attempts from that quarter, he by no means poſſeſſed his throne with any kind of tranquillity. The want of a common enemy produced diſſenſions among the people, and William began to find as much uneaſineſs from his parliament at home as from an enemy in the field. The uneaſineſs he felt from the refractory diſpoſition of his ſubjects was not a little heightened by the death of his queen, who was taken off by the ſmall-pox on the 28th of December 1694.

337 Death of queen Mary

For ſome time he was under a ſincere concern for her loſs; but as politics had taken entire poſſeſſion of his mind, he loſt all other concerns in the greatneſs of his apprehenſions for the balance of power and the fluctuating intereſts of Europe.

338 National diſcontent.

His chief motive for accepting the crown was to engage England more deeply in the concerns of Europe. His great object had been to humble the French, and all his politics conſiſted in forming alliances againſt them. On the other hand, many of the Engliſh had no ſuch animoſity againſt the French: and theſe, therefore, conſidered the intereſt of the nation as ſacrificed to foreign connections; and complained that the continental war fell moſt heavily on them, though they had the leaſt intereſt in its ſucceſs. Theſe complaints were heard by William with the moſt phlegmatic indifference; he employed all his attention only on the balance of power, and the intereſts of Europe. He became unmindful of the cultivation of internal polity; and, as he formed alliances abroad, increaſed the influence of party at home. Patriotiſm began to be ridiculed as an ideal virtue; and the practice of bribing a majority in parliament became univerſal. The example of the great was caught up by the vulgar; principle, and even decency, was gradually baniſhed; talents lay uncultivated, and the ignorant and profligate were received into favour.

The king, upon accepting the crown, was reſolved to preſerve as much of the prerogative as poſſible; and he ſometimes exerted a branch of it which his predeceſſors had never choſen to make uſe of, viz. the power of refuſing his aſſent to ſome bills that had paſſed both houſes. From this and other cauſes there were perpetual bickerings between him and his parliaments. At laſt William became fatigued with oppoſition. He admitted every reſtraint upon the prerogative in England, upon condition of being properly ſupplied with the means of humbling France. Provided the parliament ſupplied him with the means of executing this, he permitted them to rule the internal polity as they pleaſed. For the proſecution of the French war, the ſums granted were indeed incredible. The nation, not contented with furniſhing him ſuch ſums of money as they were capable of raiſing by the taxes of the year, mortgaged thoſe taxes, and involved themſelves in debts which they have never ſince been able to diſcharge.

The war with France continued during the greateſt part of this king's reign; but at length the treaty of Ryſwick, in 1697, put an end to thoſe contentions in which England had engaged without policy, and came off at laſt without advantage. In the general pacification, her intereſts ſeemed entirely deſerted; and for all the treaſures ſhe had ſent to the continent, and all the blood which had been ſhed there, the only equivalent received was an acknowledgment of William's title from the king of France.

339
William obliged to diſband his forces.

The king, being now freed from a foreign war, ſet himſelf to ſtrengthen his authority at home. As he could not bear the thoughts of being a king without military command, he conceived hopes of keeping up, in the time of a profound peace, thoſe forces which had been granted during the time of danger. The commons, however, to his great mortification, paſſed a vote, that all the forces in the Engliſh pay, exceeding 7000 men, ſhould be forthwith diſbanded; and that thoſe retained ſhould be natural-born ſubjects of England. With this vote the king was exceedingly diſpleaſed. His indignation, indeed, was kindled to ſuch a degree, that he actually conceived a deſign of abandoning the government. From this, however, his miniſters diverted him, and perſuaded him to conſent to the paſſing of the bill.

Theſe altercations continued during the remainder of this reign. William conſidered the commons as a body of men deſirous of power for themſelves, and conſequently bent upon obſtructing all his projects to ſecure the liberties of Europe. He ſeemed but little attached to any particular party in the houſe, all of whom he found at times deſerted or oppoſed him. He therefore veered to whigs and tories indiſcriminately, as intereſt or the immediate exigence demanded. He conſidered England as a place of labour, anxiety, and altercation. If he had any time for amuſement or relaxation, he retired to Loo in Holland, where, among a few friends, he gave a looſe to thoſe coarſe feſtivities which he alone was capable of reliſhing. Here he planned the different ſucceſſion of the princes of Europe, and laboured to undermine the ſchemes and the power of Louis his rival in politics and fame.

340
He engages Britain in a confederacy againſt France.

But however feeble William's deſire of other amuſements might be, he could ſcarce live without being at variance with France. Peace had ſcarce been made with that nation, when he began to think of reſources for carrying on a new war, and for enliſting his Engliſh ſubjects in the confederacy againſt that nation. Several arts were uſed for inducing the people to ſecond his aims; and the whole nation ſeemed at laſt to join in deſiring a French war. He had been in Holland concerting with his allies operations for a new campaign. He had engaged in a negociation with the prince of Heſſe; who aſſured him, that if he would beſiege and take Cadiz, the admiral of Caſtile and ſeveral other grandees of Spain would declare for the houſe of Auſtria. The elector of Hanover had reſolved to concur in the ſame meaſures; the king of the Romans, and prince Lewis of Baden, undertook to inveſt Laudan, while the emperor promiſed to ſend a powerful reinforcement into Italy: but death put a period to his projects and his ambition.

341
His death.

William was naturally of a very feeble conſtitution; and it was by this time almoſt quite exhauſted by a ſeries of continual diſquietude and action. He had endeavoured to repair his conſtitution, or at leaſt to conceal its decays, by exerciſe and riding. On the 21ſt of February 1702, in riding to Hampton-court from Kenſington, his horſe fell under him; and he was thrown with ſuch violence, that his collar-bone was fractured. His attendants conveyed him to the palace at Hampton-court, where the fracture was reduced; and in the evening he returned to Kenſington in his coach. The jolting of the carriage diſunited the fracture; and the bones were again replaced by Bidloo his phyſician. This, in a robuſt conſtitution, would have been a trifling misfortune; but to him it was fatal. For ſome time he appeared in a fair way of recovery; but falling aſleep on his couch, he was ſeized with a ſhivering, which terminated in a fever and diarrhœa, that ſoon became dangerous and deſperate. Perceiving his end approaching, the objects of his former care lay next his heart; and the fate of Europe ſeemed to remove the ſenſations he might be ſuppoſed to feel for his own. The earl of Albemarle arriving from Holland, he conferred with him in private on the poſture of affairs abroad. Two days after, having received the ſacrament from archbiſhop Tenniſon, he expired, on Sunday March 8th; having lived 52 years, and reigned 13.—He was in his perſon of a middle ſtature, a thin body, and a delicate conſtitution. He had an aquiline noſe, ſparkling eyes, a large forehead, and a grave ſolemn aſpect. He left behind him the character of a great politician, though he had never been popular; and of a formidable general, tho' he had been ſeldom victorious. His deportment was grave, phlegmatic, and ſullen; nor did he ever ſhow any fire but in the day of battle.

Cunningham ſays, that "at the very laſt moment, when his mind was otherwiſe oppreſſed, he retained a juſt ſenſe of the redemption of mankind, and the remembrance of his good ſubjects. Thus he lay ſo quietly and compoſed, with his eyes fixed upon heaven, when his ſpeech failed him, that no man could die either better prepared or with greater conſtancy and piety, than this prince; of whoſe juſt praiſes no tongue ſhall be ſilent, and no time unmindful. And if any king be ambitious of regulating his councils and actions by the bright examples of the moſt famous great men, he may form to himſelf the idea of a great prince and a grand empire, not only from the king's life, but from the public records of the Engliſh and Dutch nations."

342 Acceſſion of queen Anne.

William was ſucceeded by the princeſs Anne, who had married George prince of Denmark. She aſcended the throne in the 38th year of her age, to the general ſatisfaction of all parties. William had died at the eve of a war with France: and the preſent queen, who generally took the advice of her miniſtry on every important occaſion, was now urged by oppoſite councils; a part of her miniſtry being inclined to war, and another to peace. At the head of thoſe who oppoſed a war with France was the earl of Rocheſter, lord lieutenant of Ireland, firſt couſin to the queen, and the chief of the tory faction. At the head of the oppoſite party was the earl afterwards duke of Marlborough, and ſince ſo much renowned for his victories over the French. After giving the reaſons for both their opinions, that of Marlborough preponderated: the queen reſolved to declare war; and communicating her intentions to the houſe of commons, by whom it was approved, war was proclaimed accordingly. In this declaration of war, Louis was taxed with having taken poſſeſſion of a great part of the Spaniſh dominions; with deſigning to invade the liberties of Europe, to obſtruct the freedom of navigation and commerce; and with having offered an unpardonable inſult to the queen and her throne, by acknowledging the title of the pretender: he was accuſed of attempting to unite the crown of Spain to his own dominions, by placing his grandſon upon the throne of that kingdom, and thus of endeavouring to deſtroy the equality of power that ſubſiſted among the ſtates of Europe. This declaration of war on the part of England was ſeconded by ſimilar declarations by the Dutch and Germans, all on the ſame day.

343 War declared againſt France.

Louis XIV. whoſe power had been greatly circumſcribed by William, expected, on the death of the latter, to enter on a field open for new conqueſts and fame. At the news of the Engliſh monarch's death, therefore, he could not ſuppreſs his rapture; the people of Paris, and indeed through the whole kingdom, teſtified their joy in the moſt public manner. At ſeeing, therefore, ſuch a combination againſt him, the French monarch was filled with indignation; but his reſentment fell chiefly on the Dutch. He declared with great emotion, that as for thoſe gentlemen pedlars the Dutch, they ſhould one day repent their inſolence and preſumption in declaring war againſt him whoſe power they had formerly felt and dreaded. By theſe threats, however, the affairs of the allies were no way influenced. Marlborough was appointed general of the Britiſh forces, and by the Dutch he was choſen generaliſſimo of the allied army; and indeed his after conduct ſhowed, that no perſon could poſſibly have been choſen with greater propriety. He had learned the firſt rudiments of war under the famous marſhal Turenne, having been a volunteer in his army; and by that general his future greatneſs was prognoſticated.

344 Duke of Marlborough appointed general.

345 His ſucceſs in his firſt campaign.

The firſt attempt that Marlborough made to deviate from the general practices of the army was to advance the ſubaltern officers, whoſe merits had been hitherto neglected. Regardleſs of ſeniority, wherever he found abilities, he was ſure to promote them; and thus he had all the upper ranks of commanders rather remarkable for their ſkill and talents than for their age and experience. In his firſt campaign, in the beginning of July 1702, he repaired to the camp at Nimeguen, where he found himſelf at the head of 60,000 men well provided with all neceſſaries, and long diſciplined by the beſt officers of the age. He was oppoſed on the part of France by the duke of Burgundy, a youth of very little experience in the art of war; but the real acting general was the marſhal Boufflers, an officer of courage and activity. But wherever Marlborough advanced, the French were obliged to retire before him, leaving all Spaniſh Guelderland at his diſcretion. The duke of Burgundy finding himſelf obliged to retreat before the allied army, rather than expoſe himſelf longer to ſuch a mortifying indignity, returned to Verſailles, leaving Boufflers to command alone. Boufflers retired to Brabant: and Marlborough ended the campaign by taking the city of Liege; in which was found an immenſe ſum of money, and a vaſt number of priſoners.

346 Loſſes at ſea.

This good fortune ſeemed to conſole the nation for ſome unſucceſsful expeditions at ſea. Sir John Munden had permitted a French ſquadron of 14 ſhips to eſcape him by taking ſhelter in the harbour of Corunna; for which he was diſmiſſed the ſervice by prince George. An attempt was made upon Cadiz by ſea and land, Sir George Rooke commanding the navy, and the duke of Ormond the land forces; but this alſo miſcarried. At Vigo, however, the Britiſh arms were attended with better ſucceſs. The duke of Ormond landed with 2500 men at the diſtance of ſix miles from the city, while the fleet forcing their way into the harbour, the French fleet that had taken refuge there were burned by the enemy to prevent their falling into the hands of the Engliſh. Eight ſhips were thus burned and run aſhore; but ten ſhips of war were taken, together with eleven galleons, and above a million of money in ſilver. In the Weſt Indies, admiral Bembow had been ſtationed with ten ſhips to diſtreſs the enemy's trade. Being informed that Du Caſſe the French admiral was in thoſe ſeas with a force equal to his own, he reſolved to attack him; and ſoon after diſcovered the enemy's ſquadron near St Martha, ſteering along the ſhore. He quickly gave orders to his captains, formed the line of battle, and the engagement began. He found, however, that the reſt of the fleet had taken ſome diſguſt at his conduct; and they permitted him to ſuſtain, almoſt alone, the whole fire of the enemy. Nevertheleſs, the engagement continued till night, and he determined to renew it next morning. But he had the mortification to perceive that all the reſt of his ſhips had fallen back, except one, who joined him in urging the purſuit of the enemy. Four days this intrepid ſeaman, aſſiſted by only one ſhip, purſued and engaged the enemy, while his cowardly officers remained at a diſtance behind. His laſt day's battle was more furious than any of the former: alone, and unſupported by any of the reſt, he engaged the whole French ſquadron; when his leg was ſhattered by a cannon-ball, and he himſelf died ſoon after

347 Bravery and death of admiral Bembow.

after of his wounds. Two of his cowardly aſſociates were ſhot on their arrival in England; one died on his paſſage thither; the reſt were diſgraced.

348 Continental army increaſed. The next parliament, which was convened by the queen, were highly pleaſed with the ſucceſs of the Britiſh arms on the continent. The houſe of commons was compoſed chiefly of tories, who voted 40,000 ſeamen, and the like number of land-forces, to act in conjunction with thoſe of the allies. Soon after, the queen informed her parliament, that ſhe was preſſed by the allies to augment her forces; and upon this it was reſolved that 10,000 more men ſhould be added to the continental army, but on condition that the Dutch ſhould immediately break off all commerce with France and Spain; a condition which was very readily complied with.

349 Succeſs of Marlborough. In the beginning of April 1703, the Duke of Marlborough croſſed the ſea, and, aſſembling the allied army, opened the campaign with the ſiege of Bonn, the reſidence of the elector of Cologne. This held out but a ſhort time. He next retook Huy; the garriſon of which, after a vigorous defence, ſurrendered priſoners of war. Limburgh was next beſieged, and ſurrendered in two days: and thus the campaign concluded, the allies having ſecured the country of Liege and the electorate of Cologne from the deſigns of the enemy.

In the campaign of 1704, the Duke of Marlborough informed the Dutch that it was his intention to march to the relief of the empire, which had been for ſome time oppreſſed by the French forces; and the ſtates gave him full powers to march as he thought proper, with aſſurances of their aſſiſtance in all his endeavours. The French king, finding Boufflers no longer capable of oppoſing Marlborough, appointed the marſhal de Villeroy to command in his place. But Marlborough, who, like Hannibal of old, was remarkable for ſtudying the diſpoſition of his antagoniſts, having no great fears from Villeroy, immediately flew to the aſſiſtance of the emperor. Taking with him about 13,000 Britiſh troops, he advanced by haſty marches to the banks of the Danube; he defeated a body of French and Bavarians ſtationed at Donavert to oppoſe him; then paſſed the river, and laid under contribution the dukedom of Bavaria which had ſided with the enemy. Villeroy, who at firſt attempted to follow his motions, ſeemed all at once to have loſt ſight of the enemy; nor was he appriſed of his route, till informed of his ſucceſſes. But, in the mean time, marſhal Tallard prepared by another route to obſtruct Marlborough's retreat, with an army of 30,000 men. He was ſoon after joined by the duke of Bavaria's forces; ſo that the French army in that part of the continent amounted to 60,000 veterans, commanded by the two beſt reputed generals then in France.

350 French defeated at Blenheim. To oppoſe theſe powerful generals, the duke of Marlborough was joined by a body of 30,000 men under the celebrated prince Eugene. The allied army, with this reinforcement, amounted to about 52,000. After various marches and countermarches, the two armies met at Blenheim*. A terrible engagement enſued, in which the French were entirely defeated, and a country of 100 leagues extent fell into the hands of the conquerors. Soon after finiſhing the campaign, the duke repaired to Berlin, where he procured a reinforcement of 8000 Pruſſians to ſerve under prince Eugene in Italy. Thence he proceeded to negociate for ſuccours at the court of Hanover; and ſoon after returned to England; where he was received with every poſſible demonſtration of joy.

351 Gibraltar taken. The arms of Britain, in the mean time, were not leſs fortunate by ſea than by land. The town of Gibraltar was taken by the prince of Heſſe and Sir George Rooke: but ſo little was the value of the conqueſt at that time underſtood, that it was for ſome time in debate whether it was a capture worth thanking the admiral for; and at laſt it was conſidered as unworthy of public gratitude. 352 French defeated at ſea. Soon after, the Britiſh fleet, to the number of 53 ſhips of the line, came up with that of France, conſiſting of 52 men of war, commanded by the count de Thoulouſe, off the coaſt of Malaga. This was the laſt great naval engagement in which the French ventured to face the Britiſh on equal terms. The battle began at ten in the forenoon, and continued with great fury for ſix hours; when the van of the French began to give way. The Britiſh admiral, for two days, attempted to renew the engagement; but this was as cautiouſly declined by the French, who at laſt diſappeared totally. Both ſides claimed the victory, but the conſequences decided it in favour of the Britiſh.

353 Ineffectual attempt of the Spaniards on Gibraltar. In the mean time, the Spaniards, alarmed at the taking of Gibraltar, ſent the marquis of Villadurias with a large army to retake it. France alſo ſent a fleet of 13 ſhips of the line: but part of them were diſperſed by a tempeſt, and part taken by the Britiſh. Nor was the land army more ſucceſsful. The ſiege continued for four months; during which time the prince of Heſſe, who commanded the town for the Engliſh, gave many proofs of valour. At length, the Spaniards having attempted to ſcale the rock in vain, finding no hopes of taking the place, were contented to draw off their men and abandon the enterpriſe.

354 Charles appointed king of Spain. While the Britiſh were thus victorious by land and ſea, a new ſcene of contention was opened on the ſide of Spain. Philip IV. grandſon of Louis XIV. had been placed on the throne of that kingdom, and received with the joyful concurrence of the greateſt part of his ſubjects. He had alſo been nominated ſucceſſor to the crown by the late king of Spain's will. But in a former treaty among the powers of Europe, Charles, ſon of the emperor of Germany, was appointed heir to that crown; and this treaty had been guarantee'd by France herſelf, though ſhe now reſolved to reverſe that conſent in favour of a deſcendant of the houſe of Bourbon. Charles was ſtill farther led on to put in for the crown of Spain, by the invitation of the Catalonians, who declared in his favour; and, with the aſſiſtance of the Britiſh and Portugueſe, promiſed to arm in his cauſe. Upon his way to his newly aſſumed dominion, he landed in England; where he was received on ſhore by the dukes of Somerſet and Marlborough, who conducted him to Windſor. 355 He is ſupported by queen Anne. He was kindly received by the queen; and furniſhed with 200 tranſports, 30 ſhips of war, and 9000 men, for the conqueſt of that extenſive empire. The earl of Peterborough, a man of romantic bravery, offered to conduct them; and his ſingle ſervice was reckoned equivalent to armies.

356 Barcelona taken. The firſt attempt of this general was on the city of Barcelona, at that time defended by a garriſon of 5000 men. The fort Monjuc, ſituated on a hill that commanded the city, was attacked; the outworks were taken

* See *Blenheim*.

ken by ſtorm, and the powder-magazine was blown up by a ſhell; upon which the fort immediately ſurrendered, and the city capitulated in a ſhort time after. The conqueſt of all Valencia ſucceeded the taking of Barcelona. Charles became maſter of Arragon, Carthagena, Grenada, and Madrid. The Britiſh general entered the capital in triumph, and there proclaimed Charles king of Spain without oppoſition.

357
French defeated at Ramillies.

To theſe ſucceſſes, however, very little regard was paid in Britain. The victories of the duke of Marlborough alone engroſſed their attention. In 1706, he opened the campaign with an army of 80,000 men. He was met by the French under Villeroy near the village of Ramillies*. An engagement enſued, in which the duke gained a victory almoſt as complete as that of Blenheim had been; and the whole country of Brabant was the reward of the victors. The French troops were now diſpirited; the city of Paris was in confuſion; Louis, who had long been flattered with conqueſt, was now humbled to ſuch a degree as almoſt to excite the compaſſion of his enemies. He intreated for peace, but in vain; the allies carried all before them; and his very capital began to dread the approach of the conquerors. But what neither his armies nor his politics could effect, was brought about by a party in England. The diſſention between the whigs and tories ſaved France that now ſeemed tottering on the brink of ruin.

358
Louis ſues in vain for peace.

359
Revolution in the councils of queen Anne.

The councils of the queen had hitherto been governed by a whig miniſtry; for though the duke of Marlborough ſtarted in the intereſt of the oppoſite party, he ſoon joined the whigs, as he found them moſt ſincere in the deſign of humbling France. The people, however, were now in fact beginning to change, and a general ſpirit of toryiſm to take place. The queen's perſonal virtues, her ſucceſſes, her deference for the clergy, and their great veneration for her, began to have a prevailing influence over the whole nation. People of every rank were not aſhamed to defend the moſt ſervile tenets, when they tended to flatter or increaſe the power of the ſovereign. They argued in favour of ſtrict hereditary ſucceſſion, divine right, and non-reſiſtance to the regal power. The tories, though joining in vigorous meaſures againſt France, were never ardently their enemies: they rather ſecretly hated the Dutch, as of principles very oppoſite to their own; and longed for an opportunity of withdrawing from their friendſhip. They began to meditate ſchemes of oppoſition to the Duke of Marlborough. Him they conſidered as a ſelf-intereſted man, who ſacrificed the real advantages of the nation, in protracting a ruinous war for his own private emolument and glory. They ſaw their country oppreſſed with an increaſing load of taxes, which by a continuance of the war muſt inevitably become an intolerable burden. Their diſcontents began to ſpread, and the tories wanted only a few determined leaders to aſſiſt them in removing the preſent miniſtry.

360
Engliſh defeated at Almanza.

In the mean time a ſucceſſion of loſſes began to diſſipate the conquering frenzy that had ſeized the nation in general, and to incline them to wiſh for peace. The earl of Galway, who commanded the army in Spain, was utterly defeated at Almanza † by the duke of Berwick; and in conſequence of this victory, all Spain, except the province of Catalonia, returned to their duty to Philip their lawful ſovereign. An attempt was made upon Toulon, by the duke of Savoy and prince Eugene by land, and an Engliſh fleet by ſea; but to no purpoſe. The fleet under Sir Cloudeſly Shovel, having ſet ſail for England, was driven by a violent ſtorm on the rocks of Scilly. His own ſhip was loſt, and every perſon on board periſhed. Three more ſhips met with the ſame fate; while three or four others were ſaved with the utmoſt difficulty. In Germany, marſhal Villars the French general carried all before him, and was upon the point of reſtoring the elector of Bavaria. The only hopes of the people lay in the activity and conduct of the duke of Marlborough, who opened the campaign of 1707, about the middle of May; but even here they were diſappointed. The duke declined an engagement; and after ſeveral marchings and countermarchings, both armies retired into winter quarters about the end of October. The French made vigorous preparations for the next campaign; and the duke returned to England to meet with a reception he did not at all expect, and which, as far as appears, he did not deſerve.

361
Shipwreck of Sir Cloudſley Shovel.

362
Union between Scotland and England.

The moſt remarkable tranſaction, however, of this year, and indeed of this whole reign, was the union between the two kingdoms of Scotland and England. Though governed by one ſovereign ſince the time of James I. of England, yet each nation continued to be ruled by its reſpective parliament; and often profeſſed to purſue oppoſite intereſts to thoſe of its neighbour. The union had often been unſucceſsfully attempted before, and had indeed been the cauſe of the bloody wars in the time of Edward I. and III. of England. In all the former propoſals on that head, both nations were ſuppoſed to remain free and independent; each kingdom having its own parliament, and ſubject only to ſuch taxes and other commercial regulations as thoſe parliaments ſhould judge expedient for the benefit of their reſpective ſtates. After the deſtruction of the Darien colony, in the manner already related, king William had endeavoured to allay the national ferment by reſuming the affair of an union with as much aſſiduity as his warlike diſpoſition would allow. The terms propoſed were the ſame with thoſe formerly held out, *viz.* a federal union, ſomewhat like that of the ſtates of Holland. With this view the Scots were prevailed on to ſend 20 commiſſioners to London; who, with 23 on the part of England, met at Whitehall in the month of October 1702. Here they were honoured with a viſit from the queen, in order to enliven their proceedings and ſtimulate them to a more ſpeedy diſpatch of buſineſs: but the treaty was entirely broken off at this time by the Scottiſh commiſſioners inſiſting, that the rights and privileges of their countrymen trading to Africa and the Indies ſhould be preſerved and maintained. It was, however, reſumed in the year 1706, when the commiſſioners again met on the 16th of April, in the council-chamber of White-hall. The Scottiſh commiſſioners ſtill propoſed a federal union; but the Engliſh were determined on an incorporation, which ſhould not afterwards be diſſolved by a Scottiſh parliament. Nothing but this, they ſaid, could ſettle a perfect and laſting friendſhip betwixt the two nations. The commiſſioners from Scotland, however, ſtill continued to reſiſt that article which ſubjected their country to the ſame cuſtoms, exciſes, and regulations of trade as England; but the queen being perſuaded to pay two viſits in perſon to the commiſſioners,

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* See *Ramillies.*

† See *Almanza.*

miſſioners, exerted herſelf ſo vigorouſly that a majority was at laſt gained over; and all the reſt yielded, though with reluctance, excepting Lockhart of Carnwath, who could not by any means be perſuaded either to ſign or ſeal the treaty.

363 The articles moſt violently oppoſed in Scotland.

The articles being fully prepared on the 22d of July, they were preſented next day to her majeſty by the lord-keeper, in the name of the Engliſh commiſſioners; at the ſame time that a ſealed copy of the inſtrument was likewiſe delivered by the lord chancellor of Scotland. They were moſt graciouſly received; and the ſame day the queen dictated an order of council, threatening with proſecution ſuch as ſhould be concerned in any diſcourſe or libel, or in laying wagers with regard to the union. Notwithſtanding all this harmony, however, the treaty was received with the utmoſt diſapprobation in Scotland. The terms had been carefully concealed, ſo that nothing tranſpired till the whole was at once laid before parliament. The ferment was then ſo general, that all ranks of people, however divided in other reſpects, united againſt this deteſted treaty. The nobility and gentry were exaſperated at the annihilation of parliament, and the conſequent loſs of their influence and credit. The body of the people cried out, that the independence of the nation was ſacrificed to treachery and corruption. They inſiſted that the obligation laid on their members to ſtay ſo long at London, in their attendance on the Britiſh parliament, would drain the country of its money, impoveriſh the members themſelves, and ſubject them to the temptation of being corrupted. Nor was the commercial part of the people better ſatisfied. The diſſolution of the India company, the taxes laid on the neceſſaries of life, the vaſt number of duties, cuſtoms, and reſtrictions, laid upon trade, were all of them matter of complaint. Before this time the trade of Scotland had been open to the Levant, the Baltic, France, Spain, Portugal, Holland, and the Dutch plantations; and it ſeemed difficult to conceive how the commerce of the country could be advanced by laying reſtrictions upon it to theſe places, eſpecially as the compenſation allowed, *viz.* the privilege of trading to the Engliſh plantations in America, muſt have been a very trifling advantage, when the amount of the whole exports to theſe places did not near equal the expence of defending them. The moſt violent diſputes took place in the parliament. The lord Belhaven made a moſt pathetic ſpeech, enumerating the miſeries that would attend this treaty; which drew tears from the audience, and to this day is reckoned prophetic by many of the Scottiſh nation. Almoſt every article of the treaty was the ſubject of a proteſt; addreſſes againſt it were preſented to parliament by the convention of royal boroughs, the commiſſioners of the general aſſembly, the company trading to Africa and the Indies, as well as from ſhires, ſtewartries, boroughs, towns, and pariſhes, without diſtinction of whig, tory, preſbyterian, or epiſcopal.

Nor was the reſentment of the common people without doors leſs than that of the members within. A coalition was formed betwixt the preſbyterians and cavaliers: and to ſuch a height did the reſentment of the people arrive, that they choſe officers, formed themſelves into regiments, provided horſes and ammunition, burnt the articles of union, juſtified their conduct by a public declaration, and reſolved to take the route to Edinburgh and diſſolve the parliament.

In the mean time the privy council iſſued a proclamation againſt riots, commanding all perſons to retire from the ſtreets whenever the drum ſhould beat; ordering the guards to fire on thoſe who ſhould diſobey this command, and indemnifying them from all proſecution for maiming or ſlaying the lieges. Even theſe precautions were inſufficient. The duke of Queenſberry, the chief promoter of the union, though guarded by double lines of horſe and foot, was obliged to paſs through the ſtreets at full gallop, amidſt the curſes and imprecations of the people, who pelted his guards, and even wounded ſome of his friends who attended him in the coach. In oppoſition to all this fury, the duke of Queenſberry and others attached to the union magnified the advantages that would accrue to the kingdom from the union; they took off the reſentment of the clergy, by promoting an act to be inſerted in the treaty, by which the preſbyterian diſcipline was to be the only government of the church of Scotland, unalterable in all ſucceeding times, and a fundamental article of the union. Emiſſaries were employed to diſunite the Cameronians from the cavaliers, by demonſtrating the abſurdity, ſinfulneſs, and danger, of ſuch a proceeding. The India company was flattered with the proſpect of being indemnified for the loſſes they had ſuſtained, and individuals by ſharing an equivalent. Their laſt manœuvre was to bring over a party in the Scots parliament, nicknamed the *Squadrone Volante*, from their fluctuating between miniſtry and oppoſition, without attaching themſelves to any party till the critical moment, which was either to cement both kingdoms by a firm union, or involve them in the calamities of war. By this unexpected ſtroke, the miniſtry obtained a deciſive victory, and all oppoſition was vain. The articles of treaty were ratified by parliament, with ſome trifling variations, on the 25th of March 1707; when the duke of Queenſberry finally diſſolved that anciently aſſembly, and Scotland ceaſed to be ſeparate independent kingdom.

On the concluſion of the treaty, the queen informed both houſes of the Engliſh parliament that the treaty of union, with ſome additions and alterations, was ratified by an act of the parliament of Scotland; that ſhe had ordered it to be laid before them, and hoped it would meet their approbation. She obſerved, that they had now an opportunity of putting the laſt hand to a happy union of the two kingdoms: and that ſhe ſhould look upon it as a particular happineſs if this great work, ſo often attempted before without ſucceſs, could be brought to perfection in her reign. Objections, however, were ſtarted by the tory party; but they were at that time too weak to be heard with any attention. Sir John Parkington compared the new treaty to the marriage of a woman without her conſent. It was an union carried on by corruption and bribery within doors, and by force and violence without. The promoters of it had baſely betrayed their truſt, by giving up their independent conſtitution; and he would leave it to the judgment of the houſe, whether or not men of ſuch principles were fit to be admitted into their houſe of repreſentatives. Lord Haverſham, in the upper houſe, ſaid, the queſtion was, Whether two nations, independent in their ſovereignties,

ties, that had their diſtinct laws and intereſts, different forms of worſhip, church-government and order, ſhould be united into one kingdom? He ſuppoſed it an union made up of ſo many incongruous ingredients, that ſhould it ever take effect, it would require a ſtanding power and force to keep them from falling aſunder, and breaking in pieces every moment. Above an hundred Scottiſh peers, and as many commoners, he ſaid, were excluded from ſitting and voting in parliament, though they had as much right to ſit there as any Engliſh peer had to ſit and vote in the parliament of England. The union, he ſaid, was contrary to the ſenſe of the Scottiſh nation, the murmurs of the people had been ſo loud as to fill the whole kingdom, and had reached even the doors of parliament. That the government had iſſued a proclamation pardoning all ſlaughter, bloodſhed, and maiming committed upon thoſe who ſhould be found in tumults; and from all theſe circumſtances he concluded, that the people of Scotland were averſe to an incorporating union, which, he ſuppoſed, would be a moſt dangerous expedient to both nations. All theſe arguments, however, were anſwered by thoſe of the oppoſite party with ſuch ſucceſs, that the union was unalterably completed on the firſt of May 1707; and the iſland took the name of "The United Kingdom of Great Britain." The queen expreſſed the higheſt ſatisfaction when it received the royal aſſent, and ſaid, "She did not doubt but it would be remembered and ſpoke of hereafter, to the honour of thoſe who had been inſtrumental in bringing it to ſuch an happy concluſion She deſired that her ſubjects of both kingdoms ſhould, from henceforward, behave with all poſſible reſpect and kindneſs towards one another; that ſo it might appear to all the world they had hearts diſpoſed to become one people." The firſt of May was appointed a day of public thankſgiving; and congratulatory addreſſes were ſent up from all parts of England, excepting the univerſity of Oxford. The Scots, however, were totally ſilent on the occaſion.

364 The union at firſt diſadvantageous to Scotland.

In this treaty, it muſt be obſerved, that the commiſſioners on the part of England were not only able ſtateſmen, but, for the moſt part, well ſkilled in trade, which gave them an evident advantage over thoſe of Scotland, who conſiſted of lords and gentlemen who had no commercial knowledge. Hence they were overmatched by the former in the great objects which were to give the turn to national proſperity; though they were very careful to preſerve all their heritable offices, ſuperiorities, juriſdictions, and other privileges and trappings of the feudal ariſtocracy. Had the Engliſh commiſſioners made a liberal uſe of the advantages afforded them at this time, it would have been in their power greatly to have enriched themſelves as well as the inhabitants of Scotland; "but inſtead of this (ſays Mr Knox), in negociating with a ruined kingdom, they were influenced by the then narrow, ſhort-ſighted principle of commercial monopoly; and the conſequences were ſuch as might, with a ſmall degree of reflection, have been foreſeen. Inſtead of a ſolid compact, affording, upon the whole, reciprocal advantages, and which it would have been the inclination as well as intereſt of both nations to preſerve inviolate, the conceſſions on the part of Scotland, and the reſtrictions on their trade, were ſo quickly and ſeverely felt, that about the ſixth year after the ratification of the treaty, the ſixteen peers who firſt repreſented Scotland in the upper houſe, though moſt of them had been the ſupporters of adminiſtration in promoting the union, unanimouſly moved for its diſſolution. The motion was followed by a violent debate, in which, however, the Scottiſh peers were at laſt over-ruled, and thenceforth the nation ſubmitted reluctantly to its fate. The metropolis, having no manufactures, now beheld itſelf deprived of its only ſupport by the tranſlation of the parliament to London. The trading towns pined under the duties and reſtrictions on their commerce; the whole kingdom, after ſo many fatal diſaſters, ſeemed completely ruined beyond recovery, and all degrees of men ſunk under the weight of theſe complicated misfortunes. The firſt fruits of the treaty in Scotland was a board of cuſtoms and another of exciſe, with the appointment of commiſſioners, collectors, &c. with other neceſſary officers, who were immediately diſtributed over the ſeveral ſea-ports and diſtricts of the nation. In many parts they were roughly uſed, particularly the exciſe officers; and, in the Orkneys, the officers were ſo frightened by the country people, that for ſome time the buſineſs was obliged to be poſtponed."

365 Diſſolution of the Scots privy council.

In 1708, there was a warm debate in the grand committee of the houſe of lords, occaſioned by a bill paſſed by the commons for rendering the union of the two kingdoms more entire and complete, whereby it was enacted, that, "from the firſt of May 1708, there ſhould be but one privy council in the kingdom of Britain."—Of this affair Mr Cunningham gives a particular account, and informs us that he himſelf had a hand in the affair, and that he had "from his youth borne a juſt hate to the privy council of Scotland." The arguments for the diſſolution were its enormous ſtretches of power and acts of cruelty; that it could now be of no other uſe in Scotland, than that the court might thereby govern every thing at pleaſure, and procure ſuch members of parliament as they thought proper; againſt which both Scots and Engliſh ought now carefully to guard themſelves. On the other hand, it was argued, that the abuſe of the power complained of was no argument for the entire diſſolution of the council, though it was for a reſtriction and limitation of it; that it was neceſſary that a privy council ſhould remain in Scotland, out of regard to the ancient cuſtoms of the country, and to reſtrain the rage of the people which was then ready to break out beyond all bounds. The diſſolution, however, was carried by 50 againſt 40; after which the nation, being deprived of this laſt fragment of their ancient government, the oppoſers of the union raiſed the animoſities of the people to a dangerous height; but the ferment abated after an ineffectual attempt in favour of the pretender.

366 French defeated at Oudenarde

We muſt now return to the duke of Marlborough, who had gone over to Flanders, where he ſeemed reſolved to puſh his good fortune. Peace had been offered more than once; treaties entered upon, and as often fruſtrated. After the battle of Ramillies, the king of France had employed the elector of Bavaria to write letters in his name to the duke of Marlborough, containing propoſals for opening a congreſs. He offered to give up either Spain and its dominions, or the kingdoms of Naples and Sicily, to Charles of Auſtria, and to give a barrier to the Dutch in the Netherlands. But theſe terms were rejected. The two armies once more met in numbers nearly equal at * Oudenarde (A). An engagement enſued, in which the French were defeated, and Liſle (B) the ſtrongeſt town in Flanders, Gent, Bruges, and all the other towns in that country, ſoon after fell into the hands of the victors. The campaign ended with fixing a barrier to the Dutch provinces, and it now only remained to force a way into the provinces of the enemy.

* See *Oudenarde.*

The French king, being now in a manner reduced to deſpair, again ſued for peace; but the demands of the allies were ſo high, that he was obliged to reject them, and prepare for another campaign. This was in the year 1709. The firſt attempt of the allies was on the city of Tournay, garriſoned by 12,000 men, and exceedingly ſtrong both by nature and art. After a terrible ſiege of 21 days, the town capitulated; and a month afterwards the citadel, which was ſtill ſtronger than the town. Next followed the bloody battle of Malplaquet †; where the allied army, conſiſting of 110,000 men, attacked the French conſiſting of 120,000, ſtrongly poſted and fortified in ſuch a manner that they ſeemed quite inacceſſible. Nothing, however, was able to ſtand before the allied army; they drove the French from their fortifications: but their victory coſt them dear; 20,000 of their beſt troops lay dead on the field of battle (C). The conſequence of the victory was the ſurrender of the city of Mons, which ended the campaign.

† See *Malplaquet.*

167 And at Malplaquet.

368 Laſt campaign of the duke of Marlborough.

The laſt campaign of the duke of Marlborough, which happened in the year 1711, is ſaid to have excelled all his former exploits. He was oppoſed by the marſhal Villars, the ſame who had commanded the French in the battle of Malplaquet. He contrived his meaſures ſo, that, by marching and countermarching, he induced the enemy to quit a ſtrong line of entrenchments without ſtriking a blow, which he came afterwards and took poſſeſſion of. This enterprize was followed by the taking of Bouchain, which was the laſt military atchievement of this great general. By a continuance of conduct and ſucceſs almoſt unparalleled, he had gained to the allies a prodigious tract of country. From the beginning of the war, which had now continued nine years, he had perpetually advanced, and never retreated before his enemies, nor loſt an advantage he had obtained over them. He moſt frequently gained the enemies poſts without fighting; but where he was obliged to attack, no fortifications were able to reſiſt him. He had never beſieged a city which he did not take, nor engaged in a battle in which he did not come off victorious. Thus the allies had reduced under their command Spaniſh Guelderland, Limbourg, Brabant, Flanders, and Hainault; they were maſters of the Scarpe, the capture of Bouchain had opened for them a way into the heart of France, and another campaign might have made them maſters of Paris: but on the duke's return from this campaign, he was accuſed of having taken a bribe of 6000l. a-year, from a Jew who had contracted to ſupply the army with bread; and the queen thought proper to diſmiſs him from all his employments.

369 His excellent conduct.

370 He is diſmiſſed from all his employments.

On the removal of this great general the command of the Britiſh troops was given to the duke of Ormond. The tranſactions which followed, as repreſented by Mr Cunningham, are by no means favourable to the character of the Britiſh nation. He repreſents the people at large blinded by an headſtrong and furious clergy, who wiſhed to revive the abſurdities of the Romiſh religion, and to unite the Engliſh and Gallican churches; the general of the army acting a moſt inſidious part, by giving the enemy intelligence of the deſigns of the allies before he declared he was not to act in concert with them; and the queen herſelf as commanding him to act ſuch a ſhameful part, nay as acting in a ſimilar manner herſelf. Prince Eugene complained much of the inactivity of the Engliſh general, though he ſeemed to be unacquainted with his treachery; while the whole army loaded him with execrations, calling him "a ſtupid tool, and a general of ſtraw." All this, however, was in vain; the duke continued to prefer the commands of his ſoveriegn to every other conſideration.

The diſgrace of the duke of Marlborough had been owing to the prevalence of the tory party, who had now got the whig miniſtry turned out: the conſequence of this was, that in ſpite of all the remonſtrances, memorials, &c. of the allies, the Britiſh army in Flanders was ordered not to act offenſively. Hence the operations languiſhed, a conſiderable body of the allies was cut off at Denain, and the French retook ſome towns. A peace was at laſt concluded in 1713, between France and Britain. In this treaty it was ſtipulated, that Philip, now acknowledged king of Spain, ſhould renounce all right to

371 Peace with France.

(A) In this engagement the electoral prince of Hanover, afterwards George I. of Britain, greatly diſtinguiſhed himſelf, and gained the whole glory of the firſt attack. In the engagement his horſe was killed under him, and colonel Luſchki cloſe by his ſide. "On that day (ſays Cunningham, this excellent young prince diſcovered ſuch courage as no man living ought to forget, and as all poſterity will never ſurpaſs."

(B) At the ſiege of Liſle, Cunningham relates the following anecdote of the magnanimity of a common ſoldier. "This man had the good fortune to take priſoner major general Colbert, brother to the marquis de Torcy. The priſoner, greatly taken with the clemency, humanity, and good behaviour of the ſoldier, offered him 200 louis d'ors, and a captain's poſt for life, if he would give him his liberty. The ſoldier, however, reſiſted the temptation, alleging the diſhonour that would attend ſuch conduct; and aſking him at the ſame time, how, when raiſed to the rank of a captain, he could look his general in the face for whom he had fought for ſo many years?—This inſtance of fidelity weighed ſo much with prince Eugene and the duke of Marlborough, that the former made him a preſent, and the latter gave him a captain's commiſſion."

(C) Cunningham differs prodigiouſly from this account. His computation being no more than 6000 killed and 9000 wounded on the part of the allies; and 7000 killed and 10,000 wounded on the part of the French.

to the crown of France, the union of two ſuch powerful kingdoms being thought dangerous to the liberties of Europe. It was agreed, that the duke of Berry, Philip's brother, and after him in ſucceſſion, ſhould alſo renounce his right to the crown of Spain, in caſe he became king of France. It was ſtipulated, that the duke of Savoy ſhould poſſeſs the iſland of Sicily, with the title of *king*; together with Feneſtrelles, and other places on the continent; which increaſe of dominion was in ſome meaſure made out of the ſpoils of the French monarchy. The Dutch had the barrier granted them which they ſo much deſired; and if the crown of France was deprived of ſome dominions to enrich the duke of Savoy, on the other hand the houſe of Auſtria was taxed to ſupply the wants of the Hollanders, who were put in poſſeſſion of the ſtrongeſt towns in Flanders. The fortifications of Dunkirk were demoliſhed. Spain gave up Gibraltar and the iſland of Minorca. France reſigned her pretenſions to Hudſon's Bay, Nova-Scotia, and Newfoundland; but was left in poſſeſſion of Cape Britain, and the liberty of drying fiſh upon the ſhore. Among the articles glorious to the Britiſh nation, their ſetting free the French Proteſtants confined in the priſons and galleys for their religion, was not the leaſt meritorious. For the emperor it was ſtipulated, that he ſhould poſſeſs the kingdom of Naples, the duchy of Milan, and the Spaniſh Netherlands. The king of Pruſſia was to have Upper Guelder; and a time was fixed for the emperor's acceding to theſe articles, as he had for ſome time obſtinately refuſed to aſſiſt at the negociation. This famous treaty was ſigned at Utrecht on the laſt day of March 1713.

This year was alſo remarkable for an attempt of the the Scottiſh peers and commons to diſſolve the union, which, as has been obſerved, had proved exceedingly diſagreeable and diſtreſsful to the nation. During the debates on this ſubject, the earl of Peterborough endeavoured to prove the impoſſibility of diſſolving the treaty, which he compare to a marriage, that, being once contracted, could not be diſſolved by any power on earth. He obſerved, that though England, who, in the national marriage, muſt be ſuppoſed to repreſent the huſband, had in ſome inſtances been unkind to the lady, ſhe ought not preſently to ſue for a divorce; and added, when the union was termed a mere political expedient, that it could not have been made more ſolemn, unleſs, like the ten commandments, it had come from heaven. The duke of Argyle alſo, who had originally promoted the union, now declared againſt it, and ſaid, that unleſs it were diſſolved, he did not long expect to have either property left in Scotland, or liberty in England. By ſome other peers it was alleged that the union had not produced its intended effect; that it had been deſigned to promote friendſhip between the two nations; but ſo far from anſwering the purpoſe, the animoſities between them were never ſo great as then; and if they were ſeparated again they would be better friends. This motion was over-ruled in the houſe; but the diſcontent of the people ſtill continued, and addreſſes were prepared throughout the kingdom, and matters were in danger of coming to the worſt extremities, when the attempt of the pretender in 1715 ſo divided the minds of the people, that no unanimous effort could ever afterwards be made; though the union was long generally conſidered, and ſtill is by ſome individuals, as a national grievance.

372 Attempts to diſſolve the union.

The hiſtory of the latter part of this reign conſiſts entirely of the intrigues of the whigs and tories againſt each other; which, as they are now of no importance, it is needleſs to take up time in relating, further than that the tory influence continued to prevail. Whether the miniſtry at this time wiſhed to alter the ſucceſſion from the Hanoverian line, cannot now be clearly made out; but certain it is, that the whigs firmly believed it, and the tories but faintly denied the charge. The ſuſpicions of the former became every day ſtonger, particularly when they ſaw a total removal of the whigs from all places of truſt and confidence throughout the kingdom, and their employments beſtowed on profeſſed tories, ſuppoſed to be maintainers of an unbroken hereditary ſucceſſion.

373 Death of the queen.

The violent diſſenſions between theſe two parties, their unbounded licentiouſneſs, cabals, and tumults, made the queen's ſituation very diſagreeable; her health declined; and on the 28th of July 1714, ſhe fell into a lethargic inſenſibility. Nothwithſtanding all the medicines the phyſicians could preſcribe, the diſtemper gained ground ſo faſt, that next day they deſpaired of her life. All the members of the privy council, without diſtinction, were now ſummoned from the different parts of the kingdom; and they began to provide for the ſecurity of the conſtitution. A letter was ſent to the elector of Hanover, informing him of the queen's deſperate ſituation, and deſiring him to repair to Holland, where he would be attended by a Britiſh ſquadron to convey him to England. At the ſame time they diſpatched inſtructions to the earl of Strafford at the Hague, to deſire the States-general to be ready to perform the guaranty of the Proteſtant ſucceſſion. Precautions were taken to ſecure the ſea-ports; and the command of the fleet was beſtowed upon the earl of Berkeley, a profeſſed whig. Theſe meaſures, which were all dictated by that party, anſwered a double end. They argued the alacrity of the whigs in the cauſe of their new ſovereign, and ſeemed to imply that the ſtate was in danger from the diſaffection of the oppoſite party.

On the 30th of July the queen ſeemed to be ſomewhat relieved by the medicines which had been given her. She roſe from her bed about eight in the morning, and walked a little. After ſome time, caſting her eyes on a clock that ſtood in her chamber, ſhe continued to gaze at it for ſome minutes. One of the ladies in waiting aſked her what ſhe ſaw there more than uſual? to which the queen only anſwered by turning her eyes upon her with a dying look. She was ſoon after ſeized with an apoplectic fit; from which, however, ſhe was ſomewhat recovered by the aſſiſtance of Dr Mead. She continued all night in a ſtate of ſtupefaction. She gave ſome ſigns of life betwixt twelve and one the next day; but expired the following morning, a little after ſeven o'clock, having lived 49 years, and reigned upwards of 12. This princeſs was remarkable neither for her learning nor her capacity. Like all the reſt of her family, ſhe ſeemed rather fitted for the duties of private life than a public ſtation; being a pattern of conjugal fidelity, a good mother, a warm friend, and an indulgent miſtreſs; and to her honour it certainly muſt be recorded, that during her reign none ſuffered on the ſcaffold for treaſon. In her ended the line of the Stuarts; a family who never rewarded their friends, nor ever avenged them of their adverſaries; a family whoſe misfortunes and miſconducts are not to be paralleled in hiſtory.

374 She is ſucceeded by George I. The queen had no ſooner reſigned her breath than the privy-council met, and three inſtruments were produced, by which the elector of Hanover appointed ſeveral of his known adherents to be added as lords juſtices to the ſeven great officers of the kingdom. Orders alſo were immediately iſſued out for proclaiming George king of England, Scotland and Ireland. The regency appointed the earl of Dorſet to carry him the intimation of his acceſſion to the crown, and to attend him in his journey to England. They ſent the general officers, in whom they could confide, to their poſts; they reinforced the garriſon of Portſmouth, and appointed the celebrated Mr Addiſon ſecretary of ſtate. No tumult, no commotion, aroſe againſt the acceſſion of the new king; and this gives a ſtrong proof that the tories, had they really intended to exclude him, never took any rational meaſures to accompliſh their purpoſe.

375 He arrives in England. The king firſt landed at Greenwich; where he was received by the duke of Northumberland, captain of the lifeguard, and the lords of the regency. From the landing-place he walked to his houſe in the park, accompanied by a great number of the nobility and other perſons of diſtinction, who expected to make their court in this reign in conſequence of their turbulence and oppoſition to the reigning party in the laſt. George I. was 54 years old when he aſcended the Britiſh throne. His mature age, his ſagacity and experience, his numerous alliances, and the general tranquillity of Europe, all contributed to eſtabliſh his intereſts, and promiſe him a peaceable and happy reign. His virtues, though not ſhining, were ſolid; and he was of a very different diſpoſition from the Stuart family whom he ſucceeded. Theſe were known to a proverb for leaving their friends in extremity; George, on the contrary, ſoon after his arrival in England, was heard to ſay, "My maxim is, never to abandon my friends, to do juſtice to all the world, and to fear no man." To theſe qualities of reſolution and perſeverance, he joined great application to buſineſs. One fault, however, with regard to England, remained behind: he ſtudied the intereſts of the kingdom he had left more than of thoſe he came to govern.

376 He favours the whigs. The new king ſoon diſcovered his inclination to ſupport thoſe who had raiſed him to the throne, that is, the whig party. When he retired to his bed-chamber, after his firſt landing, he ſent for ſuch of the nobility as had diſtinguiſhed themſelves by their zeal for his ſucceſſion. He expreſſed the greateſt regard for the duke of Marlborough juſt then arrived from the continent, whither he had been driven by the violence of the tories. The ſame friendſhip he profeſſed for the other leaders of the whigs; but the tories found themſelves excluded from the royal favour. The king did not ſeem ſenſible that the monarch of a faction rules but one half of his ſubjects. It was his misfortune, and conſequently that of the nation, that he was hemmed round by men who ſoured him with all their own intereſts and prejudices. The whigs, while they pretended to ſecure the crown for the king, were uſing all their art to confirm their own intereſts, extend their connections, and give laws to their ſovereign. An inſtantaneous change was made in all the offices of truſt, honour, or advantage. The names of the contending parties were changed into thoſe of *Hanoverians* and *Jacobites*. The former governed the ſenate and court, oppreſſed whom they would, bound the lower orders of people by ſevere laws, and kept them at a diſtance by vile diſtinctions; and then taught them to call this *liberty*.

377 National Diſcontents. In conſequence of theſe partialities, the higheſt diſcontents were raiſed through the whole kingdom. The tories or Jacobites raiſed the moſt terrible outcries; and had the pretender been a man of any judgment or abilities, a fair opportunity was now offered him of ſtriking a deciſive blow. Inſtead of this, he continued a calm ſpectator on the continent, and only ſent over his emiſſaries to diſperſe ineffectual manifeſtoes and delude the unwary. In theſe papers he obſerved, that the late queen had intentions of calling him to the crown. He expoſtulated with his people upon the injuſtice they had done themſelves in proclaiming a foreign prince for their ſovereign, contrary to the laws of the country, that gave him alone the real claim. Copies of a printed addreſs were ſent to the dukes of Shrewſbury, Marlborough, Argyle, and other noblemen of the firſt diſtinction; vindicating his right to the crown, and complaining of the injuſtice of his people. Yet, though he ſtill complained of their conduct, he never took any ſtep to correct his own, or remove that obſtacle by which his father had loſt his throne. He ſtill continued to profeſs the trueſt regard to the Catholic religion; and, inſtead of concealing his ſentiments on that head, gloried in his principles.

But, however much the Popiſh religion was at that time hated in England, the principles of the diſſenters were not in the leaſt more agreeable to the generality. The tories affirmed, that, under a whig adminiſtration, hereſy and impiety were daily gaining ground. The lower orders of the clergy joined in theſe complaints, and pointed out ſeveral tracts publiſhed in favour of Arianiſm and Socinianiſm. The miniſtry not only refuſed to puniſh the delinquents, but ſilenced the clergy themſelves, and forbad their future diſputations on
378 Parliament diſſolved. theſe topics.—The parliament was now diſſolved, and another called by a very extraordinary proclamation. In this the king complained of the evil deſigns of men diſaffected to his ſucceſſion; and of their having miſrepreſented his conduct and principles. He expreſſed his hopes, that his ſubjects would ſend up to parliament the fitteſt perſons to redreſs the preſent diſorders. He intreated that they would elect ſuch in particular as had expreſſed a firm attachment to the Proteſtant ſucceſſion when it was in danger. In the election of this important parliament, uncommon vigour was exerted on both ſides; but by dint of the moneyed intereſt that prevailed in corporations, and the activity of the miniſtry, a great majority of whigs was returned both in England and Scotland.

379 Violent proceedings of the new parliament. Upon the firſt meeting of this new parliament, the moſt violent meaſures were reſolved upon againſt the late miniſtry. Part of them kept away from buſineſs. A committee was appointed to inſpect all the papers relative to the late treaty, and to pick out ſuch of them as might ſerve for grounds of accuſation againſt

the late miniſtry. The earl of Oxford was impeached of high treaſon, and ſent to the Tower. The violence of the commons was anſwered with equal violence without doors. Tumults became every day more frequent, and every tumult ſerved only to increaſe the ſeverity of the legiſlature. They now paſſed an act, declaring, that if any perſons to the number of 12, unlawfully aſſembled, ſhould continue together one hour after being required to diſperſe by a juſtice of peace or other officer, and after hearing the act againſt riots read in public, they ſhould be deemed guilty of felony without benefit of clergy. This is a very ſevere act, and one of the greateſt reſtrictions on the liberty of the ſubject that has paſſed during this century; as, by it, all meetings of the people, either for the purpoſes of amuſement or redreſs, are rendered criminal, if it ſhall pleaſe any magiſtrate to conſider them as ſuch.

Theſe vindictive proceedings excited the indignation of the people, who perceived that the avenues of royal favour were cloſed to all but a faction. A rebellion commenced in Scotland, where to their other grievances they joined that of the union, which they were taught to conſider as an oppreſſion. The malecontents of this country had all along maintained a correſpondence with their friends in England, who were now driven by reſentment and apprehenſion into a ſyſtem of politics they would not otherwiſe have dreamed of. Some of the tory party, who were men attached to the Proteſtant religion, and of moderate principles in government, 380 Rebellion in Scotland. began to aſſociate with the Jacobites, and to wiſh in earneſt for a revolution. Scotland firſt ſhowed them the example. The earl of Mar, aſſembling 300 of his vaſſals in the Highlands, proclaimed the pretender at Caſtleton; and ſetting up his ſtandard at Braemar, aſſumed the title of *lieutenant-general of his majeſty's forces*. To ſecond theſe attempts, two veſſels arrived from France, with arms, ammunition, and a number of officers, together with aſſurances to the earl, that the pretender himſelf would ſhortly come over to head his own forces. In conſequence of this promiſe, the earl ſoon found himſelf at the head of 10,000 men well armed and provided. He ſecured the paſs of Tay at Perth, where his head-quarters were eſtabliſhed; and made himſelf maſter of the whole province of Fife, and all the ſea-coaſt on that ſide of the frith of Forth. He marched from thence to Dumblain, as if he had intended to croſs the Forth at Stirling-bridge; but there he was informed that the duke of Argyle, who on this occaſion was appointed commander in chief of all the forces in North Britain, was advancing againſt him from Stirling with all his own clans, aſſiſted by ſome troops from Ireland. Upon this he thought proper at firſt to retreat; but being ſoon after joined by ſome of the clans under the earl of Seaforth, and others under general Gordon, an experienced officer, who had ſignalized himſelf in the Ruſſian ſervice, he reſolved to face the enemy, and directed his march towards the ſouth.

381 Battle near Dumblain.

The duke of Argyle, apprized of his intentions, and at any rate willing to prove his attachment to the preſent government, reſolved to give him battle in the neighbourhood of Dumblain, though his forces did not amount to half the number of the enemy. In the morning, therefore, he drew up his army, which did not exceed 3500 men, in order of battle; but he ſoon found himſelf greatly outflanked by the inſurgents. The duke, therefore, perceiving the earl make attempts to ſurround him, was obliged to alter his diſpoſition, which, on account of the ſcarcity of general officers, was not done ſo expeditiouſly as to be finiſhed before the rebels began the attack. The left wing of the duke's army received the centre of the enemy, and ſupported the firſt charge without ſhrinking. It ſeemed even for a while victorious, and the earl of Clanronald was killed. But Glengary, who was ſecond in command, undertook to inſpire his intimidated forces with courage; and, waving his bonnet, cried out ſeveral times, Revenge! This animated the rebel troops to ſuch a degree, that they followed him cloſe to the points of the enemies bayonets, and got within their guard. A total rout began to enſue of that wing of the royal army; and general Wetham, their commander, flying full ſpeed to Stirling, gave out that the rebels were completely victorious. In the mean time, the duke of Argyle, who commanded in perſon on the right, attacked the left of the enemy; and drove them before him two miles, though they often faced about and attempted to rally. Having thus entirely broken that wing, and driven them over the river Allan, he returned back to the field of battle; where, to his great mortification, he found the enemy victorious, and patiently waiting for the aſſault. However, inſtead of renewing the engagement, both armies continued to gaze at each other, neither caring to begin the attack. In the evening, both parties drew off, and both claimed the victory. All the advantages of a victory, however, belonged to Argyle. He had interrupted the progreſs of the enemy; and, in their circumſtances, delay was defeat. In fact, the earl of Mar ſoon found his loſſes and diſappointments increaſe. The caſtle of Inverneſs, of which he was in poſſeſſion, was delivered up by lord Lovat, who had hitherto profeſſed to act in the intereſt of the pretender. The marquis Tullibardine forſook the earl, in order to defend his own part of the country; and many of the clans ſeeing no likelihood of coming to a ſecond engagement, returned quietly home.

382 Bad conduct of James's party.

In the mean time, the rebellion was ſtill more unſucceſsfully proſecuted in England. From the time the pretender had undertaken this wild project at Paris, in which the duke of Ormond and lord Bolingbroke were engaged, lord Stair, the Engliſh ambaſſador there, had penetrated all his deſigns, and ſent faithful accounts of all his meaſures and of all his adherents to the miniſtry at home. Upon the firſt rumour, therefore, of an inſurrection, they impriſoned ſeveral lords and gentlemen, of whom they had a ſuſpicion. But theſe precautions were not able to ſtop the inſurrection in the weſtern counties, where it was already begun. All their preparations, however, were weak and ill conducted; every meaſure was betrayed to government as ſoon as projected, and many revolts were repreſſed in the very outſet. The univerſity of Oxford was treated with great ſeverity on this occaſion. Major-general Pepper, with a ſtrong detachment of dragoons, took poſſeſſion of the city at day-break, declaring that he would inſtantly ſhoot any of the ſtudents who ſhould preſume to appear without the limits of their reſpective colleges.

The inſurrection in the northern counties came to greater

383 Expedition of the earl of Derwentwater.

greater maturity. In the month of October 1715, the earl of Derwentwater, and Mr Forſter, took the field with a body of horſe, and being joined by ſome gentlemen from the borders of Scotland, proclaimed the pretender. Their firſt attempt was to ſeize upon Newcaſtle, in which they had many friends; but finding the gates ſhut againſt them, they retired to Hexham. To oppoſe theſe, general Carpenter was detached by government with a body of 900 men, and an engagement was hourly expected. The rebels had two methods by which they might have conducted themſelves with prudence and ſafety. The one was to march directly into the weſtern parts of Scotland, and there join general Gordon, who commanded a ſtrong body of Highlanders. The other was to croſs the Tweed, and boldly attack General Carpenter, whoſe forces did not exceed their own. From the infatuation attendant on the meaſures of that party, neither of theſe counſels was purſued. They took the route to Jedburgh, where they hoped to leave Carpenter on one ſide, and penetrate into England by the weſtern border. This was the effectual means to cut themſelves off either from retreat or aſſiſtance. A party of Highlanders, who had joined them by this time, at firſt refuſed to accompany them in ſuch a deſperate incurſion, and one half of them actually returned to their own country. At Brampton, Mr Foſter opened his commiſſion of general, which had been ſent him by the earl of Mar, and there he proclaimed the pretender. They continued their march to Penrith, where the body of the militia that was aſſembled to oppoſe them fled at their appearance. From Penrith they proceeded by the way of Kendal and Lancaſter to Preſton, of which place they took poſſeſſion without any reſiſtance.

385 Rebels forced to ſurrender at Preſton.

But this was the laſt ſtage of their ill-adviſed excurſion: for general Wills, at the head of 7000 men, came up to attack them; and from his activity there was no eſcaping. They now, therefore, began to raiſe barricadoes about the town, and to put the place in a poſture of defence, repulſing the firſt attacks of the royal army with ſucceſs. Next day, however, Wills was reinforced by Carpenter, and the town was inveſted on all ſides. In this deplorable ſituation, to which they were reduced by their own raſhneſs, Foſter hoped to capitulate with the general; and accordingly ſent coconel Oxburgh, who had been taken priſoner with a trumpeter to propoſe a capitulation. This, however, Wills refuſed; alleging that he would not treat with rebels, and that the only favour they had to expect was to be ſpared from immediate ſlaughter. Theſe were hard terms, but no better could be obtained. They accordingly laid down their arms, and were put under a ſtrong guard. All the noblemen and leaders were ſecured, and a few of their officers tried for deſerting from the royal army, and ſhot by order of a court-martial. The common men were impriſoned at Cheſter and Liverpool; the noblemen and conſiderable officers were ſent to London, and led through the ſtreets pinioned and bound together, to intimidate their party.

385 Abſurd conduct of James's party in France.

Though the ſchemes of the pretender appear to have been fooliſhly enough conducted in Britain, yet they were much more ſo in France, Bolingbroke had been made his ſecretary at Paris, and Ormond his prime miniſter. But theſe ſtateſmen quickly found that nothing could be done in favour of his cauſe. The king of France, who had ever eſpouſed the intereſt of the abdicated family, was juſt dead; and the duke of Orleans, who ſucceeded in the government of the kingdom, was averſe to lending the pretender any aſſiſtance. His party, however, which was compoſed of the loweſt and moſt ignorant exiles from the Britiſh dominions, affected the utmoſt confidence, and boaſted of a certainty of ſucceſs. The deepeſt ſecrets of his cabinet, and all his intended meaſures, were bandied about in coffee-houſes by perſons of the loweſt rank both in fortune and abilities. Subaltern officers reſolved to be his generals; and even proſtitutes were entruſted to manage his negociations. Little therefore could be expected from ſuch aſſiſtants and ſuch councils.

386 Pretender lands in Scotland;

Though, by this time, the pretender might eaſily have ſeen that his affairs were deſperate; yet, with his uſual infatuation, he reſolved to hazard his perſon among his friends in Scotland, at a time when ſuch a meaſure was too late for ſucceſs. Paſſing, therefore, through France in diſguiſe, and embarking in a ſmall veſſel at Dunkirk, he arrived, after a voyage of a few days, on the coaſts of Scotland, with only ſix gentlemen in his train. He paſſed unknown through Aberdeen to Fetereſſo, where he was met by the earl of Mar, and about 30 noblemen and gentlemen of the firſt quality. There he was ſolemnly proclaimed; and his declaration dated at Comerey, was printed and diſperſed. He went from thence to Dundee, where he made a public entry; and in two days more he arrived at Scoon, where he intended to have the ceremony of his coronation performed. He ordered thankſgivings to be made for his ſafe arrival; he enjoined the miniſters to pray for him in their churches; and without the ſmalleſt ſhare of power, went through the ceremonies of royalty, which threw an air of ridicule on all his conduct. Having thus ſpent ſome time in unimportant parade, he reſolved to abandon the enterpriſe with the ſame levity with which it was undertaken. Having made a ſpeech to his grand council, he informed them of his want of money, arms, and ammunition, for undertaking a campaign, and therefore deplored that he was obliged to leave them.

387 And again leaves it.

He once more embarked on board a ſmall French ſhip that lay in the harbour of Montroſe, accompanied with ſeveral lords, his adherents; and in five days arrived at Graveline.

General Gordon, who was left commander in chief of the forces, with the aſſiſtance of earl Mareſchal, proceeded at their head to Aberdeen, where he ſecured three veſſels to ſail northward, which took on board ſuch perſons as intended to make their eſcape to the continent. He then continued his march through the Highlands, and quietly diſmiſſed his forces as he went forward. This retreat was made with ſuch expedition, that the duke of Argyle, with all his activity, could never overtake his rear, which conſiſted of 1000 horſe.

388 Cruel treatment of the rebels.

The rebellion being ended, the law was put in force with all its terrors; and the priſons of London were crowded with thoſe deluded perſons, whom the miniſtry ſeemed reſolved not to pardon. The commons, in their addreſs to the crown, declared they would proſecute, in the moſt rigorous manner, the authors of the late rebellion; and their meaſures were as vindictive as their reſolutions were ſpeedy. The earls of

Derwentwater, Nithſdale, Carnwath, and Wintown, the lords Widrington, Kenmuir, and Nairne, were impeached; and, upon pleading guilty, all but lord Wintown, received ſentence of death. No intreaties could prevail on the miniſtry to ſpare theſe unhappy men. The houſe of lords even preſented an addreſs to the throne for mercy, but without effect; the king only anſwered, that on this, as on all other occaſions, he would act as he thought moſt conſiſtent with the dignity of the crown and the ſafety of the people. Orders were accordingly diſpatched for executing the lords Derwentwater, Nithſdale and Kenmuir, immediately; the reſt were reſpited to a farther time. Nithſdale, however, had the good fortune to eſcape in woman's clothes that were brought him by his mother, the night before his execution. Derwentwater and Kenmuir were brought to the ſcaffold on Tower-hill at the time appointed. Both underwent their ſentence with calm intrepidity, and ſeemingly leſs moved than thoſe who beheld them.

An act of parliament was next made for trying the private priſoners in London, and not in Lancaſhire where they were taken in arms. This was conſidered, by ſome of the beſt lawyers, as an alteration of the ancient conſtitution of the kingdom, by which it was ſuppoſed that every priſoner ſhould be tried in the place where the offence was committed, as a jury of neighbours would be beſt qualified to enter into the nature of the offence. In the beginning of April, commiſſioners for trying the rebels met in the court of common pleas, when the bills were found againſt Mr Forſter, Mr Macintoſh, and 20 of their confederates. Forſter eſcaped from Newgate, and reached the continent in ſafety; the reſt pleaded not guilty. Pitts, the keeper of Newgate, being ſuſpected of having connived at Forſter's eſcape, was tried for his life, but acquitted. After this, Macintoſh, and ſeveral other priſoners, broke from Newgate, after having maſtered the keeper and turnkey, and diſarmed the centinel. The court proceeded to the trial of thoſe that remained; four or five were hanged, drawn, and quartered, at Tyburn. The judges appointed to try the rebels at Liverpool found a conſiderable number of them guilty of high treaſon. Two-and-twenty were executed at Mancheſter and Preſton; about 1000 experienced the king's mercy, if ſuch it may be called, to be tranſported to North-America.

389 Duration of the parliament lengthened

The rebellion being thus extinguiſhed, the danger of the ſtate was made a pretence for continuing the parliament beyond the term fixed for its diſſolution. An act, therefore, was made by their own authority, repealing that by which they were to be diſſolved every third year, and the term of their duration was extended to ſeven years. This attempt in any delegated body of people to increaſe their own power by extending it, is contrary to the firſt principles of juſtice. If it was right to extend their duration to ſeven years, they might alſo perpetuate their authority; and thus cut off even the ſhadow of a nomination. The bill, however, paſſed both houſes, and all objections to it were conſidered as diſaffection. The people might murmur at this encroachment, but it was too late for redreſs.

390 Britain threatened with an invaſion by Char. XII.

Domeſtic concerns being thus adjuſted, the king reſolved upon a voyage to the continent. He foreſaw a ſtorm gathering from Sweden. Charles XII. was highly provoked againſt him for having entered into a confederacy with the Ruſſians and Danes during his abſence at Bender, and for having purchaſed from the king of Denmark the towns of Bremen and Verden, which conſtituted a part of his dominions. In conſequence of this, Charles maintained a cloſe correſpondence with the diſſatisfied ſubjects of Great Britain; and a ſcheme was formed for landing a conſiderable body of Swediſh forces, with the king at their head, in ſome part of the iſland, where it was expected they would be joined by all the malecontents in the kingdom. Count Gyllenburg, the Swediſh miniſter in London, was peculiarly active in the conſpiracy; but being ſeized, with all his papers, by order of the king, the confederacy was broke for that time. A bill, however, was paſſed by the commons, forbidding all commerce with Sweden; the trade with which country was at that time of the utmoſt conſequence to the Engliſh merchants. George having paſſed through Holland to Hanover, in order to ſecure his German dominions, entered into a new treaty with the Dutch and the regent of France, by which they agreed mutually to aſſiſt each other in caſe of an invaſion; and for his further ſecurity, the commons granted him 250,000*l.* But the death of the Swediſh monarch, who was ſoon after killed at the ſiege of Fredericſhall in Norway, put at end to all diſquietude from that quarter.

Among the many treaties for which this reign was remarkable, one had been concluded, which was called the *quadruple alliance*. It was agreed between the emperor, France, Holland, and Britain, that the emperor ſhould renounce all pretenſions to the crown of Spain, and exchange Sardinia for Sicily with the duke of Savoy; that the ſucceſſion to the dutchies of Tuſcany, Parma, and Placentia, ſhould be ſettled on the queen of Spain's eldeſt ſon, in caſe the preſent poſſeſſors ſhould die without male iſſue. This treaty, however, was by no means agreeable to the king of Spain; and conſequently it became prejudicial to the Engliſh, as it interrupted the commerce with that kingdom. 391 War with Spain. A war ſoon after commenced between Spain and the emperor, who was conſidered as the principal contriver of the treaty; and a numerous body of Spaniſh forces were ſent into Italy to ſupport Philip's pretenſions in that quarter. The regent of France attempted in vain to diſſuade him, and the king of Britain offered his meditation with the like bad ſucceſs; their interpoſition was conſidered as partial and unjuſt. A Spaniſh war was then reſolved on. A ſquadron of 22 ſhips was equipped with all expedition, the command of which was given to Sir George Byng, and ordered to ſail for Naples, at that time threatened with a Spaniſh army. He was received with the greateſt joy by the Neapolitans; who informed him that the Spaniards, to the amount of 30,000, were then actually landed in Sicily. In this exigence, as no aſſiſtance could be given by land, he reſolved to ſail thither, fully determined to purſue the Spaniſh fleet on which the army was embarked. Upon coming round Capt. Faro, he perceived two ſmall Spaniſh veſſels; and purſuing them cloſely, they led him to their main fleet, which, before noon, he diſcovered in line of battle, amounting in all to 27 ſail. The Spaniards, however, notwithſtanding of their ſuperiority in number, attempted to ſail away: but finding it impoſſible to make their eſcape, they kept up a running fight, and the commanders behaved with great courage and activity; in ſpite of which they were all taken except three, which were preſerved by the conduct of one Cammoc, their vice-admiral, a native of Ireland. Sir George Byng behaved on this occaſion with great prudence and reſolution; and the king wrote him a letter with his own hand, approving his conduct.

392 Intended invaſion by the Spaniards.

The rupture with Spain was thought to be favourable to the intereſts of the pretender; and it was hoped that by the aſſiſtance of cardinal Alberoni the Spaniſh miniſter, a new inſurrection might be excited in England. The duke of Ormond was the perſon fixed upon to conduct this expedition: and he obtained from the Spaniſh court a fleet of ten ſhips of war and tranſports, having on board 6000 regular troops, with arms for 12,000 more. But fortune was ſtill as unfavorable as ever. Having ſet ſail, and proceeded as far as Cape Finiſterre, he was encountered by a violent ſtorm, which diſabled his fleet, and fruſtrated the expedition. This misfortune, together with the bad ſucceſs of the Spaniſh arms in Sicily and other parts of Europe, induced Philip to wiſh for a ceſſation of arms; and he at laſt conſented to ſign the quadruple alliance, by which means peace was again reſtored to Europe.

393 Iriſh parliament made dependent on that of Britain.

Tranquillity being thus eſtabliſhed, the miniſtry proceeded to ſecure the dependency of the Iriſh parliament on that of England. One Maurice Anneſley had appealed to the houſe of peers of England from a decree made by the Iriſh peers, and their decree was reverſed. The Britiſh peers ordered the barons of exchequer in Ireland to put Mr. Anneſley in poſſeſſion of the lands he had loſt by the decree of the lords in that kingdom. The barons obeyed this order; and the Iriſh peers paſſed a vote againſt them, as having attempted to diminiſh the juſt privileges of the parliament of Ireland; and at the ſame time ordered the barons to be taken under the cuſtody of the black rod. On the other hand, the houſe of lords in England reſolved, that the barons of the exchequer in Ireland had acted with courage and fidelity; and addreſſed the king to ſignify his approbation of their conduct, by ſome marks of his favour. To complete their intention, a bill was prepared, by which the Iriſh houſe of lords was deprived of all right of final juriſdiction. This bill was oppoſed in both houſes, but particularly by the commons. It was there aſſerted by Mr Pitt, that it would only increaſe the power of the Engliſh peers, who were already but too formidable. Mr Hungerford demonſtrated, that the Iriſh lords had always exerted their power of finally deciding cauſes. Notwithſtanding all oppoſition, the bill was carried by a great majority, and ſoon after received the royal aſſent.

394 South-ſea ſcheme.

This blow was ſeverely felt by the Iriſh; but was by no means ſo great as that which the Engliſh about this time felt from the *South-Sea ſcheme*, which commenced in the year 1721. To explain this as conciſely as poſſible, it muſt be obſerved, that ever ſince the revolution under king William, the government not having ſufficient ſupplies granted by parliament, or what was granted requiring time to be collected, they were obliged to borrow money from ſeveral different companies of merchants; and among the reſt from that company which traded to the South-ſea. In the year 1716, the government was indebted to this company about nine millions and an half of money; for which they granted at the rate of 6 per cent. intereſt. As this company was not the only one to which government was indebted, Sir Robert Walpole formed a deſign of leſſening the national debts, giving the ſeveral companies an alternative either of accepting a lower intereſt, namely 5 per cent. or of being paid the principal. The different companies choſe rather to accept of the diminiſhed intereſt than to be paid the principal. The South-ſea company, in particular, having augmented their loan to ten millions, were contented to receive 500,000l. annually as intereſt, inſtead of 600,000l. which they uſually received. In the ſame manner, the governors and company of the bank, and other companies, were contented to receive a diminiſhed annual intereſt for their reſpective loans; all which greatly leſſened the debts of the nation.

In this ſituation of things, one *Blount* a ſcrivener propoſed to the miniſtry, in the name of the South-ſea company, to buy up all the debts of the different companies, and thus for the South-ſea company to become the ſole creditors of the ſtate. The terms he offered to government were extremely advantageous. The South-ſea company was to redeem the debts of the nation out of the hands of the private proprietors who were creditors to the government, upon whatever terms they could agree on; and for the intereſt of this money which they had thus redeemed and taken into their own hands, they would be contented to be allowed by government 5 per cent. for ſix years; after which the intereſt ſhould be reduced to 4 per cent. and ſhould at any time be redeemable by parliament. For theſe purpoſes a bill paſſed both houſes. But now came the part of the ſcheme big with fraud and ruin. As the directors of the South-ſea company could not of themſelves be ſuppoſed to poſſeſs ſo much money as was ſufficient to buy up the debts of the nation, they were empowered to raiſe it by opening a ſubſcription to an imaginary ſcheme for trading in the South ſeas; from which commerce immenſe advantages were promiſed, and ſtill greater expected by the rapacious credulity of the people. All the creditors of government, therefore, were invited to come in, and exchange their ſecurities, *viz.* the ſecurity of government, for that of the South-ſea company. The directors books were no ſooner opened for the firſt ſubſcription, than crowds came to make the exchange of government ſtock for South-ſea ſtock. The deluſion was artfully continued and ſpread. Subſcriptions in a few days ſold for double the price they had been bought at. The ſcheme ſucceeded beyond even the projector's hopes, and the whole nation was infected with a ſpirit of avaricious enterprize. The infatuation prevailed; the ſtock increaſed to a ſurpriſing degree, even to near ten times the value of what it was firſt bought for.

After a few months, however, the people waked from their dream of riches; and found that all the advantages they expected were merely imaginary, while thouſands of families were involved in one common ruin. 395 Directors puniſhed. Many of the directors, by whoſe arts the people were taught to expect ſuch great benefits from a traffic to the South ſeas, had amaſſed conſiderable fortunes by the credulity of the public. It was ſome conſolation, however, to the people to find the parliament ſharing in the general indignation, and reſolving to ſtrip thoſe unjuſt plunderers of their poſſeſſions. Orders were firſt given to remove all the directors of the South-ſea company from their ſeats in parliament, and the places they poſſeſſed under government. The principal delinquents were puniſhed by a forfeiture of all ſuch poſſeſſions and eſtates as they had acquired during the continuance of this popular frenzy. The next care was to redreſs the ſufferers. Several juſt and uſeful reſolutions were taken by parliament, and a bill was ſpeedily prepared for repairing the late ſufferings as far as the inſpection of the legiſlature could extend. Of the profit riſing from the South-ſea ſcheme, the ſum of ſeven millions were given back to the original proprietors; ſeveral additions were alſo made to their dividends out of what was poſſeſſed by the company in their own right; and the remaining capital ſtock was alſo divided among the old proprietors at the rate of 33 per cent.—In the mean time, petitions from all parts of the kingdom were preſented to the houſe demanding juſtice; and the whole nation ſeemed exaſperated to the higheſt degree. Public credit ſuſtained a terrible ſhock. Some principal members of the miniſtry were deeply concerned in theſe fraudulent tranſactions. The bank was drawn upon faſter than it could ſupply; and nothing was heard but the ravings of diſappointment, and the cries of deſpair.

396 Unſucceſsful expedition of admiral Hoſier.

By degrees, however, the effects of this terrible calamity wore off, and matters returned to their former tranquillity. A new war with Spain commenced. Admiral Hoſier was ſent to South America to intercept the Spaniſh galleons; but the Spaniards, being apprized of his deſign, relanded their treaſure. The greateſt part of the Britiſh fleet ſent on that expedition was rendered entirely unfit for ſervice. The ſeamen were cut off in great numbers by the malignity of the climate and the length of the voyage, while the admiral himſelf is ſaid to have died of a broken heart. In order to retaliate theſe hoſtilities, the Spaniards undertook the ſiege of Gibraltar; but with as little ſucceſs on their ſide. In this diſpute France offered her mediation; and ſuch a reconciliation as treaties could procure was the conſequence: a temporary peace enſued; both ſides only watching an opportunity to renew hoſtilities with advantage.

397 Death of king Geo. I.

Soon after the breaking up of the parliament in the year 1727, the king reſolved to viſit his electoral dominions of Hanover. Having appointed a regency in his abſence, he embarked for Holland, and lay, upon his landing, at a little town called *Voet*. Next day he proceeded on his journey; and in two days more, between ten and eleven at night, arrived at Delden, to all appearance in perfect health. He ſupped there very heartily and continued his journey early the next morning; but between eight and nine ordered his coach to ſtop. It being perceived that one of his hands lay motionleſs, monſier Fabrice, who had formerly been ſervant to the king of Sweden, and who now attended king George, attempted to quicken the circulation, by chafing it between his own. As this had no effect, the ſurgeon who followed on horſeback was called, and he rubbed it with ſpirits. Soon after the king's tongue began to ſwell, and he had juſt ſtrength enough to bid them haſten to Oſnaburgh. Then, falling inſenſible into Fabrice's arms, he never recovered; but expired about 11 o'clock the next morning, in the 68th year of his age, and 13th of his reign. His body was conveyed to Hanover, and interred among his anceſtors.

398 George II. ſucceeds.

399 Conteſts between the court and country parties.

On the acceſſion of George II. the two great parties into which the nation had ſo long been divided, again changed their names, and were now called the *court* and *country* parties. Throughout the greateſt part of this reign, there ſeem to have been two objects of controverſy, which roſe up in debate at every ſeſſion, and tried the ſtrength of the opponents; theſe were the national debt, and the number of forces to be kept in pay. The government on the preſent king's acceſſion owed more than 30,000,000 of money; and tho' there was a long continuance of profound peace, yet this ſum was found conſtantly increaſing. It was much wondered at by the country party how this could happen, and it was as conſtantly the buſineſs of the court to give plauſible reaſons for the increaſe. Thus, demands for new ſupplies were made every ſeſſion of parliament, either for the purpoſes of ſecuring friends upon the continent, of guarding the kingdom from internal conſpiracies, or of enabling the miniſtry to act vigorouſly in conjunction with the powers in alliance abroad. It was vainly alleged that thoſe expences were incurred without preſcience or neceſſity; and that the increaſe of the national debt, by multiplying and increaſing taxes, would at laſt become an intolerable burden to the poor. Theſe arguments were offered, canvaſſed, and rejected: the court party was conſtantly victorious, and every demand was granted with cheerfulneſs and profuſion.

400 Account of the charitable corporation.

The next thing worthy of notice in the reign of George II. is the *charitable corporation*. A ſociety of men had united themſelves into a company by this name; and their profeſſed intention was to lend money at legal intereſt to the poor upon ſmall pledges, and to perſons of higher rank upon proper ſecurity. Their capital was at firſt limited to L.30,000, but they afterwards increaſed it to L.600,000. This money was ſupplied by ſubſcription, and the care of conducting the capital was intruſted to a proper number of directors. This company having continued for more than 20 years, the caſhier, George Robinſon, member for Marlow, and the warehouſe-keeper, John Thomſon, diſappeared in one day. Five hundred thouſand pounds of capital were found to be ſunk or embezzled by means which the proprietors could not diſcover. They therefore, in a petition, repreſented to the houſe the manner in which they had been defrauded, and the diſtreſs to which many of the petitioners were reduced. A ſecret committee being appointed to examine into this grievance, a moſt iniquitous ſcene of fraud was ſoon diſcovered, which had been carried on by Thomſon and Robinſon, in concert with ſome of the directors, for embezzling the capital, and cheating the proprietors. Many perſons of rank and quality were concerned in this infamous conſpiracy; and even ſome of the firſt characters in the nation did not eſcape cenſure. No leſs than ſix members of parliament were expelled for the moſt ſordid acts of knavery. Sir Robert Sutton, Sir Archibald Grant, and George Robinſon, for their frauds in the management of the charitable corporation ſcheme; Dennis Bond, and ſerjeant Burch, for a fraudulent ſale of the late unfortunate earl of Derwentwater's eſtate; and laſtly, John Ward, of Hackney, for forgery. It was at this time aſſerted in the houſe of Lords, that not one ſhilling of the forfeited eſtates was ever applied to the ſervice of the public, but became the reward of fraudulence and venality.

401 Exciſe ſcheme rejected.

This happened in the year 1731; and in 1732, a ſcheme was formed by Sir Robert Walpole of fixing a general exciſe. He introduced it by recounting the frauds practiſed by the factors in London that were employed in ſelling the American tobacco. To prevent theſe frauds, he propoſed that inſtead of having the cuſtoms levied in the uſual manner upon tobacco, all hereafter to be imported ſhould be lodged in warehouſes appointed for that purpoſe by the officers of the crown; and ſhould from thence be ſold, upon paying the duty of 4d. per pound, when the proprietor found a purchaſer. This propoſal raiſed a violent ferment, both within doors and without. At laſt, the fury of the people was worked up to ſuch a pitch, that the parliament-houſe was ſurrounded by multitudes, who intimidated the miniſtry, and compelled them to drop the deſign. The miſcarriage of the bill was celebrated with public rejoicings in London and Weſtminſter, and the miniſter was burned in effigy by the populace at London.

402 Parliament diſſolved.

On this occaſion an attempt was made to repeal the ſeptennial bill, and bring back triennial parliaments, as ſettled at the Revolution. But notwithſtanding the warmth of the oppoſition, the miniſtry, exerting all their ſtrength, were victorious, and the motion was ſuppreſſed by the majority. However, as on this occaſion the country party ſeemed to have gained ſtrength, it was thought proper to diſſolve the parliament; and another was called by the ſame proclamation.

The ſame diſputes were carried on in this parliament as in the former. New ſubjects of controverſy offered every day, and both ſides were eager to ſeize them. A convention agreed on by the miniſtry at the Prado, with Spain, became an object of warm altercation. By this the court of Spain agreed to pay 95,000l. to the Engliſh, as a ſatisfaction for all demands; and to diſcharge the whole in four months from the day of ratification. This, however was conſidered as not equivalent to the damages that had been ſuſtained, which were ſaid to amount to 340,000l. On this occaſion the miniſter was provoked into unuſual vehemence, and branded the oppoſite party with the appellation of traitors. The miniſtry, as uſual were victorious; and the country party finding themſelves out-numbered and out-voted in every debate, reſolved to withdraw forever: Walpole, being thus left without oppoſition, took the opportunity of paſſing ſeveral uſeful laws in their abſence, in order to render the oppoſite party odious or contemptible.

403 War with Spain.

404 Porto Bello taken.

In 1739, a new war commenced with Spain. Ever ſince the treaty of Utrecht, the Spaniards in America had inſulted and diſtreſſed the commerce of Great-Britain; and the Britiſh merchants had endeavoured to carry on an illicit trade in their dominions. As a right of cutting logwood in the bay of Campeachy, claimed by the Britiſh, gave them frequent opportunities of puſhing in contraband commodities upon the continent, the Spaniards reſolved to put a ſtop to the evil by refuſing liberty to cut logwood in that place. The Spaniſh guarda-coſtas continued their ſeverities upon the Britiſh, and many Britiſh ſubjects were ſent to dig in the mines of Potoſi. One remonſtrance followed another to the court of Madrid; but the only anſwers given were promiſes of inquiry, which produced no reformation. In 1739, war was declared with all proper ſolemnity; and ſoon after, admiral Vernon, with ſix ſhips only, deſtroyed all the fortifications of Porto Bello, and came away victorious, with ſcarce the loſs of a man.

405 Anſon's expedition.

As the war was thus ſucceſsfully begun, ſupplies were cheerfully granted to proſecute it with all imaginable vigour. Commodore Anſon was ſent with a ſquadron of ſhips to diſtreſs the enemy in the South ſeas, and to co-operate occaſionally with admiral Vernon acroſs the iſthmus of Darien. This ſquadron was deſigned to act a ſubordinate part to a formidable armament that was to be ſent againſt New Spain; but through the miſmanagement of the miniſtry both theſe ſchemes were fruſtrated. Anſon was detained till too late in the ſeaſon; he then ſet out with five ſhips of the line, a frigate, and two ſtore-ſhips, with about 1400 men. Coming into the ſtormy South ſeas at a very wrong ſeaſon of the year, he encountered the moſt terrible ſtorms; his fleet was diſperſed, and his crew deplorably afflicted with the ſcurvy; ſo that with much difficulty he gained the delightful iſland of Juan Fernandez. Here he was joined by one ſhip and a frigate of ſeven guns. From thence ſailing along the coaſt of Chili, he plundered and burnt the town of Paita. He next traverſed the great Pacific ocean, in hopes of meeting with one of the immenſely rich galleons that trade from the Philippine iſlands to Mexico. Having refreſhed his men at the iſland of Tinian, he ſet forward for China; and returning the ſame way he came, at laſt diſcovered the galleon. Her he engaged, and took; and with this prize, valued at 313,000l. together with other captures to the value of about as much more, he returned home after a voyage of three years. By this expedition the public ſuſtained the loſs of a fine ſquadron of ſhips, but a few individuals became poſſeſſed of immenſe fortunes.

406 Unſucceſsful attempt on Carthagena.

The other expedition ended ſtill more unfortunately. The armament conſiſted of 29 ſhips of the line, and almoſt an equal number of frigates, furniſhed with all kinds of warlike ſtores, near 15,000 ſeamen, and as many land forces. The moſt ſanguine hopes of ſucceſs were entertained; but the miniſtry detained the fleet without any viſible reaſon, till the ſeaſon for action in America was almoſt over. At laſt, however, they arrived before the wealthy city of Carthagena. They ſoon became maſters of the ſtrong forts which defended the harbour. But though by this means they advanced a good deal nearer the town, they found great difficulties ſtill before them. It was aſſerted, that the fleet could not lie near enough to batter the town, and therefore the remaining forts muſt be attempted by ſcalade. This dangerous experiment was tried; the guides were ſlain by the enemy's fire, and then the forces miſtook their way. Inſtead of attempting the weakeſt place of the fort, they attacked the ſtrongeſt, and where they were expoſed to the fire of the whole town. Their ſcaling ladders were too ſhort; and, at laſt, after bearing a dreadful fire with great reſolution for ſome hours, they retreated, leaving 600 men dead on the ſpot. The terrors of the climate now began to be more dreadful than thoſe of war. The rainy ſeaſon commenced with ſuch violence, that it was impoſſible for the troops to continue their encampment. To theſe calamities was added the diſſenſion between the ſea and land commanders, who blamed each other, and at laſt could be only brought to agree in one mortifying meaſure, *viz.* to reimbark the troops, and withdraw them as quick as poſſible.

407 Reſignation of Sir Robert Walpole.

The miſcarriage of this enterprize produced the greateſt diſcontents; eſpecially as other cauſes of complaint were now joined with it. Sir John Norris had twice ſailed to the coaſt of Spain at the head of a very powerful ſquadron, without doing any thing to the purpoſe. The commerce of Britain was greatly annoyed by the Spaniſh privateers, who had taken 407 ſhips ſince the commencement of the war; while the Britiſh fleets ſeemed to be quite inactive, and to ſuffer one loſs after another, without endeavouring in the leaſt to make proper repriſals. Theſe diſcontents burſt all at once upon Sir Robert Walpole; a majority in the houſe of commons was formed againſt him; he was created earl of Orford, the parliament being adjourned for a few days for that purpoſe; and he reſigned all his employments.

408 An army ſent into Flanders.

The removal of this miniſter gave univerſal ſatisfaction. His antagoniſts entertained great hopes of ſeeing him puniſhed: but he had laid his ſchemes too well to be under any apprehenſions on that account; and what was worſe, the new miniſtry were no ſooner got in, than they trod in the footſteps of thoſe they had ſo much exclaimed againſt. The nation had now become diſguſted with naval operations. The people wiſhed for a renewal of their victories in Flanders, and the king ardently joined in the ſame wiſh. An army of 16,000 men was therefore ſhipped over into Flanders, to take part in the quarrels that were then beginning on the continent. Immenſe triumphs were expected from this undertaking; but they forgot that the army was not now commanded by the duke of Marlborough.

409 Origin of the continental war.

In order to give ſome notion of the origin of theſe continental quarrels, it is neceſſary to go back for ſome years. After the duke of Orleans, who had been regent of France, died, cardinal Fleury undertook to ſettle the confuſion in which the kingdom was then involved. Under him France repaired her loſſes, and enriched herſelf by commerce. During the long interval of peace which this miniſter's counſels had procured for Europe, two powers, till now unregarded, began to attract the notice and jealouſy of the neighbouring nations. Theſe were Ruſſia and Pruſſia. The other ſtates were but little prepared to renew war. The empire remained under the government of Charles VI. who had been placed on the throne by the treaty of Utrecht. Sweden continued to languiſh from the deſtructive projects of Charles XII. Denmark was powerful enough, but inclined to peace; and part of Italy ſtill remained ſubject to thoſe princes who had been impoſed upon it by foreign treaties.

All theſe ſtates, however, continued to enjoy a profound peace, until the death of Auguſtus king of Poland, by which a general flame was once more kindled in Europe. The emperor, aſſiſted by the arms of Ruſſia. declared for the elector of Saxony, ſon to the deceaſed king. On the other hand, France declared for Staniſlaus, who had long ſince been nominated king of the Poles by Charles of Sweden, and whoſe daughter the king of France had ſince married. Staniſlaus was gladly received at Dantzic, and acknowledged king of Poland; but here he was beſieged by 10,000 Ruſſians, the city taken, and he himſelf with difficulty made his eſcape. France, however, ſtill reſolved to aſſiſt him, as this, it was thought, would be the moſt effectual method of diſtreſſing the houſe of Auſtria. Theſe views of France were ſeconded by Spain and Sardinia, both of which hoped to grow rich by the ſpoils of Auſtria. A French army, therefore, over-ran the empire, under the conduct of the old marſhal Villars; while the duke of Montemar, the Spaniſh general, was equally victorious in the kingdom of Naples. The emperor was ſoon obliged to ſue for peace; which was granted, but Staniſlaus was neglected in the treaty. It was ſtipulated that he ſhould renounce all claim to the kingdom of Poland; for which the emperor gratified France with the duchy of Lorraine, and ſome other valuable territories.

410 Deſperate ſituation of the queen of Hungary.

The emperor dying in the year 1740, the French began to think this a favourable opportunity for exerting their ambition. Regardleſs of treaties, therefore, particularly that called the *Pragmatic Sanction*, by which the late emperor's dominions were ſettled upon his daughter, they cauſed the elector of Bavaria to be crowned emperor. Thus the queen of Hungary, daughter of Charles VI. was at once ſtripped of her inheritance, and was left for a whole year deſerted by all Europe, and without any hopes of ſuccour. At the ſame time ſhe loſt the province of Sileſia by an irruption of the young king of Pruſſia, who took the opportunity of her defenceleſs ſtate to renew his pretenſions to that province, of which his anceſtors had been unjuſtly deprived. France, Saxony, and Bavaria, attacked the reſt of her dominions: Britain was the only ally that ſeemed willing to aſſiſt her; in which, however, Sardinia, Holland, and Ruſſia, ſoon after concurred.

It muſt be owned that Britain had no other reaſon for interfering in theſe diſputes, than that the ſecurity of the electorate depended upon nicely balancing the different intereſts of the empire; and the miniſtry were willing to gratify the king. His majeſty informed the parliament, that he had ſent a body of Britiſh forces into the Netherlands, which he had augmented by 16,000 Hanoverians, to make a diverſion upon the dominions of France, in favour of the queen of Hungary. When the ſupplies came to be conſidered by which this additional number of Hanoverian troops was to receive pay from Britain for defending their own cauſe, moſt violent parliamentary debates enſued; but the miniſtry carried their point by the ſtrength of numbers.

411 Relieved by the Britiſh forces.

But, however prejudicial theſe continental meaſures might be to be true intereſts of Great Britain, they effectually retrieved the queen of Hungary's deſperate affairs, and ſoon began to turn the ſcale of victory on her ſide. The French were driven out of Bohemia. Her general, prince Charles, at the head of a large army, invaded the dominions of Bavaria. Her rival, the nominal emperor, was obliged to fly before her; and being abandoned by his allies, and ſtripped even of his hereditary dominions, retired to Frankfort, where he lived in obſcurity.

412 Battle of Dettingen.

In the mean time, the Britiſh and Hanoverian army advanced in order to effect a junction with that of prince Charles of Lorrain, in which caſe they would have outnumbered their enemies. To prevent this, the French oppoſed an army of 60,000 men, under the command of the marſhal de Noailles, who poſted his troops on the eaſt ſide of that river. The Britiſh army was commanded by the earl of Stair, who had learned the art of war under the great prince Eugene; nevertheleſs, he ſuffered himſelf to be encloſed by the enemy on every ſide, near a village called *Dettingen*. In this ſituation, the whole army, with the king himſelf, who had by this time arrived in the camp, muſt have been taken had the French behaved with prudence. Their impetuoſity, however, ſaved the whole army. They paſſed a defile, which they ought to have contented themſelves with guarding; and, under the conduct of the duke of Gramont, their horſe charged the Britiſh foot with great fury. They were received with great reſolution; and at laſt obliged to repaſs the Mayne with precipitation, and the loſs of about 5000 men.

413
Intended invaſion of Britain by the French.

Though the Britiſh were victorious in this engagement, the French were very little diſconcerted by it. They oppoſed prince Charles, and interrupted his attempts to paſs the Rhine. In Italy they alſo gained ſome advantages; but their chief hopes were placed on an intended invaſion of England. From the violence of parliamentary diſputes in England, France had been perſuaded that the country was ripe for a revolution, and only wanted the preſence of the pretender to bring about a change. An invaſion was therefore actually projected. The troops deſtined for the expedition amounted to 15,000; and preparations were made for embarking them at Dunkirk, and ſome of the ports neareſt to England, under the eye of the young pretender. The duke de Roquefuille, with 20 ſhips of the line, was to ſee them ſafely landed on the oppoſite ſhore, and the famous count Saxe was to command them when landed. But the whole project was diſconcerted by the appearance of Sir John Norris, who with a ſuperior fleet made up to attack them. The French fleet was obliged to put back; a very hard gale of wind damaged their tranſports beyond redreſs; and the French, now fruſtrated in their ſcheme of a ſudden deſcent, thought fit openly to declare war.

The national joy for Sir John Norris's ſucceſs, however, was ſoon damped by the miſcarriage of admirals Matthews and Leſtock; who, thro' a miſunderſtanding between themſelves, ſuffered a French fleet of 34 ſail to eſcape them near Toulon. In the Netherlands the Britiſh arms were attended with ſtill worſe ſucceſs. The French had there aſſembled an army of 120,000 men, commanded by count Saxe, natural ſon to the late king of Poland, an officer of great experience. The Engliſh were headed by the duke of Cumberland, who had an inferior army, and was much inferior in the knowledge of war to the French general. Count Saxe, therefore, carried all before him.

414
Battle of Fontenoy.

In 1743, he beſieged Fribourg, and in the beginning of the campaign 1744, inveſted the ſtrong city of Tournay. To ſave this place, if poſſible, the allies reſolved to hazard an engagement; and on this enſued the bloody battle of Fontenoy, in which the allies left on the field of battle near 12,000 men, and the French almoſt an equal number. In conſequence of this victory, Tournay was ſoon after taken by the French. To balance this bad ſucceſs, however, admirals Rowley and Warren had retrieved the honour of the Britiſh flag, and made ſeveral rich captures at ſea.

415
Louiſburg taken.

The fortreſs of Louiſburg, a place of great conſequence to the Britiſh commerce, ſurrendered to general Pepperell; while, a ſhort time after, two French Eaſt India ſhips, and a Spaniſh ſhip from Peru laden with treaſure, put into the harbour, ſuppoſing it ſtill their own, and were taken.

416
Young pretender lands in Scotland.

During this gleam of returning ſucceſs, Charles Edward, the ſon of the old pretender to the Britiſh crown, reſolved to make an attempt to recover what he called his right. Being furniſhed with ſome money from France, he embarked for Scotland aboard a ſmall frigate, accompanied by the marquis of Tullibardine, Sir Thomas Sheridan, and ſome others; and for the conqueſt of the whole Britiſh empire only brought with them ſeven officers, and arms for 2000 men.

Fortune, however, ſeemed no way more favourable to this attempt than to others ſimilar to it. His convoy, a ſhip of 60 guns, was ſo diſabled in an engagement with an Engliſh man of war, that it was obliged to return to Breſt, while he continued his courſe to the weſtern parts of Scotland. On the 27th of July 1745, he landed on the coaſt of Lochaber, and was in a little time joined by the Highlanders, to the number of 1500: the miniſtry at firſt could ſcarcely be induced to credit his arrival; but when they could no longer doubt of it, they ſent Sir John Cope with a ſmall body of forces to oppoſe his progreſs.

417
Gains the battle of Preſtonpans.

By this time the young adventurer was arrived at Perth, where he performed the ceremony of proclaiming his father king of Great-Britain. From thence, deſcending towards Edinburgh, and his forces continually increaſing, he entered the capital without oppoſition; but was unable, for want of cannon, to reduce the caſtle. Here he again proclaimed his father; and promiſed to diſſolve the union, which was conſidered as one of the national grievances. In the mean time, Sir John Cope, being reinforced by two regiments of dragoons, reſolved to give the enemy battle. The rebels attacked him near Preſtonpans, and in a few minutes put him and his troops to flight, with the loſs of 500 men.

This victory gave the rebels great influence; and had the pretender marched directly to England, the conſequence might have been fatal to freedom. But he was amuſed by the promiſe of ſuccours which never came; and thus induced to remain in Edinburgh till the ſeaſon for action was loſt. He was joined, however, by the earl of Kilmarnock, lord Balmerino, lords Cromarty, Elcho, Ogilvie, Pitſligo, and the eldeſt ſon of lord Lovat, who with their vaſſals conſiderably increaſed his army. Lord Lovat himſelf, ſo remarkable for his treachery, was an enthuſiaſt in favour of the pretender, but was unwilling to act openly for fear of the miniſtry. But while Charles was thus trifling away his time at Edinburgh, the Britiſh miniſtry were taking effectual methods to oppoſe him. Six thouſand Dutch troops, that had come over to the aſſiſtance of the crown, were diſpatched northward under the command of general Wade; but, as it was then ſaid, theſe could lend no aſſiſtance, being priſoners of France upon their parole, and under engagements not to oppoſe that power for a year. But however this be, the duke of Cumberland ſoon after arrived from Flanders, and was followed by another detachment of dragoons and infantry, well diſciplined and inured to action; and beſides theſe, volunteers offered themſelves in every part of the kingdom.

At laſt, Charles reſolved upon an irruption into

418 Invades England.

England. He entered that country by the weſtern border, and took the town of Carliſle; after which he continued his march ſouthwards, having received aſſurances that a conſiderable body of forces would be landed on the ſouthern coaſts to make a diverſion in his favour. He eſtabliſhed his head-quarters at Mancheſter, where he was joined by about 200 Engliſh formed into a regiment, under the command of colonel Townley. From thence he purſued his march to Darby, intending to go by the way of Cheſter into Wales, where he hoped to be joined by a great number of malecontents; but in this he was prevented by the factions among his followers.

419 Great conſternation at London.

Being now advanced within 100 miles of London, that capital was in the utmoſt conſternation; and had he proceeded with the ſame expedition he had hitherto uſed, perhaps he might have made himſelf maſter of it. But he was rendered incapable of purſuing this, or any other rational plan, by the diſcontents which began to prevail in his army. In fact, the young pretender was but the nominal leader of his forces; his generals, the Highland chiefs, being averſe to ſubordination, and ignorant of command. They were now unanimous in their reſolution to return to their own country, and Charles was forced to comply. They retreated to Carliſle, without any loſs; and from thence croſſing the rivers Eden and Solway, entered Scotland. They next marched to Glaſgow, which was laid under ſevere contributions. From thence advancing to Stirling, they were joined by lord Lewis Gordon at the head of ſome forces which had been aſſembled in his abſence. Other clans likewiſe came in; and from ſome ſupplies of money received from Spain, and ſome ſkirmiſhes with the royaliſts, in which he was victorious, the pretender's affairs began to wear a more promiſing aſpect. Being joined by lord Drummond, he inveſted the caſtle of Stirling, in the ſiege of which much time was conſumed to no purpoſe. General Hawley, who commanded a conſiderable body of forces near Edinburgh, undertook to raiſe this ſiege, and advanced towards the rebel army as far as Falkirk. After two days ſpent in mutually examining each others ſtrength, an engagement enſued, in which the king's forces were entirely defeated with the loſs of their tents and artillery.

420 Rebels reſolve to return.

421 Gain the battle of Falkirk.

422 Entirely defeated at Culloden.

This was the end of all the triumphs of the rebel army. The duke of Cumberland having arrived, was put at the head of the troops at Edinburgh, which amounted to about 14,000 men. With theſe he advanced to Aberdeen, where he was joined by ſeveral of the nobility attached to the houſe of Hanover; the enemy in the mean time retreating before him. He next advanced to the banks of the Spey, a deep and rapid river, where the rebels might have diſputed his paſſage; but their contentions with one another were now riſen to ſuch a height, that they could ſcarce agree in any thing. At laſt they reſolved to wait their purſuers. An engagement enſued at Culloden*, near Inverneſs; in which the rebels were defeated with great ſlaughter, and a final period was put to all the hopes of the young adventurer. The conquerors behaved with the greateſt cruelty; refuſing quarter to the wounded, the unarmed, and the defenceleſs; ſome were ſlain who had only been ſpectators of the combat, and ſoldiers were ſeen to anticipate the baſe employment of the executioner. The duke, immediately after the action, ordered 36 deſerters to be executed: the conquerors ſpread terror wherever they came; and after a ſhort ſpace the whole country round was one dreadful ſcene of plunder, ſlaughter, and deſolation.

423 Adventures of the youg pretender.

Immediately after the engagement, the young pretender fled away with a captain of Fitzjames's cavalry; and when their horſes were fatigued, they both alighted, and ſeparately ſought for ſafety. There is a ſtriking reſemblance between the adventures of Charles II. after the battle of Worceſter, and thoſe of the young pretender after the battle of Culloden. For ſome days he wandered in the country. Sometimes he found refuge in caves and cottages, without any attendance at all. Sometimes he lay in foreſts with one or two companions of his diſtreſs, continually purſued by the troops of the conqueror, there being a reward of 30,000l. offered for taking him either dead or alive. In the courſe of his adventures, he had occaſion to truſt his life to the fidelity of above 50 individuals: not one of whom could be prevailed upon by ſo great a reward as was offered, to betray him whom they looked upon to be their king's ſon.

For ſix months the unfortunate Charles continued to wander in the frightful wilds of Glengary, often hemmed round by his purſuers, but ſtill reſcued by ſome providential accident from the impending danger. At length a privateer of St Maloes, hired by his adherents, arrived in Lochranach, in which he embarked in the moſt wretched attire. He was clad in a ſhort coat of black frize, thead-bare; over which was a common Highland plaid, girt round him by a belt, from which hung a piſtol and dagger. He had not been ſhifted for many weeks; his eyes were hollow, his viſage wan, and his conſtitution greatly impaired by famine and fatigue. He was accompanied by Sullivan and Sheridan, two Iriſh adherents who had ſhared all his calamities; together with Cameron of Lochiel, his brother, and a few other exiles. They ſet ſail for France; and after having been chaſed by two Engliſh men of war, arrived in ſafety at a place called *Roſeau* near Morlaix in Bretagne.

424 He eſcapes to France.

425 Rebels executed.

While the pretender was thus purſued, the ſcaffolds and gibbets were preparing for his adherents. Seventeen officers were hanged, drawn, and quarted, at Kennington-common in the neighbourhood of London; nine were executed in the ſame manner at Carliſle, and eleven at York. A few obtained pardons, and a conſiderable number of the common men were tranſported to America. The earls of Kilmarnock and Cromarty, and lord Balmerino, were tried and found guilty of high treaſon. Cromarty was pardoned: but Kilmarnock and Balmerino were executed; as alſo Mr Radcliffe brother to the earl of Derwentwater, who was ſentenced upon a former conviction. Lord Lovat was tried, and ſuffered ſome time after.

426 New regulations in Scotland.

Immediately after the ſuppreſſion of the rebellion, the legiſlature undertook to eſtabliſh ſeveral regulations in Scotland, which were equally conducive to the hapneſs of the people and the tranquillity of the united kingdoms. The Highlanders had till that time continued to wear the military dreſs of their anceſtors, and never went without arms. In conſequence of this, they conſidered themſelves as a body of people diſtinct from the reſt of the nation, and were ready, upon the ſhorteſt notice, to ſecond the inſurrections of their chiefs. Their habits were now reformed by an act of legiſlature, and they were compelled to wear clothes of the common faſhion. But what contributed ſtill more to their real felicity was the abolition of that hereditary juriſdiction which their chieftains exerted over them. The power of their chieftains was totally deſtroyed, and every ſubject in that part of the kingdom was granted a participation in the common liberty.

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* See *Culloden.*

427 Allies defeated in Flanders.

Soon after the battle of Culloden, the duke of Cumberland returned to Flanders, where he reſumed the command of an army to which he was by no means equal. The French carried every thing before them; and they reduced under their dominions all thoſe ſtrong towns which had been taken by the duke of Marlborough, and formed a barrier to the United Provinces. They gained a conſiderable victory at Roucroux; which, however, coſt them as many men as they deſtroyed of the enemy; but theſe they could more eaſily ſpare, as they were much more numerous. Another victory which they obtained at La Feldt, ſerved to depreſs the allied army ſtill lower. But the taking of Bergen-op-zoom, the ſtrongeſt fortification of Brabant reduced the Dutch to a ſtate of deſperation.

428 Loſſes of the French in other parts.

Theſe victories and ſucceſſes in Flanders were, however, counterbalanced by almoſt equal diſappointments. In Italy, the marſhal Belleiſle's brother, attempting to penetrate, at the head of 34,000 men, into Piedmont, was defeated and killed. A fleet was fitted out for the recovery of Cape Breton, but without ſucceſs. Two others were fitted out, the one to make a deſcent upon the Britiſh colonies in America, and the other to carry on the operations in the Eaſt Indies; but theſe were attacked by Anſon and Warren, and nine of their ſhips taken. Soon after this, commodore Fox, with ſix ſhips of war, took above 40 French ſhips richly laden, from St Domingo; and ſoon after this the French fleet was defeated by admiral Hawke, who took ſeven ſhips of the line and ſeveral frigates.

429 Peace of Aix-la-Chapelle.

For a long time Louis had been deſirous of a general tranquillity; and this deſire he had even expreſſed to Sir John Ligonier, who was taken priſoner at the battle of La Feldt. But now the bad ſucceſs of his admirals at ſea, his armies in Italy, the frequent bankruptcies of his merchants at home, and the election of a ſtadtholder in Holland who gave ſpirit to the oppoſition; all theſe contributed to make him weary of the war, and to propoſe terms of accommodation. This was what the allies had long wiſhed for, but had been aſhamed to demand. A congreſs, therefore, was held at Aix-la-Chapelle, where a treaty was concluded on the following terms. 1. That all priſoners on each ſide ſhould be mutually given up, and all conqueſts reſtored. 2. That the duchies of Parma, Placentia, and Guaſtalla, ſhould be ceded to Don Philip, heir apparent to the Spaniſh crown; after whom theſe dominions ſhould return to the houſe of Auſtria. 3. That the fortifications of Dunkirk towards the ſea ſhould be demoliſhed; and that the Britiſh ſhip annually ſent with ſlaves to the coaſt of New Spain, ſhould have this privilege continued for four years. 4. That the king of Pruſſia ſhould be confirmed in the poſſeſſion of Sileſia, and that the queen of Hungary ſhould be ſecured in the poſſeſſion of her patrimonial dominions. But the moſt mortifying clauſe was, that the king of Great Britain ſhould immediately, after the ratification of this treaty, ſend two perſons of rank to France as hoſtages, until reſtitution ſhould be made of Cape Breton and all other Britiſh conqueſts made during the war. No mention was made of the ſearching Britiſh veſſels in the American ſeas, though this was the original cauſe of the quarrel. The limits of their reſpective poſſeſſions in North America were not aſcertained; nor did they receive any equivalent for thoſe forts which they reſtored to the enemy.

430 Death of the prince of Wales.

In the year 1751, died Frederic prince of Wales, of a pleuriſy thought at firſt to be no way dangerous. He was greatly regretted; for his good nature had rendered him popular, and thoſe who oppoſed the preſent adminiſtration had grounded all their hopes of redreſs upon his acceſſion to the throne.

Some time before this, viz. in the year 1749, a ſcheme was entered upon, which the nation in general imagined would be very advantageous. This was the encouraging thoſe who had been diſcharged the army or navy to become ſettlers in Nova Scotia. This country is cold, barren, and almoſt incapable of cultivation.

431 Hoſtilities renewed.

Nevertheleſs, on account of this barren ſpot, the Engliſh and French renewed the war, which ſoon after ſpread with ſuch terrible devaſtation over every part of the globe. The poſſeſſion of this country was reckoned neceſſary to defend the Engliſh colonies to the north, and to preſerve their ſuperiority in the fiſheries in that part of the world. The French, however, who had been long ſettled in the back parts, reſolved to uſe every method to diſpoſſeſs the new comers, and ſpirited up the Indians to begin hoſtilities. Another ſource of diſpute alſo ſprung up ſoon after in the ſame part of the world. The French, pretending to have firſt diſcovered the mouth of the river Miſſiſippi, claimed the whole adjacent country towards New Mexico on the eaſt, quite to the Apalachian mountains on the weſt. In order to aſſert their claims, as they found ſeveral Engliſh who had ſettled beyond theſe mountains, they diſpoſſeſſed them of their new ſettlements, and built ſuch forts as would command the whole country round about.

Negociations, mutual accuſations, and hoſtilities, firſt took place between the two powers; at length, in 1756, four operations were undertaken by the Britiſh in America at once. Colonel Monkton had orders to drive the French from their encroachments upon the province of Nova Scotia. General Johnſon was ſent againſt Crown Point; General Shirley agaiſt Niagara, to ſecure the forts on the river; and General Braddock againſt Fort du Queſne. In theſe expeditions, Monkton was ſucceſsful; Johnſon alſo was victorious, though he failed in taking the fort againſt which he was ſent; Shirley was thought to have loſt the ſeaſon of operation by delay; and Braddock was defeated and killed.

In return for this bad ſucceſs, the Britiſh made repriſals at ſea: and in this they were ſo ſucceſsful, that the French navy was unable to recover itſelf during the continuance of the war that was ſhortly after declared on both ſides. The firſt ſtep of the French was to threaten an invaſion. Several bodies of their troops were ſent down to the coaſts that lay oppoſite to the Britiſh ſhores; theſe were inſtructed in the manner of embarking and relanding from flat-bottomed boats, which were made in great numbers for that expedition.

The number of men amounted to 50,000: but all diſcovered the utmoſt reluctance to the undertaking. The miniſtry were greatly alarmed. They applied to the Dutch for 6000 men, which they were by treaty obliged to furniſh in caſe of an invaſion. This ſupply was refuſed; the Dutch alleging, that their treaty was to ſend the troops in caſe of an actual, and not a threatened, invaſion. The king, therefore, finding he could not have the Dutch forces till their aſſiſtance would be too late, deſiſted entirely from his demand; and the Dutch with great amity returned him thanks for withdrawing his requeſt. Upon this, 10,000 Heſſians and Hanoverians were brought over. But this occaſioned great diſcontent. The miniſtry were reviled for ſuch diſgraceful condeſcenſion, as if the nation was unable to defend itſelf. The people only demanded a vigorous exertion of their own internal ſtrength, and then feared no force that could be led to invade them.

432
Minorca invaded.

The Britiſh invaſion, however, never took place: but a French army landed in Minorca, and inveſted the citadel of St Philip's, which was reckoned the ſtrongeſt in Europe; but the garriſon was weak, and no way fitted to ſtand a vigorous ſiege. To raiſe this ſiege, admiral Byng was diſpatched with a ſquadron of ten men of war, with orders to relieve Minorca, or at any rate to throw a body of troops into the garriſon. This laſt he reckoned too hazardous an undertaking; nor did he even attempt it. Soon after, a French fleet appeared nearly equal in force to his own; but the admiral reſolved to act only upon the defenſive. The French advanced; a ſlight engagement enſued with part of the Engliſh fleet; after which, the French ſlowly ſailed away, and another opportunity never occurred of coming to a cloſer engagement. After this, it was reſolved in a council of war to return to Gibraltar to refit, and that the relief of Minorca was impracticable. For this conduct Byng was brought home under arreſt, tried, and ſentenced to death. His ſentence was to be ſhot; and he ſuffered with the greateſt reſolution, after delivering a paper filled with proteſtations of his innocence as to any treacherous intention.

433
Admiral Byng executed.

434
Treaty with Ruſſia.

435
Oppoſed by the king of Pruſſia.

After the conqueſt of Minorca, the French declared that they would revenge all injuries they ſhould ſuſtain in their colonies on the king of Britain's dominions in Germany. Upon this, the court of London, eager to preſerve Hanover, entered into a treaty with the court of Ruſſia, by which it was ſtipulated, that a body of 50,000 Ruſſians ſhould be ready to act in the Britiſh ſervice, in caſe Hanover ſhould be invaded by the French. For this the czarina was to receive 100,000 l. annually, to be paid in advance. This treaty was oppoſed by the king of Pruſſia. He had long conſidered himſelf as guardian of the intereſts of Germany, and was therefore alarmed at a treaty which threatened to deluge the empire with an army of barbarians. Beſides, he was already apprized of an agreement between the Auſtrians and Ruſſians, by which the latter were to enter the empire and ſtrip him of his late conqueſt of Sileſia. He therefore declared, that he would not ſuffer any foreign forces to enter the empire, either as auxiliaries or principals. The king of Britain now found himſelf obliged to drop his Ruſſian connection, and conclude a treaty with the king of Pruſſia. As both monarchs wiſhed only to prevent the invaſion of Germany, they ſoon came to an agreement to aſſiſt each other mutually. From this alliance a new combination took place among the European powers, quite oppoſite to the former; and their forces were drawn out in the following manner. Britain oppoſed France in America, Aſia, and on the ocean. France attacked Hanover; which the king of Pruſſia undertook to protect, while Britain promiſed him troops and money to aſſiſt his operations. Auſtria had their aims on the dominions of Pruſſia, and drew the elector of Saxony into the ſame deſigns. In theſe views the Auſtrians were ſeconded by France, Sweden, and Ruſſia, who had hopes of acquiring a ſettlement in the weſt of Europe.

436
New combination of the European powers.

437
Unſucceſsful expedition againſt France.

Thus the king of Pruſſia lanched into the tumult of war, having only the king of Britain for his ally, while the moſt potent ſtates of Europe were his antagoniſts. He now performed exploits perhaps unequalled in the annals of modern ages; for a particular account of which, ſee the article PRUSSIA. The Britiſh miniſtry, in order to procure a diverſion in his favour, planned an enterprize againſt the coaſt of France. The deſtination of the fleet equipped for this purpoſe was kept a profound ſecret. At laſt it appeared before Rochford; where the commanders, having trifled away their time in deliberating how to proceed, ſecured the little iſland to Aix, an eaſy and an uſeleſs conqueſt: ſoon after which, they returned home, without attempting any thing elſe. By this miſcarriage the miniſtry were ſo diſcouraged, that they had thoughts of abandoning the king of Pruſſia to his fate; and the king was actually meditating a negociation of this nature, when he was prevented by the expoſtulations of his diſtreſſed ally. From motives of generoſity, therefore, more than of intereſt, it was reſolved to continue to aſſiſt him; and ſucceſs, which had long fled from the Britiſh arms, once more began to return with double ſplendour.

438
Britiſh ſucceſs in the Eaſt Indies.

439
Mr Pitt comes into power.

It was in the Eaſt Indies where this returning ſucceſs firſt began to appear (for an account of which ſee the article INDOSTAN); and their conqueſts in the weſtern part of the world were about this time ſtill more ſplendid than thoſe in the eaſt. But theſe ſucceſſes muſt, partly at leaſt, be aſcribed to the vigorous adminiſtration of Mr William Pitt, who about this time came into power. An expedition was ſet on foot againſt Cape Breton, under general Amherſt and admiral Boſcawen; another, under general Abercrombie, againſt Crown Point and Ticonderago; and a third, under brigadier-general Forbes, againſt Fort du Queſne. The fortreſs of Louiſburg, which defended the iſland of Cape Breton, was very ſtrong both by nature and art; the garriſon was numerous, the commander vigilant, and every precaution had been taken to prevent a landing. But the activity of the Britiſh ſurmounted every obſtacle; the place was ſurrendered by capitulation, and its fortifications were demoliſhed. The expedition againſt Fort du Queſne was equally ſucceſsful; but that againſt Crown Point once more miſcarried. General Abercrombie attacked the French in their entrenchments, was repulſed with great ſlaughter, and obliged to retire to his camp at Lake George. But though in this reſpect the Britiſh arms were unſucceſsful, yet, upon the whole, the campaign of 1758 was greatly in their favour. The taking of Fort du

Queſne ſerved to remove from their colonies the terror of the incurſions of the Indians, while it interrupted the correſpondence along a chain of forts with which the French had environed the Britiſh ſettlements in America, ſo that the ſucceeding campaign promiſed great ſucceſs.

440 Quebec taken and Canada reduced.

In 1759, it was reſolved to attack the French in ſeveral parts of their empire at once. General Amherſt with a body of 12,000 men was commanded to attack Crown Point; General Wolfe was to undertake the ſiege of Quebec; while General Prideaux and Sir William Johnſon were to attempt a French fort near the cataracts of Niagara. This laſt expedition was the firſt that ſucceeded. The ſiege was begun with vigour, and promiſed an eaſy conqueſt; but general Prideaux was killed in the trenches by the burſting of a mortar, ſo that the whole command devolved on general Johnſon. A body of French troops, ſenſible of the importance of the place, attempted to relieve it; but were utterly defeated and diſperſed; ſoon after which, the garriſon ſurrendered priſoners of war. On his arrival at the forts of Crown Point and Ticonderago, general Amherſt found them deſerted and deſtroyed. There now remained, therefore but one deciſive blow to reduce all North America under the Britiſh dominion; and this was by the taking of Quebec * the capital of Canada. This expedition was commanded by admiral Saunders and general Wolfe. The enterprize was attended with difficulties which appeared unſurmountable; but all theſe difficulties were got over by the conduct of general Wolfe, and the bravery of his men. He engaged and put to flight the French under Montcalm; but, to the great regret of the Britiſh, their general was killed in the action. The ſurrender of Quebec was the conſequence of this victory, which was ſoon followed by the ceſſion of all Canada. The following ſeaſon, indeed, the French made a vigorous effort to recover the city; but by the reſolution of governor Murray, and the appearance of a Britiſh fleet under the command of lord Colvile, they were obliged to abandon the enterprize. The whole province was ſoon after reduced by the prudence and activity of general Amherſt, who obliged the French army to capitulate, and it has ſince remained annexed to the Britiſh empire. About the ſame time alſo the iſland of Guadaloupe was reduced by commodore More and general Hopſon.

* See Quebec.

441 Duke of Cumberland capitulates with the French.

The Britiſh affairs in Germany had at the beginning of the war worn a very unfavourable aſpect. The Hanoverians were commanded by the duke of Cumberland, who was greatly outnumbered by the enemy. He was driven beyond the Weſer, the paſſage of which might have been diſputed with ſome appearance of ſucceſs; but the French were ſuffered to paſs it unmoleſted. The Hanoverians were driven from one part of the country to another, till at length they made a ſtand near a village called *Haſtenback*, where it was hoped the numbers of the enemy would have the leaſt opportunity of coming to a general engagement. The Hanoverians, however, left the field of battle to the French, after a faint reſiſtance. Their enemies purſued, and the duke retired towards Stade; by which means he marched into a country from whence he could neither procure proviſions nor attack the enemy with any hopes of ſucceſs. Here, being unable either to eſcape or advance, he was compelled to ſign a capitulation by which the whole army laid down their arms, and were diſperſed into different quarters of cantonement. By this remarkable capitulation, which was called the *capitulation of Cloſter Seven*, Hanover was obliged to ſubmit quietly to the French, who were now determined to turn their arms againſt the king of Pruſſia.

442 The Hanoverians take up arms.

Soon after this capitulation, both ſides began to complain that the treaty was not ſtrictly obſerved. The Hanoverians exclaimed againſt the rapacity of the French general, and the brutality of his ſoldiers. The French retorted the charge againſt them; accuſed them of inſolence and inſurrection; and, being ſenſible of their own ſuperiority, reſolved to bind them ſtrictly to their terms of agreement. The Hanoverians only wiſhed for a pretence to take arms, and a general to head them. Neither were long wanting. The oppreſſions of the tax-gatherers whom the French had appointed, were conſidered as ſo ſevere, that the army roſe to vindicate the freedom of their country, while Ferdinand, prince of Brunſwick, put himſelf at their head. As ſoon as this was known in Britain, large ſupplies were granted both for the ſervice of the king of Pruſſia, and to enable the Hanoverian army to act vigorouſly in conjunction with him. A ſmall body of Britiſh forces was ſent over to join prince Ferdinand under the duke of Marlborough. After ſome inconſiderable ſucceſſes at Crevelt, the duke of Marlborough dying, the command of the Britiſh forces devolved on lord George Sackville. A miſunderſtanding aroſe between him and prince Ferdinand, which appeared at the battle of Minden that was fought ſhortly after. Lord George pretended that he did not underſtand the orders ſent him by the prince, and of conſequence did not obey them. The allies gained the victory, which would have been more deciſive had the Britiſh commander obeyed his orders. He was ſoon after recalled, tried by a court-martial, found guilty of diſobedience, and declared incapable of ſerving in any military command for the future.

443 French defeated at Minden.

444 German war continued with various ſucceſs.

After this victory it was imagined, that one reinforcement more of Britiſh troops would terminate the war in favour of the allies; and that reinforcement was quickly ſent. The Britiſh army in Germany was augmented to upwards of 30,000 men, and ſanguine hopes of conqueſt were generally entertained. Theſe hopes, however, were ſoon found to be ill founded. The allies were defeated at Corbach; but retrieved their honour at Exdorf. A victory at Warbourgh followed ſhortly after, and another at Zierenberg: but then they ſuffered a defeat at Compen; after which, both ſides retired into winter-quarters.

445 Death of king Geo. II.

On the 25th of October 1760, happened the death of king George II. He had riſen at his uſual hour, and obſerved to his attendants, that as the weather was fine, he would take a walk into the gardens of Kenſington, where he then reſided. In a few minutes after his return, being left alone, he was heard to fall down upon the floor. The noiſe of this bringing his attendants into the room, they lifted him into bed; where he deſired with a faint voice, that the princeſs Amelia might be ſent for: but before ſhe could reach the apartment, he expired, in the 77th year of his age, and 33d of his reign. An attempt was made to bleed him, but without effect; and afterwards the ſurgeons, upon opening him, diſcovered that the right ventricle of the heart was ruptured, and a great quantity of blood diſcharged through the aperture.

446 Great ſucceſs of the Britiſh arms.

King George III. aſcended the throne amidſt the greateſt ſucceſſes both by ſea and land. At this time, indeed, the efforts of Britain in every quarter of the globe were truly aſtoniſhing. The king of Pruſſia received a ſubſidy; a large body of Engliſh forces commanded the extenſive peninſula of India; another army of 20,000 men confirmed their conqueſts in North America; 30,000 men were employed in Germany; and a great many more were diſperſed in the different garriſons in different parts of the world: but all this was ſurpaſſed by the aſtoniſhing naval force, which carried command wherever it came, and had totally annihilated the French maritime power. The courage and conduct of the Engliſh admirals excelled every thing that had been heard of before; neither ſuperior force nor number, nor even the terrors of the tempeſt, could intimidate them. Admiral Hawke gained a complete victory over an equal number of French ſhips, in Quiberon bay on the coaſt of Bretagne, in the midſt of a tempeſt, during the darkneſs of night, and, what a ſeaman fears ſtill more, in the neighbourhood of a rocky ſhore.

447 Propoſals of peace.

As ſoon as his preſent majeſty had met with his parliament, which was on November 18th 1760, he confirmed the hopes of his allies, and gave aſſurances of his intentions to proſecute the war with vigour. By this time, however, the people were in ſome meaſure weary with conqueſts; eſpecially with thoſe in Germany, from which they never could hope for any ſolid advantage, and which were gained at an immenſe expence to the nation. Diſputes concerning the propriety of the German war were carried on, and the general run of popular opinion ſeemed to be rather againſt than for it. For ſome time, however, no change took place in the method of carrying on the war. In 1761, propoſals of peace were made between the belligerent powers of Europe; and for this purpoſe Mr Stanley was ſent to Paris, and M. Buſſy to London: but the French deſigning to draw Spain into a confederacy with them, ſeem not to have been ſincere in their intentions; and thus the treaty came to nothing. An enterprize was projected againſt the iſland of Belleiſle, near the coaſt of France, which was conducted by commodore Keppel and general Hodgſon †. The place was conquered, with the loſs of 1800 men killed and wounded on the part of the Britiſh; and however unimportant this conqueſt might be, the rejoicings on account of it were great. In Germany, the campaign was unſucceſsful on the part of the allies. At firſt, indeed, they drove the French quite out of the territory of Heſſe, and laid ſiege to the city of Caſſel; but being defeated at Stangerode, they were forced to raiſe the ſiege, retire behind Dymel, and again abandon Heſſe to their enemies. Here they were followed and attacked by the French; who, tho' defeated in that attempt, were with difficulty prevented from making themſelves maſters of Munſter and Brunſwick.

All this time an appearance of negociation had been carried on; but at laſt the French having brought their deſigns with the court of Spain to a bearing, Mr Buſſy delivered to Mr Pitt a private memorial, ſignifying, that, in order to eſtabliſh the peace on a laſting foundation, the king of Spain might be induced to guaranty the treaty; and to prevent the differences which then ſubſiſted between Britain and Spain from producing a freſh war in Europe, he propoſed, that in this negociation, the three points which had been diſputed between the crowns of England and Spain might be finally ſettled. Firſt, the reſtitution of ſome captures made upon the Spaniſh flag. Secondly, the privilege of the Spaniſh nation to fiſh upon the banks of Newfoundland. Thirdly, the demolition of the Engliſh ſettlements made in the bay of Honduras. This memorial was returned as wholly inadmiſſible. Mr Pitt declared, that it would be looked upon as an affront to the dignity of his maſter, and incompatible with the ſincerity of the negociation, to make any further mention of ſuch a circumſtance.

448 Spaniſh war propoſed by Mr Pitt.

449 He reſigns, and is created earl of Chatham.

Mr Pitt being now thoroughly convinced of the ſiniſter deſigns of Spain, propoſed immediately to declare war againſt that kingdom. But this propoſal being rejected, he reſigned his employment of ſecretary of ſtate; after which he was created earl of Chatham, and had a penſion of 3000*l.* per annum ſettled upon him for three lives.

450 War with Spain.

451 France and Spain declare war againſt Portugal.

Soon after this, however, the new adminiſtration found that Mr Pitt was in the right, and war was declared between Great Britain and Spain. As Portugal was a uſeful ally of Britain, it was reſolved by the French and Spaniards to attack that kingdom, which was then in no capacity of defending itſelf. The Portugueſe monarch was by the moſt haughty memorials commanded to accede to the confederacy againſt Britain, and threatened with the vengeance of France and Spain in caſe of a refuſal. It was in vain that he promiſed to obſerve a ſtrict neutrality, and urged the obligations he was under to the king of Britain; this moderate and reaſonable reply only drew on more haughty and inſulting anſwers. His Portugueſe majeſty, however, continued to reject their propoſals in the moſt reſolute manner; and concluded his laſt declaration with theſe words, that "it would affect him leſs, though reduced to the laſt extremity of which the great Judge is the ſole arbiter, to let the laſt tile of his palace fall, and to ſee his faithful ſubjects ſpill the laſt drop of their blood, than to ſacrifice, together with the honour of his crown, all that Portugal holds moſt dear; and to ſubmit, by ſuch extraordinary means, to become an unheard of example to all pacific powers, who will no longer be able to enjoy the benefit of neutrality, whenever a war ſhall be kindled between other powers with which the former are connected by defenſive treaties." This declaration was made on the 27th of April 1762; and ſoon after France and Spain jointly declared war againſt Portugal.

452 Portugal invaded.

As the deſign of the courts of France and Spain in making war with Portugal, was profeſſedly to prevent Great Britain from the military and commercial uſe of the ports of that kingdom, their principal endeavours were aimed at the two great ports where the Britiſh uſed to reſide, *viz.* Oporto and Liſbon. With this view, three inroads were to be made; one to the north; another more to the ſouth; while the third was made in the middle provinces, in order to ſuſtain theſe two bodies, and preſerve a communication between them.

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† See *Belleiſle.*

The firſt body of troops was commanded by the marquis of Savria; and entered the north eaſt angle of Portugal, marching towards Miranda. This town might poſſibly have retarded their progreſs, had not a powder magazine been blown up by accident; and the Spaniards entered on the 9th of May by the breaches made by this exploſion. From thence they marched to Braganza, which ſurrendered ſix days after Miranda. Moncorvo was taken in like manner; every thing was clear before them to the banks of the Douro; and they became maſters of almoſt the whole extenſive province of Tralos Montes. Oporto was given up for loſt, and the admiralty prepared tranſports to carry off the effects of the Britiſh merchants. On the banks of the Douro, however, the career of this body was ſtopped. The peaſants, animated, and guided by ſome Britiſh officers, ſeized a difficult paſs, and drove the enemy back to Moncorvo.

The ſecond body of Spaniards entered the province of Beira, at the villages called *Val de Mula*, and *Val de Coelha*. They were joined by ſtrong detachments amounting to almoſt the whole army in Tralos Montes; and immediately laid ſiege to Almeida, the ſtrongeſt and beſt provided place on the frontiers of Portugal. This place was defended with ſufficient reſolution; but, like the reſt, was obliged to ſurrender on the 25th of Auguſt. The Spaniards then over-ran the whole territory of Caſtel Branco, a principal diſtrict of the province of Beira, making their way ſouthward until they approached the banks of the Tagus. During the whole of their progreſs, and indeed during the whole of the campaign, the allied troops of Great Britain and Portugal had nothing that could be called an army in the field, and they could not think of oppoſing the enemy in a pitched battle. All that could be done was by the defence of paſſes, ſkirmiſh, and ſurpriſe.

453
Spaniards defeated by General Burgoyne.

By this time the count of La Lippe Backeburg had arrived in Portugal, to the inexpreſſible joy of the whole nation. The third Spaniſh army had aſſembled on the frontiers of Eſtramadura, with a deſign to invade the province of Alentejo; and had this body of troops been joined to the others, they would probably, in ſpite of all oppoſition, have forced their way to Liſbon itſelf; had it acted ſeparately it might have greatly diſtracted the defendants, ſo as to enable ſome other body of forces to penetrate to that city. The count, therefore, reſolved to prevent their entrance into the kingdom; and with this view diſpatched brigadier-general Burgoyne to attack an advanced body of Spaniards which lay on their frontiers, in a town called *Valentia de Alcantara*. On the 27th of Auguſt, the town was ſurpriſed; the general was taken who intended to have commanded in the invaſion, together with one colonel, two captains, and 17 ſubaltern officers. One of the beſt regiments in the Spaniſh ſervice was alſo entirely deſtroyed; and thus the enemy were in all probability prevented from entering Alentejo.

434
And by colonel Lee.

That part of the Spaniſh army which acted in the territory of Caſtel Branco had made themſelves maſters of ſeveral important paſſes, which they obliged ſome bodies of Portugueſe to abandon. The combined army of Britiſh and Portugueſe pretended to retire before them, in order to draw them into the mountainous tracts. They attacked the rear of the allies, but were repulſed with loſs. Still, however, they continued maſters of the country, and nothing remained but the paſſage of the Tagus to enable them to take up their quarters in the province of Alentejo. This the count deſigned to prevent; and in this ſervice general Burgoyne was employed, who formed a deſign of ſurpriſing them. The execution was committed to colonel Lee, who, in the night of October 6th, fell upon their rear, diſperſed the whole body with conſiderable ſlaughter, deſtroyed their magazines, and returned with ſcarce any loſs. The ſeaſon was now far advanced; immenſe quantities of rain fell; the roads were deſtroyed; and the Spaniards, having ſeized no advanced poſts where they could maintain themſelves, and being unprovided with magazines for the ſupport of their horſe, every where fell back to the frontiers of Spain.

455
Havannah, &c. taken.

No leſs ſucceſsful were the Britiſh arms in America and the Eaſt-Indies. From the French were taken the iſlands of Martinico, St Lucia, St Vincent, and Granada; from the Spaniards, the ſtrong fortreſs called *Havannah*, in the iſland of Cuba. By the acquiſition of the firſt mentioned iſlands, the Britiſh became the ſole and undiſturbed poſſeſſors of all the Caribbees, and held that chain of innumerable iſlands which forms an immenſe bow, extending from the eaſtern point of Hiſpaniola, almoſt to the continent of South America. The conqueſt of the Havannah coſt a number of brave men; more of whom were deſtroyed by the climate than the enemy*. It was in this place that the fleets from the ſeveral parts of the Spaniſh Weſt Indies, called the *galleons* and *flota*, aſſembled, before they finally ſet out on their voyage for Europe. The acquiſition of this place, therefore, united in itſelf all the advantages which can be acquired in war. It was a military advantage of the higheſt claſs: it was equal to the greateſt naval victory, by its effect on the enemy's marine; and in the plunder it equalled the produce of a national ſubſidy. Nine of the enemy's men of war, with four frigates, were taken; three of their capital ſhips had been ſunk in the harbour at the beginning of the ſiege; two more were on the ſtocks in great forwardneſs, and theſe were deſtroyed. In money and valuable merchandiſes, the plunder did not fall ſhort of 3,000,000l. ſterling. To this ſucceſs in the weſtern part of the world may be added the capture of the Spaniſh regiſter-ſhip called the *Hermoine*, by the Active and Favourite king's ſhips. This happened on the 21ſt of May 1762, juſt as ſhe was entering one of the ports of Old Spain, and the prize was little ſhort of 1,000,000l. ſterling.

456
Immenſe plunder found in the place.

457
Capture of the Hermione.

458
Philippines reduced.

In the Eaſt Indies an expedition was undertaken againſt the Philippine iſlands, which was committed to colonel Draper, who arrived for this purpoſe at Madraſs in the latter end of June 1762. The 79th regiment was the only regular corps that could be ſpared for this ſervice. Every thing was conducted with the greateſt celerity and judgment. The Britiſh forces landed on Manilla on the 24th of September; on the 6th of October the governor was obliged to ſurrender at diſcretion; and ſoon after, the galleon bound from Manilla to Acapulco, laden with rich merchandiſe, to the value of more than half a million, was taken by the frigates called the *Argo* and *Panther*. By the conqueſt

459
Manilla galleon taken.

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* See *Havannah*.

of Manilla, 14 conſiderable iſlands fell into the hands of the Britiſh; which from their extent, fertility, and convenience of commerce, furniſhed the materials of a great kingdom. By this acquiſition, joined to former ſucceſſes, they ſecured all the avenues of the Spaniſh trade, and interrupted all communications between the parts of their vaſt but unconnected empire. The conqueſt of the Havannah had cut off, in a great meaſure, the intercourſe of their wealthy continental colonies with Europe: the reduction of the Philippines excluded them from Aſia: and the plunder taken was far more than ſufficient to indemnify the charges of the expedition; a circumſtance not very common in modern wars. It amounted to upwards of a million and a half; of which the Eaſt India company, on whom the charge of the enterprize in a great meaſure lay, were by contract to have a third part.

460 Vaſt extent of the Britiſh dominions.

All this time the war in Germany had continued with the utmoſt violence; the allies under prince Ferdinand had continued to give the higheſt proofs of their valour, but no deciſive advantage could be obtained againſt the French. It was, however, no longer the intereſt of Britain to continue a deſtructive war. There never had been a period ſo fortunate or glorious to that iſland. In the courſe of this war ſhe had conquered a tract of continent of immenſe extent. Her American territory approached to the borders of Aſia, and came near to the frontiers of the Ruſſian and Chineſe dominions. She had conquered 25 iſlands, all of them diſtinguiſhable for their magnitude, their riches, or the importance of their ſituation. By ſea or land ſhe had gained 12 battles, had reduced nine fortified cities, and near 40 caſtles and forts. She had taken or deſtroyed above 100 ſhips of war from her enemies, and acquired at leaſt L. 10,000,000 in plunder.

461 Articles of the peace in 1763.

By ſuch unexampled and wide extended conqueſts, it is no wonder that the French and Spaniards were deſirous of a peace; which was at length concluded at Paris on the 10th of February 1763. The terms granted them were by many thought too favourable. The principal of them were, That the French king ſhould relinquiſh all claims to Nova Scotia: that he ſhould likewiſe give up all the country of Canada; and that for the future the boundary betwixt the Britiſh and French dominions in America ſhould be fixed by a line drawn along the middle of the river Miſſiſippi from its ſource to the river Ibberville, and from thence drawn by a line along the middle of this river, and the lakes Maurepas and Pontchartrain, to the ſea. The iſlands of St Pierre, Miquelon, Martinico, Gaudaloupe, Marigalante, Deſirade, St Lucia, and Belleiſle, were reſtored to France: Minorca, Granada, and the Grenadines, St Vincent, Dominica, and Tobago, were ceded to Britain. In Africa, the iſland of Goree was reſtored to France; and the river Senegal, with all its forts and dependencies, ceded to Great Britain. In the Eaſt Indies, all the forts and factories taken from the French, were reſtored. In Europe, the fortifications of Dunkirk were to be deſtroyed; and all the countries, fortreſſes, &c. belonging to the electorate of Hanover. the duke of Brunſwic, and the count of La Lippe Buckeburg, reſtored. With regard to Spain, the Britiſh fortifications on the bay of Honduras were to be demoliſhed; and the Spaniards were to deſiſt from their claim of a right to fiſh on the Newfoundland bank. The Havannah was reſtored; in conſequence of which, Florida, St Auguſtine, and the bay of Penſacola, were ceded to Britain, and the Spaniards were to make peace with Portugal: all other countries not particularly mentioned were to be reſtored to their reſpective owners at the beginning of the war.

462 Diſcontents increaſed on the concluſion of this treaty.

The concluſion of the war did not by any means tend to heal thoſe diviſions which had ariſen on the reſignation of Mr Pitt; on the contrary, it furniſhed abundant matter of complaint for the diſcontented party, whoſe views ſeem at that time only to have been the embarraſſment and diſturbance of an adminiſtration which they were not able to ſubvert. At the time the treaty was under conſideration, however, only ſome faint attempts were made to oppoſe it; but it ſoon appeared, that though this oppoſition had proved ſo feeble, the ſpirit of the party was far from being exhauſted. The ſtate of affairs at that time indeed greatly favoured the views of thoſe who delighted in turbulence and faction. A long and expenſive war had drained the national treaſure, and greatly increaſed the public debt. Heavy taxes had already been impoſed, and it was ſtill as neceſſary to keep up theſe, and even to impoſe new ones, as though the war had not ceaſed. Thus the bulk of the nation, who imagined that conqueſt and riches ought to go hand in hand, were eaſily induced to believe that adminiſtration arbitrary and oppreſſive, which continued to load them with freſh taxes after ſuch great ſucceſſes as had attended the Britiſh arms for ſome years paſt.

463 Great clamour raiſed by the cyder-tax.

It muſt indeed be owned, that the new adminiſtration appear not to have been ſufficiently wary in this reſpect. Among other methods of raiſing the ſupplies for 1763, they had thought proper to lay a duty of four ſhillings per hogſhead upon cyder, payable by the maker, and to be collected in the ſame manner as other exciſes. The other articles of ſupply furniſhed alſo matter of declamation for the members in oppoſition; but this inflamed the popular fury to a great degree, and made them readily imbibe as truth whatever was thrown out by the minority in their parliamentary debates. Beſides the uſual declamations that it was oppreſſive, unconſtitutional, and injurious to the landholder and farmer, the ſmallneſs of the ſum to be raiſed by it was now urged. This was ſaid to indicate that the ſupplying the wants of government could not be the ſole motive for impoſing ſuch a duty. It was farther urged, with much ſhow of lamentation, that now the houſes of all orders of people, noblemen of the firſt rank not excepted, were liable to be entered and ſearched at the pleaſure of exciſemen, a proceeding which they denominated in expreſs terms "a badge of ſlavery." Thus it was ſpoken of throughout all the cyder counties, by the city of London, and by moſt of the incorporations throughout the kingdom. The city had been diſpleaſed by the late changes in adminiſtration, and had not yet recovered their good humour. They inſtructed their repreſentatives to oppoſe the paſſing of the bill with all poſſible vigour, and gave in petitions againſt it to every branch of the legiſlature; a meaſure till that time totally unprecedented; two proteſts were alſo entered againſt it in the houſe of lords; and in ſhort the kingdom of England was thrown into an almoſt univerſal ferment.

It is not to be doubted that the friends of adminiſtration were able to bring arguments ſufficiently plauſible in favour of their ſcheme; but the utmoſt force of reaſon will go but a very little way in quieting popular clamour; and, while oppoſition was railing againſt miniſtry within doors, every method was taken to excite the fury of the people without. Virulent libels, the audacity of which far exceeded any thing known in former times, now made their appearance; and ſuch was the general intemperance in this reſpect, that it would be difficult to determine which ſide paid leaſt regard to any kind of decency or decorum.

464 Reſignation of the earl of Bute.

In the midſt of this general ferment the earl of Bute unexpectedly reſigned his place of firſt lord of the treaſury. His reſignation quickly became an object of general ſpeculation; by ſome he was highly cenſured for leaving his friends at the time when a little perſeverance might have defeated all the deſigns of his enemies, and eſtabliſhed his own power on the moſt ſolid foundation. Such conduct, they ſaid, muſt diſcourage the friends of government, and at the ſame time give proportionable encouragement to its adverſaries to inſult it, as they perceived miniſtry unable to reſiſt the firſt guſt of popular fury. Others contended, that the earl was, perhaps, the leaſt influenced by popular opinion of any man in the world. He had demonſtrated his firmneſs by taking a lead in the dangerous but neceſſary affair of concluding peace; and, this being accompliſhed, he had fully obtained his end, and performed the ſervice to his country which was deſired. He now reſolved that the factious party ſhould not have even the pretence of objecting his perſonal ambition as the cauſe of diſturbances which they themſelves had excited: and thus his reſignation would tend to put an end to theſe troubles, at the ſame time that it ſhowed the authors of them in their proper colours.

465 Popular ferment ſtill continues.

The event, however, ſhowed that the former reaſoning was, in the preſent caſe, neareſt the truth. The popular reſentment was not in the leaſt abated by the reſignation. His lordſhip, though now withdrawn from the oſtenſible adminiſtration of affairs, was ſtill conſidered as principal director of the cabinet; and this opinion gained the more ground that none of the popular leaders were yet taken in, nor any apparent change made in the conduct of the new adminiſtration.

466 Characters of the new miniſters.

No reaſonable objection could now be made to thoſe who filled the great offices of ſtate. Mr Grenville, who ſucceeded the earl of Bute in the treaſury, was a man of approved integrity, underſtanding, and experience. Lord Holland was univerſally conſidered as a very able man in office, and had already filled many high employments with a great degree of reputation. The other ſecretary lord Egremont, though he had not been long in office, was in every reſpect of an unexceptionable character. The other departments were filled in a ſimilar manner, yet the diſcontents and public clamours were not diminiſhed. It was now ſaid that the new miniſters were not choſen on account of any ſuperior gifts of nature or fortune, but merely becauſe they had the art of inſinuating themſelves into favour at court in ſuch a manner that any inconvenience would be ſubmitted to rather than part with them. The ſole reaſon of their appointment therefore was, that they might act as the paſſive inſtruments of the late miniſter, who, though, from conſiderations of his own perſonal ſafety, he had thought proper ot retire from buſineſs, yet had not abandoned his ambitious projects, but continued to direct every thing as though he had ſtill been preſent. Oppoſition to the new miniſters was therefore oppoſition to him; and it became thoſe who underſtood the true intereſt of their country, and had a real regard for it, not to ſuffer ſuch a ſcheme of clandeſtine adminiſtration.

367 Lord Bute ſuppoſed ſtill to be at the head of adminiſtration.

468 Different political principles of the two parties.

Whether the party who made theſe aſſertions really believed them or not cannot be known; but the effect was exactly the ſame as though they had. The great object of both parties moſt probably was power; but their different ſituations required that they ſhould profeſs different political principles. The friends of lord Bute, and of the ſucceeding adminiſtration, were for preſerving to the crown the full exerciſe of a power which could not be diſputed, *viz.* that of chooſing its own ſervants. Their opponents, without denying this power, contended, that, according to the ſpirit of the conſtitution, the crown ſhould be directed to the exerciſe of this public duty only by motives of national utility, and not by private friendſhip. In appointing the officers of ſtate, therefore, they inſiſted, that reſpect ſhould be paid to thoſe poſſeſſed of great talents, who had done eminent ſervices to the nation, enjoyed the confidence of the nobility, and had influence amongſt the landed and mercantile intereſts. The obſervance of this rule, they contended, was the only proper balance which could be had againſt the enormous influence of the crown ariſing from the diſpoſal of ſo many places; nor could the nation be reconciled to this power by any other means than a very popular uſe of it. Men might indeed be appointed according to the ſtrict letter of the law; but unleſs theſe were men in whom the majority of the nation already put confidence, they never would be ſatisfied, nor think themſelves ſecure againſt attempts on the conſtitution of the kingdom. When miniſters alſo found themſelves recommended to the royal favour, and as it were preſented to their places by the eſteem of the people, they would be ſtudious to deſerve, and ſecure themſelves in it; and upon theſe (which they called the principles of whigs) they ſaid that the government had been honourably conducted ſince the revolution, and the nation would never be at peace till they were again eſtabliſhed on the ſame baſis.

469 Mr Wilkes apprehended on a general warrant.

In the mean time the diſpoſition to libel and invective ſeemed to have gone beyond all bounds. The peace, the Scots, and Scottified adminiſtration, afforded ſuch ſubjects of abuſe to the pretended patriots, that miniſtry reſolved at laſt to make an example of one of them by way of deterring the reſt from ſuch licentiouſneſs. For this purpoſe the paper called the North Briton was made choice of, which, in language much ſuperior to any other political work of the time, had abuſed the king, the miniſtry, and the Scots in an extravagant manner. One particular paper (N° XLV.) was deemed by thoſe in power to be actionable, and Mr Wilkes, member of parliament for Ayleſbury, was ſuppoſed to be the author. A warrant was therefore granted for apprehending the author, publiſhers, &c. of this performance, but without mentioning Wilkes's name. In conſequence of this, however, three meſſengers entered his houſe on the night between the 29th and 30th of April 1763, with an intention to ſeize him. He objected, however, to the legality of the warrant, becauſe his name was not mentioned in it, and likewiſe to the lateneſs of the hour; and, on threatening the meſſengers with violence, they thought proper to retire for that night. Next morning he was apprehended without making any reſiſtance, though ſome violence was neceſſary to get him into an hackney coach, which carried him before the ſecretaries of ſtate for examination.

470 Illegal proceedings againſt him.

On the firſt intimation of Mr Wilkes being in cuſtody, application was made for an *habeas corpus*; but as this could not be ſued out till four in the afternoon, ſeveral of his friends deſired admittance to him, which was peremptorily refuſed on pretence of an order from the ſecretaries of ſtate. This order, however, though repeatedly demanded, could not be produced, or at leaſt was not ſo; on which account the gentlemen, conceiving that they were not obliged to pay any regard to meſſengers acting only by a verbal commiſſion, entered the place where he was without further queſtion.

471 He is committed to the tower.

This illegal ſtep was quickly followed by ſeveral others. Mr Wilkes's houſe was ſearched, and his papers ſeized in his abſence; and though it was certain that an *habeas corpus* was now obtained, he was nevertheleſs committed to the Tower. Here not only his friends, but even ſeveral noblemen and gentlemen of the firſt diſtinction, were denied acceſs, nor was his own brother allowed to ſee him more than others. On the third day of May he was brought before the court of common pleas, where he made a moſt patriotic ſpeech, ſetting forth the love he had for his majeſty, the bad conduct of miniſtry, not forgetting his own particular grievances, and that he had been treated "worſe than a Scotch rebel." His caſe being learnedly argued by ſeveral eminent lawyers, he was remanded to the Tower for three days; after which he was ordered to be brought up, that the affair might be finally ſettled.

472 Deprived of his commiſſion as colonel of the Buckinghamſhire militia.

473 Is diſcharged, and his commitment declared illegal.

Next day lord Temple received a letter from ſecretary Egremont, informing him, that the king judged it improper that Mr Wilkes ſhould continue any longer a colonel of the Buckinghamſhire militia; and, ſoon after, Temple himſelf was removed from being lord lieutenant of that county. Mr Wilkes then being brought to Weſtminſter Hall at the time appointed, made another flaming ſpeech; after which the judges took his caſe into conſideration. Their opinion was, that the warrant of a ſecretary of ſtate was in no reſpect ſuperior to that of a common juſtice of peace; and, on the whole, that Mr Wilkes's commitment was illegal. It was likewiſe determined that his privilege as member of parliament was infringed: this could not be forfeited but by treaſon, felony, or breach of the peace; none of which was imputed to him; for a libel, even though it had been proved, had only a tendency to diſturb the peace, without any actual breach of it. Thus it was reſolved to diſcharge him; but, before he quitted the court, a gentleman of eminence in the profeſſion of the law ſtood up and acquainted the judges, that he had juſt received a note from the attorney and ſolicitor general, intreating his lordſhip not to give Mr Wilkes leave to depart till they came, which would be inſtantly, as they had ſomething to offer againſt his plea of privilege. This motion, however, being rejected, the priſoner was ſet at liberty.

474 Endeavours to raiſe a general animoſity againſt adminiſtration.

Mr Wilkes had no ſooner regained his freedom, than he ſhowed himſelf reſolved to make all the advantage he could of the errors committed by the miniſtry, and to excite as general a ferment as poſſible. For this purpoſe he wrote a very impudent letter to the earls of Egremont and Halifax, informing them, that his houſe had been robbed, and that the *ſtolen goods* were in the poſſeſſion of one or both of their lordſhips, inſiſting upon immediate reſtitution. This letter was printed, and many thouſand copies of it diſperſed; ſoon after which an anſwer by the two noblemen was publiſhed in the newſpapers, in which they informed him of the true cauſe of the ſeizure of his papers, that his majeſty had ordered him to be proſecuted by the attorney-general, and that ſuch of his papers as did not lead to a proof of his guilt ſhould be reſtored. This was quickly ſucceeded by a reply, but the correſpondence ceaſed on the part of their lordſhips. Mr Wilkes, however, erected a printing preſs in his own houſe, where he advertiſed the proceedings of the adminiſtration with all the original papers, at the price of a guinea. The North Briton now again made its appearance; the popular party were elated beyond meaſure with their ſucceſs; thoſe who had ſuffered by general warrants ſought redreſs at law, and commonly obtained damages far beyond not only their real ſufferings, but even beyond their moſt ſanguine expectations. During the whole ſummer, the minds of the people were kept in continual agitation by political pamphlets and libels of various kinds, while the affair of general warrants ſo engroſſed the general attention, that by the time the parliament ſat down, November 15th 1763, ſcarce any other ſubject of converſation could be ſtarted in company.

475 Proceedings againſt him in parliament.

On the meeting of parliament his majeſty mentioned in his ſpeech, the attempts that had been made to divide the people; and before the addreſſes could be made in return, a meſſage was ſent to the commons, informing them of the ſuppoſed offence of Mr Wilkes, and of the proceedings againſt him, the exceptionable paper being alſo laid before the houſe. After warm debates, the North Briton was deemed a falſe, ſcandalous, and ſeditious libel, tending to excite traiterous inſurrections, &c. This was followed by another, that the privilege of parliament does not extend to the writing and publiſhing ſeditious libels, nor ought to obſtruct the ordinary courſe of the laws in the ſpeedy and effectual proſecution of ſo heinous and dangerous an offence. It did not, however, paſs the houſe of commons without a vigorous oppoſition, and ſeventeen members of the upper houſe proteſted againſt it.

476 Diſturbances on burning the North Briton.

The North Briton, N° XLV. being condemned as already mentioned, was ordered to be burnt by the hangman; but this could not be done without great oppoſition from the mob. The executioner, conſtables, officers, and even the chief perſons concerned, were pelted with filth and dirt, and ſome of them inſulted in the groſſeſt manner. Mr Harley, one of the high ſheriffs, and member of parliament for London, was wounded by a billet taken from the fire; the ſtaves of the conſtables were broken; and the whole officers and executioner driven off the field, while the remains of the paper were carried off in triumph from the flames, and in return, a large jack-boot was burnt at Temple-bar, while the half-burnt North Britain was diſplayed amidſt the acclamations of the populace.

477 The under ſecretary fined for ſeizing Mr Wilkes's papers.

Mr Wilkes, in the mean time, determined to make the beſt uſe of the victory he had already gained, and therefore commenced a proſecution in the court of common pleas againſt Robert Wood, Eſq; the under ſecretary of ſtate, for ſeizing his papers. The cauſe was determined in his favour, and Wood condemned in 1000l. damages, with full coſts of ſuit.

478 Mr Wilkes proſecuted, wounded in a duel, and outlawed.

The proſecution with which Mr Wilkes had been threatened was now carried on with great vigour; but in the mean time, having groſsly affronted Samuel Martin, Eſq; member for Camelford, by his abuſive language in the North Britain, he was by that gentleman challenged, and dangerouſly wounded in the belly with a piſtol bullet.—While he lay ill of his wound, the houſe of commons put off his trial from time to time; but beginning at laſt to ſuſpect that there was ſome colluſion betwixt him and his phyſician, they enjoined Dr Heberden, and Mr Hawkins an eminent ſurgeon, to attend him, and report his caſe. Mr Wikes, however, did not think proper to admit a viſit from theſe gentlemen; but ſoon after took a journey to France to viſit his daughter, who, as he gave out, lay dangerouſly ill at Paris.

The commons having now loſt all patience, and being certified that he had refuſed to admit the phyſician and ſurgeon ſent by them, proceeded againſt him in his abſence. The evidence appearing quite ſatisfactory, he was expelled the houſe, and a proſecution afterwards commenced againſt him before the houſe of lords, on account of an obſcene and blaſphemous pamphlet, in which he had mentioned a reverend and learned biſhop in a moſt ſhameful manner. The event of all was, that, failing to appear to anſwer the charges againſt him, he was outlawed, which it was then ſuppoſed, would for ever conſign his patriotiſm to oblivion.

479 A general ſpirit of licentiouſneſs ſtill prevails.

The extreme ſeverity ſhown to Mr Wilkes did not at all extinguiſh the ſpirit of the party. A general infatuation in favour of licentious and abuſive writings ſeemed to have taken place; and to publiſh libels of this kind without the leaſt regard to truth or juſtice was called *liberty*. At the very time that Mr Wikes was found guilty of publiſhing the infamous pamphlet abovementioned, the common council of London preſented their thanks to the city repreſentatives for their zealous and ſpirited endeavours to aſſert the rights and liberties of the ſubject, "by their laudable attempt to obtain a ſeaſonable and parliamentary declaration, That a general warrant for apprehending and ſeizing the authors, printers, and publiſhers of a ſeditious libel, together with their papers, is not warranted by law." Their gratitude they ſhewed to lord chief juſtice Pratt, for his deciſion in Wilkes's affair, by preſenting him with the freedom of the city, and deſiring him to ſit for his picture to be placed in Guildhall. Theſe extravagant proceedings, however, did not paſs without ſtrong oppoſition, and were conſidered by the ſober part as highly unjuſt and improper, as well as indecent.

480 Abuſe of franking letters corrected.

The violent clamours which had been excited and ſtill continued, though in a leſs violent degree, did not prevent adminiſtration from paying that attention to the exigencies of the nation which its preſent ſituation undoubtedly required. The practice of franking blank covers to go free *per* poſt, to any part of Great-Britain, or Ireland, had ariſen to an incredible height, and greatly prejudiced the revenue. The hands of members of parliament were not only counterfeited, but the covers publicly ſold without the leaſt ſcruple; and, beſides this, the clerks of the poſt office claimed a privilege of franking, which extended even farther than that of members of the houſe; the latter being reſtricted to a certain weight, but the former denying that they were ſubject to any reſtriction of this kind. The matter, however, was attended with conſiderable difficulty when it came to be examined in the houſe of commons. It was found, that though the vaſt increaſe of franks was detrimental to one branch of the revenue, it was ſerviceable to another by the immenſe conſumption of ſtamps it occaſioned; but at laſt the following act was paſſed as an effectual remedy, viz. That from the firſt of May 1764, No letters or packets ſhould be exempted from poſtage, except ſuch as were ſent to or from the king; or ſuch as, not exceeding two ounces in weight, ſhould be ſigned by a member of either houſe, the whole of the ſuperſcription being in his own hand-writing; or ſuch as ſhould be directed to members of parliament, or other perſons ſpecified in the act. It was likewiſe enacted, that printed votes and proceedings in parliament, ſent without covers, or in covers open at the ſides, and only ſigned on the outſide by a member, ſhould go free, though ſuch packets were liable to be ſearched; and to give the greater force to theſe regulations, it was made felony and tranſportation for ſeven years to forge a frank. At this time it was proved that the annual poſtage of letters ſent free would amount to 70,000l. and that the profits accruing to the clerks of the poſt office amounted to between 800 and 1700l. each.

481 Plan for ſettling the iſland of St John, and ſelling the conquered lands.

Other plans for augmenting the revenue were that for ſettling the iſland of St John, and for the ſale of the lately acquired American iſlands. The former was propoſed by the earl of Egremont, who preſented a memorial to his majeſty on the ſubject. In this he deſired a grant of the whole iſland of St John's, in the gulf of St Lawrence, to hold the ſame in fee of the crown for ever; ſpecifying particularly the various diviſions, government, &c.; but, for reaſons unknown, the plan was never put in execution. The ſale of the conquered lands took place in March 1764. Theſe were particularly the iſlands of Grenada, the Grenadines, Dominica, St Vincent, and Tobago. Sixpence an acre was to be paid as a quit-rent for cleared lands, and a penny a foot for ground-rent of tenements in towns, and ſixpence an acre for fields; but no perſon was to purchaſe more than 300 acres in Dominica, or 500 in the other iſlands.

482 Renewal of the charter of the bank

483 Taxation of America.

One of the moſt remarkable tranſactions of this year was the renewal of the charter of the bank, for which the latter paid the ſum of 1,100,000l. into the exchequer as a preſent to the public, beſides the advancing a million to government upon exchequer bills. Another, and, by its conſequences, ſtill more momentous affair, however, was the conſideration of methods to raiſe a revenue upon the American colonies. This had been formerly propoſed to Sir Robert Walpole; but that prudent miniſter wiſely declined to enter into ſuch a dangerous affair, ſaying that he would leave the taxation of the colonies to thoſe who came after him in office. The reaſon given for ſuch a proceeding was the defraying the neceſſary charges of defending them, which, though extremely reaſonable in itſelf, was done in ſuch a manner as excited a flame not to be extinguiſhed but by a total loſs of the authority of the parent ſtate. Before this time, indeed, hints had been thrown out, that it was not impoſſible for the coloniſts to withdraw their dependence on Britain; and ſome diſputes had taken place betwixt the different provinces, which were quieted only by the fear of the French, and ſeemed to prognoſticate no good. It was thought proper therefore now, when the colonies were not only ſecured but extended, to make the experiment whether they would be obedient or not. They contained more than two millions of people, and it was evidently neceſſary to raiſe a revenue from ſuch a numerous body. Some thought it might be dangerous to provoke them; but to this it was replied by adminiſtration that the danger muſt increaſe by forbearance; and as taxation was indiſpenſable, the ſooner the experiment was made, the better. The fatal trial being thus determined, an act was paſſed for preventing ſmuggling, ſo that the duties laid on the American trade might come into the hands of government.

484
Act againſt illicit trade with the Spaniards.

At this time an illicit trade was carried on betwixt the Britiſh and Spaniſh colonies, which ſeemed to bid defiance to all law and regulation; and was no leſs diſagreeable to the Spaniſh than to the Britiſh court. In ſome reſpects, however, the ſuppreſſion of this was very inconvenient, and even intolerable, to the coloniſts; for as the balance of trade with Britain was againſt them, it was impoſſible they could procure any ſpecie, except by trading with the Spaniards, from whom they were paid for their goods in gold and ſilver. This, and another act requiring them to pay certain duties in caſh, contributed to that reſentment ſhown by the Americans to government, and their abſolute refuſal to ſubmit to the ſtamp act which was alſo paſſed this year.

485
Stamp act paſſed.

486
Iſle of Man purchaſed by government.

The augmentation of the revenue being the principal object of adminiſtration at this time, the ſuppreſſion of ſmuggling at home, as well as in America, was taken into conſideration. Though the great number of cutters and other veſſels fitted out by government for this purpoſe had produced very ſalutary effects, the iſle of Man, which belonged to the duke of Athol, and was not ſubject to the cuſtom-houſe laws, lay ſo conveniently for the purpoſes of ſmuggling, that the utmoſt vigilance of government was not ſufficient to ſuppreſs it. The event was a treaty betwixt government and the duke, by which the latter, for a ſum of money, ceded all the ſovereignty in the iſland he could claim, and cutters were placed on the coaſts and in the harbours of the iſland as in other places of the kingdom.

487
A general animoſity againſt government both in Britain and America.

This diſpoſition to augment the revenue by all poſſible methods, ſeems to have ſerved to keep up the general opinion of the oppreſſive and arbitrary meaſures about to be purſued by government. The ill humour of the Britiſh patriots ſtill continued; and the ſtamp bills were received in America with the utmoſt indignation. The arguments for and againſt American taxation are now of no importance; and the particulars of their oppoſition are related under the article *United States of AMERICA*. Here we ſhall only take notice, that the oppoſition on the coloniſts proved very diſtreſſing to the mother country, on account of the vaſt ſums they owed. At this time they were indebted to the merchants of London four millions Sterling; and ſo ready were the latter to give them credit, that ſome of the American legiſlatures paſſed acts againſt incurring ſuch credit for the future. A petition on the ſubject was preſented to the houſe of commons; but, as it denied the parliamentary right of taxation, it was not allowed to be read. It was then propoſed, on the part of adminiſtration, that the agents ſhould join in a petition to the houſe for their being heard by counſel in behalf of their reſpective colonies againſt the tax. The agents, however, not thinking themſelves empowered to grant ſuch a petition, the negociation was broken off, and matters went on in America as we have elſewhere related.

488
Vigorous conduct of adminiſtration.

In other reſpects, the miniſtry took ſuch ſteps as were undeniably proper for ſupporting the honour and dignity of the nation. Some encroachments having been made by the French and Spaniards, ſuch remonſtrances were made to their reſpective courts, that ſatisfaction was quickly made; and though every trifle was ſufficient to open the mouths of the popular party, it was impoſſible as yet to find any juſt cauſe of complaint.

489
Inſurrection of the Spittalfield weavers.

The diſpoſition to tumult and inſurrection, however, ſeems to have been now very general. The ſilk-weavers reſiding at Spittalfields being diſtreſſed for want of employment, which they ſuppoſed to proceed from the clandeſtine importation of French ſilks, laid their caſe before his majeſty in the year 1764, who graciouſly promiſed them relief. The ſufferers were relieved by the bounty of the public; but this ſeemed to render the matter worſe, by confirming them in habits of indolence and idleneſs. At the ſame time, a bill, which was ſuppoſed to tend to their relief, being thrown out, they began to aſſemble in vaſt numbers, which, gradually increaſing, are ſaid to have amounted at laſt to 50,000; ſeveral diſorders were committed, and it was not without the aſſiſtance of the ſoldiery, and the utmoſt vigilance of the magiſtrates, that the riot could be ſuppreſſed.

During this inſurrection the ferment betwixt the court and popular parties continued with unabated vigour. The miniſters were ſtill attacked in numberleſs publications, and accuſed as being merely dependents and ſubſtitutes to the earl of Bute; nor could the utmoſt care on the part either of that nobleman or the miniſters blunt the ſhafts of calumny and miſrepreſentation.

490
Illneſs of the king and regency bill.

An accident, however, now produced a conſiderable revolution at court, though it had very little effect in calming the minds of the people. This was an illneſs with which the king was ſeized in the beginning of the year, which filled the public with apprehenſions, and produced a bill for ſettling the affairs of the kingdom in caſe of the crown falling into the hands of a minor. In ſettling this bill, miniſters were ſaid to have behaved with very little reſpect to the princeſs-dowager of Wales, and induſtriouſly to have excluded her from a ſhare of the government.

491
Change of miniſtry.

Theſe proceedings were thought in a great meaſure to have alienated the affection of his majeſty from the miniſtry, who had hitherto been in great favour: Nor did their ſubſequent conduct ſhew them to be at all deſirous of regaining what they had loſt. They now contrived to have the earl of Bute's brother turned out of a very lucrative poſt which he enjoyed in Scotland, and in which he had never given the leaſt cauſe of complaint. A ſtep of this kind could not be agreeable to his majeſty, nor could it recommend them to the popular party in England, who always manifeſted a perfect indifference as to what paſſed in Scotland. On this occaſion lord Chatham is ſaid to have been ſolicited again to accept the office which he had formerly filled ſo much to the ſatisfaction of the nation, and to have declined it.

492 New miniſters recommended by the duke of Cumberland.

A new miniſtry, however, was ſoon formed, at the recommendation of the duke of Cumberland. The duke of Grafton and the honorable Mr Conway, brother to the earl of Hertford, were appointed ſecretaries of ſtate, the marquis of Rockingham firſt lord of the exchequer, and Mr Dowdeſwell chancellor and under treaſurer of the exchequer. The office of lord privy ſeal was conferred on the duke of Newcaſtle, and all other places were filled with men not only of known integrity, but ſuch as were agreeable to the people.

493 The clamour againſt lord Bute ſtill kept up.

Theſe changes, however, were not yet able to give ſatiſfaction. The opinion that affairs were ſtill managed by the earl of Bute continued to prevail, and was induſtriouſly kept up by the political writers of the time. The city of London expreſſed their diſcontent on the occaſion of addreſſing his majeſty on the birth of a third ſon. They now took the opportunity of aſſuring him of "their faithful attachment to his royal houſe, and the *true* honour of his crown, *whenever a happy eſtabliſhment of public meaſures ſhould preſent a favourable occaſion*; and that they would be ready to exert their utmoſt abilities in ſupport of ſuch wiſe councils as apparently tended to render his majeſty's reign happy and glorious."

494 Death of his royal highneſs the duke of Cumberland.

Theſe expreſſions ſhowed ſuch an evident diſapprobation of his majeſty's choice, that it could not fail to offend both king and miniſtry; but before the latter could ſhow any token of reſentment, they loſt their great friend and patron the duke of Cumberland. His death happened on the 31ſt of October 1765. He had been that evening aſſiſting at one of thoſe councils frequently held, in order to put matters in a way of being more ſpeedily diſpatched by the privy council; where being ſeized with a ſudden diſorder, of which he had ſome ſymptoms the evening before, he fell ſenſeleſs in the arms of the earl of Albemarle, and expired almoſt inſtantaneouſly. His death was greatly lamented, not only by their majeſties, but by the whole nation, being univerſally eſteemed not only as a brave commander, but an excellent member of ſociety, an encourager of induſtry, and an active promoter of the arts of peace.

495 Arguments for and againſt the ſtamp act.

In the mean time, the diſcontents which inflamed the American colonies continued alſo to agitate the minds of the people of Great Britain; nor indeed was it reaſonable to expect that they could be ſatisfied in their preſent condition; commerce being almoſt entirely deſtroyed, manufactures at a ſtand, and proviſions extravagantly dear. The vaſt ſums owing to the Britiſh merchants by the Americans alſo ſeverely affected the trading and manufacturing part of the country. Theſe, amounting to ſeveral millions, the coloniſts abſolutely refuſed to pay, unleſs the obnoxious laws ſhould be repealed. Adminiſtration were therefore under the neceſſity of inſtantly enforcing the ſtamp act by fire and ſword, or of procuring its immediate repeal in parliament. The loſs of the duke of Cumberland was now ſeverely felt, as he had been accuſtomed to aſſiſt adminiſtration with his advice, and was highly reſpected by the nation for his good ſenſe. At this period, however, it is doubtful if human wiſdom could have prevented the conſequences which enſued. Adminiſtration endeavoured, as much as perhaps was poſſible, to avoid the two extremes, either of ruſhing inſtantly into a civil war, or of ſacrificing the dignity of the crown or nation by irreſolution or weakneſs. They ſuſpended their opinion until they ſhould receive certain intelligence from the American governors how affairs ſtood in that country; and their letters on that occaſion ſtill do them honour. The oppoſite party animadverted ſeverely on this conduct. They inſiſted on having the moſt coercive methods immediately put in execution for enforcing the laws in which they themſelves had ſo great a ſhare; and it is probable that they wiſhed matters to come to extremities before the ſitting down of parliament.

496 It is repealed.

Pacific meaſures, however, at this time prevailed: the ſtamp act was repealed; but at the ſame time another was made, declaring the right of parliament not only to tax the colonies, but to bind them in all caſes whatever.

497 Tranquillity is not reſtored by its repeal.

The repeal of the ſtamp act occaſioned univerſal joy both in Britain and America, though, as parliament inſiſted upon their right of taxation, which the oppoſite party denied, matters were ſtill as far from any real accommodation as ever. The apprehenſions of the Americans were ſoon after augmented by the duties laid upon glaſs, painters colours, and tea, imported into their country, while at home the dearneſs of proviſions, and ſome improper ſteps taken by miniſtry to remedy the evil, kept up the general outcry againſt them. A general diſpoſition to tumult and riot ſtill continued; and unhappily the civil power now ſeemed to loſe its force, and a general anarchy, under the name of liberty, to be approaching.

498 Return of Mr Wilkes, his election.

In this ſtate of affairs adminiſtration were once more diſturbed by the appearance of Mr Wilkes, who had returned from his exile, and, on the diſſolution of parliament in 1768, though an outlaw, ſtood candidate for the city of London. He was received by the populace with loud acclamations, and ſeveral merchants and people of large property eſpouſed his cauſe, and a ſubſcription was entered into for the payment of his debts. He failed, however, in his deſign of repreſenting the city of London, but inſtantly declared himſelf a candidate for Middleſex. The tumults and riots which now took place were innumerable; and ſuch was the animoſity betwixt the two parties, that a civil war ſeemed to be threatened. Our limits will not allow of any particular detail of theſe tranſactions. It will be ſufficient to take notice, that on a legal trial the outlawry of Mr Wilkes was reverſed, and he was condemned for his offences to pay a fine of L. 1000, and to be impriſoned for twelve months. Being idolized by the people, however, and powerfully ſupported, he was repeatedly choſen member for Middleſex, and as often rejected by the houſe of commons. The tumults on this occaſion were not always ended without bloodſhed; and the interpoſition of the military was conſtrued by the patriots as an indication of a deſign to eſtabliſh miniſterial authority by the moſt barbarous methods. In ſhort the behaviour of the people of England and America was at this time ſo very much alike, that both ſeemed to be actuated by one ſpirit, and the rage of the Engliſh patriots undoubtedly contributed to confirm the coloniſts in their oppoſition.

499 Difference with Spain concerning Falkland's iſlands.

The diſſenſions which had ſo long prevailed in the kingdom did not paſs unnoticed by the other European powers, particularly the French and Spaniards. Both had applied themſelves with aſſiduity to the increaſe of their marine; and many began to prognoſticate an attack from one or other or both of theſe nations. The Spaniards firſt ſhowed an inclination to come to a rupture with Britain. The ſubject in diſpute was a ſettlement formed on Falkland's iſlands*, near the ſouthern extremity of the American continent. A ſcheme of this kind had been thought of as early as the reign of Charles II. but it was not till after lord Anſon's voyage that much attention had been paid to it. In the printed account of it, his lordſhip ſhowed the danger incurred by our navigators through the treachery of the Portugueſe in Braſil; and that it was a matter of the greateſt importance to diſcover ſome place more to the ſouthward, where ſhips might be ſupplied with neceſſaries for their voyage round Cape Horn; and among others, he pointed out Falkland's iſlands as eligible for this purpoſe. When at the head of the admiralty, his lordſhip alſo forwarded the ſcheme as much as poſſible; and ſome preparations were made for putting it in execution: but as it met with oppoſition at home, and gave offence to the court of Madrid, it was laid aſide till the year 1764, when it was revived by lord Egmont. Commodore Byron being then ſent out with proper neceſſaries, took poſſeſſion of them in the name of his majeſty, and repreſented them in a favourable light; while his ſucceſſor, captain M'Bride, affirmed, that the ſoil was utterly incapable of cultivation, and the climate intolerable.

500 An Engliſh ſettlement formerly propoſed on theſe iſlands.

501 A French colony ſettles there.

Be this as it will, the iſlands in queſtion had attracted alſo the notice of the French. So low, however, had the nation been reduced by the late war, that no project of the kind could yet be put in execution at the public expence. M. Bougainville, therefore, with the aſſiſtance of his friends, undertook to form a ſettlement on Falkland's iſlands at their own riſk. The ſcheme was put in execution in the beginning of the year 1764; and a ſettlement formed on the eaſtern part of the ſame iſland where commodore Byron had eſtabliſhed an Engliſh colony on the weſtern ſide. His account of the country was ſtill more favourable than that of the Engliſh commander; but as the project had been undertaken with a view to other diſcoveries and advantages, which probably did not turn out according to expectation, the French adventurers ſoon became weary of their new colony; to which alſo the diſpleaſure of the Spaniards, who were greatly offended, did not a little contribute. M. Bougainville, therefore, being reimburſed in his expences, and the French having given up every claim of diſcovery or right of poſſeſſion, the Spaniards landed ſome troops in 1766, took poſſeſſion of the fort built by the French, and changed the name of the harbour from Port Louis to Port Solidad.

502 They abandon it to the Spaniards.

In the year 1769, captain Hunt of the Tamar frigate, happening to be on a cruize off Falkland's iſlands, fell in with a Spaniſh ſchooner which had been at Port Solidad. During all this time, it is uncertain whether the Britiſh and Spaniſh ſettlers knew of one another or not. From the behaviour of captain Hunt we ſhould ſuppoſe that they did not; as he charged the commander of the ſchooner to depart from that coaſt, being the property of his Britannic majeſty. The ſchooner, however, ſoon returned, bringing an officer from the governor of Buenos Ayres, who gave the like warning to captain Hunt to depart from the coaſt, as belonging to the king of Spain. Some altercation enſued; but captain Hunt, not chooſing to carry matters to extremities, ſet ſail for England, where he arrived in June 1770.

503 The Spaniards oblige the Britiſh to leave the iſlands.

At the departure of captain Hunt, two frigates were left at Falkland's iſlands. One of theſe was loſt in a ſhort time after; and on the 4th of June 1770, a Spaniſh frigate arrived at the Engliſh ſettlement named *Fort Egmont*, with a number of guns and other warlike utenſils for carrying on a regular ſiege. In three days, four other frigates arrived, laden in the ſame manner; ſo that the Engliſh commander, captain Farmer, finding all reſiſtance vain, was obliged to capitulate. The Engliſh were ordered to depart within a limited time, carrying with them what ſtores they could; and the Spaniſh commander declared himſelf anſwerable for what they ſhould leave on the iſland. The time allowed them to remain at Port Egmont was to be determined by the governor; and for the greater ſecurity, the rudder was taken off from captain Farmer's ſhip, and kept on ſhore till the appointed period; after which the frigate was permitted to depart, and in 70 days arrived at Portſmouth.

504 Parliamentary tranſactions relating to this affair.

An inſult to the Britiſh flag, ſo audacious, ſeemed to render war inevitable unleſs proper reparation was very ſpeedily made. It was accordingly mentioned in the ſpeech from the throne, November 13th 1770; and an immediate demand of ſatisfaction for the injury was promiſed, and that the neceſſary preparations for war, which had been begun, ſhould not be diſcontinued. The affairs of America were alſo taken notice of, where grounds of complaint ſtill exiſted, notwithſtanding the ceſſation of thoſe combinations which had diſtreſſed the commerce of Britain. Theſe promiſes, with regard to the affair of Falkland's iſlands, however, were far from giving general ſatisfaction. The ſpeech, as the work of miniſtry, was moſt violently attacked by oppoſition; and an addreſs in anſwer to it, it was ſaid, would be an eulogium on miniſters who did not deſerve it. News had arrived, they ſaid, from Falkland's iſlands in June, which ſufficiently demonſtrated the deſigns of Spain; and Gibraltar and Minorca were left open to the attacks of that power, without any preparation being made to reſiſt them. The whole conduct of the miniſtry was ſaid to be puſillanimous; and the love of peace, which was given out as the reaſon of their unwillingneſs to reſent the injury, was treated with contempt.

A motion was now made in both houſes, for an inquiry into the conduct of the Spaniards on this occaſion, and that all the papers and letters relative to it ſhould be laid before parliament. The demand, however, was oppoſed by miniſtry, who inſiſted that the laws of negociation precluded the idea of expoſing any letters or papers ſent in confidence while the negociation was depending; and they aſſerted that the king of Spain had diſavowed the conduct of his officer, and promiſed ſatisfaction. It would have been raſh, they ſaid, to proceed to extremities betwixt the two crowns, when perhaps the officer only was to blame; but if, after remonſtrance, the court of Spain refuſed ſatisfaction, we were then authorized to force that juſtice which was refuſed in an amicable manner.

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* See *Falkland's iſlands*.

505 Negociations with the Spaniſh ambaſſador

Some time before this, Mr Harris, the Engliſh miniſter at the court of Madrid, diſpatched a letter to lord Weymouth, informing him that a ſhip had arrived from Buenos Ayres with an account of the intended expedition againſt Port Egmont, the number of men to be employed, and the time fixed for its departure; at the ſame time that it was aſſerted by prince Maſerans, the Spaniſh ambaſſador, that he had every reaſon to believe that the governor of Buenos Ayres had employed force at Port Egmont without any orders; and hoped that, by diſavowing this proceeding, he might prevent any miſunderſtanding betwixt the two kingdoms. To this his lordſhip replied in a ſpirited manner, aſking, among other things, Whether the prince had any orders to diſavow the proceedings of the governor? And, on his reply in the negative, a formal diſavowal was demanded. After ſome time, his lordſhip was informed that the prince had orders to diſavow any particular orders give to Mr Bucarelli, the governor of Buenos Ayres, and at the ſame time to ſay, that he had acted agreeably to his general inſtructions and oath as governor; that the iſland ſhould be reſtored; and that it was expected the king of Britain would, on his part, diſavow the conduct of captain Hunt, whoſe menace had induced the governor to act as he did.

This reply did not by any means prove agreeable; and ſoon after the conduct of the court of Spain became ſo ſuſpicious, that Mr Harris was ordered to quit the court of Madrid; and the correſpondence between prince Maſerans and the court of England was no longer continued. About this time lord Weymouth reſigned his office, and was ſucceeded by the earl of Rochford; and the affair of Falkland's iſlands was no longer openly ſpoken of. On the ſitting down of the parliament, January 22d 1771, however, it was again brought before the houſe, and the declaration of the Spaniſh ambaſſador, with Rochford's acceptance, were announced. Prince Maſerans then diſavowed, in the name of his maſter, the violence uſed at Port Egmont; to the reſtitution of which he agreed, and hoped that this reſtitution would be looked upon as ample ſatisfaction, and at the ſame time as not affecting the queſtion concerning the prior ſovereignty of the iſlands. This produced a new demand for copies of all papers, letters, and declarations of every kind relative to Falkland's iſlands: but though it was now ſeemingly complied with, the oppoſite party affirmed that it was ſtill only in part; for beſides a chaſm of near two months, during which time there was no account whatever, none of the copies of the claims or repreſentations made by the court of Spain, ſince the firſt ſettlement of the iſlands, were given up. Thus a ſuſpicion was produced, that the concealment of theſe papers, and the deficiencies in the order of their dates, might proceed from ſome miſconduct during the periods in queſtion; and which adminiſtration was willing to conceal from the world. To theſe objections it was replied, that every paper which could be found in the ſeveral offices had been preſented; and that if there had been any correſpondence between the two courts, of which no notice was taken in them, it muſt have been verbal; but at any rate there were papers ſufficient to enable the houſe to determine the propriety or impropriety of their conduct throughout the whole tranſaction; for every thing deciſive or explicit was in writing, and every thing was laid before them.

All theſe excuſes, however, could not yet ſatisfy oppoſition. It was reported, and generally believed, that France had interpoſed in the affair; in conſequence of which, a motion was made to addreſs his majeſty for information whether any ſuch interference had taken place, and of what nature it was, or in what manner it had been conducted. The miniſter denied that there had been any ſuch interference; but it was inſiſted that it was inſufficient; that the word of the king was requiſite, as that of the miniſter could not be ſatisfactory, even ſuppoſing him to be upright. It did not, however, appear that any correſpondence in writin had taken place betwixt the two courts; and when the miniſter was aſked, whether France had ever interpoſed as mediator? he anſwered, that "England had not employed France in that capacity; but that the word *interpoſed* was of a meaning too vague for direct explanation; and it was unuſual to demand verbal negociations, while papers were laid before them: That as all Europe had an eye to the compromiſing of differences betwixt ſtates; it was not to be ſuppoſed that France would be altogether ſilent; but nothing (ſays he) diſhonourable has ever paſſed." Oppoſition ſtill inſiſted that they had a right to have an account of verbal negociations as well as others; and that if this right was given up, a miniſter had no more to do, when he wiſhed to promote an inſidious meaſure, than to conduct it by verbal correſpondence. The motion, however, was loſt by a great majority in both houſes.

506 A general diſſatisfaction with the manner in which the affair is terminated

This manner of deciding the queſtion was ſo far from allaying the general ferment, that it rendered it much worſe. The tranſaction was conſidered as entirely diſgraceful to the Britiſh nation; nor were all the arguments that could be uſed by the miniſterial party in any degree ſufficient to overthrow the general opinion. The reſtitution of the iſland was thought to be an inadequate recompenſe for the affront that had been offered; and the objections to it were urged on a motion for an addreſs to return thanks for the communication of the Spaniſh declaration, and to teſtify their ſatisfaction with the redreſs that had been obtained. This addreſs was not carried without conſiderable difficulty, and produced a proteſt from 19 peers. On the part of Spain, however, every part of the agreement was oſtenſibly fulfilled; Port Egmont was reſtored, and the Britiſh once more took poſſeſſion of it, though it was in a ſhort time after evacuated, according to a private agreement, as was ſuſpected, between miniſtry and the court of Spain; but of this no evidence ever appeared to the public.

507 The ſettlement finally abandoned.

In other reſpects, the greateſt diſcontents raged throughout the kingdom. A fire which happened at Portſmouth in the year 1770 excited numberleſs jealouſies, and was by ſome imputed to enemies on the continent. The affair of the Middleſex election was never forgot; and, notwithſtanding many repulſes, the city of London ſtill ventured to preſent new petitions to the throne. In one preſented this year by Mr Beckford, the lord mayor at that time, they lamented the heavy diſpleaſure under which they ſeemed to have fallen with his majeſty, and renewed a petition, frequently preſented before, concerning a diſſolution of parliament. This, however, met with a very unfavourable anſwer: his majeſty informed the lord mayor, that his ſentiments on that ſubject continued unchanged; and that " he ſhould ill deſerve the title of Father of his people, ſhould he ſuffer himſelf to be prevailed on to make ſuch an uſe of his prerogative as he could not but think inconſiſtent with the intereſt, and dangerous to the conſtitution, of the kingdom."

508 Remarkable ſpeech of Mr Beckford to his majeſty.

Mr Beckford was ſo far from being diſheartened by this anſwer, that he demanded leave to ſpeak to the king; which being obtained, he made a ſpeech of conſiderable length, and concluded with telling his majeſty, that " whoever had already dared, or ſhould hereafter endeavour, by falſe inſinuations and ſuggeſtions, to alienate his majeſty's affections from his loyal ſubjects in general, and the city of London in particular, was an enemy to his majeſty's perſon and family, a violator of the public peace, and a betrayer of our happy conſtitution as it was eſtabliſhed at the glorious revolution."

509 Gives offence.

To this no anſwer was made, though it gave great offence: and when Mr Beckford went afterwards to St James's with an addreſs on the queen's ſafe delivery of a princeſs, he was told, that " as his lordſhip had thought fit to ſpeak to his majeſty after his anſwer to the late remonſtrance; as it was unuſual, his majeſty deſired that nothing of the kind might happen for the future."

This behaviour of Mr Beckford was by many of the court party cenſured in an extreme degree, as indecent, unprecedented, impudent, and little ſhort of high treaſon; while, on the other hand, he was on the ſame account raiſed to the higheſt pinnacle of popular favour.

510 His death.

He did not long, however, enjoy the applauſe of the people, dying within a ſhort time after he made the celebrated ſpeech abovementioned, and his death was reckoned an irreparable loſs to the whole party. Several other petitions were preſented on the ſubject of popular grievances; but the perpetual neglect with which they were treated at laſt brought that mode of application into diſuſe. A new ſubject of contention, however, now offered itſelf. The navy was in a bad condition, and the ſailors every where avoided the ſervice. Towards the end of Auguſt 16 ſhips of the line were ready to put to ſea; but the legality of preſs warrants being queſtioned, the manning of them became a matter of great difficulty. The new lord Mayor, Braſs Croſby, refuſed to back the warrants; which proved a vexatious matter to the miniſtry.

511 Propoſals for reducing the powers of the attorney general.

They were further provoked by the unbounded liberty to which the preſs had been carried, and the mode of proceeding againſt ſome libellers had produced many complaints regarding the powers of the attorney general. He had filed informations and carried on proſecutions *ex officio*, without going through the forms obſerved in all other caſes.—" This (it was ſaid by the patriotic party) was inconſiſtent with the nature of a free government. No power can be more dangerous to private liberty, nor to the virtue or principles of him who enjoys it. The attorney acts under a miniſter, and his ſenſe of duty muſt be very ſtrong, or his independence very thoroughly ſecured by contentment, if he is at no time tempted to ſwerve from the laws of conſcience and equity. It is in his power to give what name he pleaſes to a paper, and call it ſeditious or treaſonable; then, without the interference of a jury, he proceeds to try the offender; who, though he may be acquitted, may nevertheleſs be ruined by the expences attending his juſtification." Examples were cited on this occaſion of very flagrant oppreſſion and injuſtice from this very power: the laws, it was ſaid, were become changeable at the pleaſure of a judge; and the liberty of the ſubject was taken from him, whenever he became obnoxious to his ſuperiors. As theſe proceedings had therefore been the cauſe of very general complaint, a motion was made in the houſe of commons to bring in a bill for explaining and amending an act of the 4th and 5th of William and Mary to prevent invidious informations, and for the more eaſy reverſal of outlawries in the court of king's bench.

512 Rejected.

This motion was rejected by a great majority; the miniſterial party urging, that the power of the attorney general was the ſame that ever it had been, and founded on common law. The abuſe of power was no argument againſt the legal exerciſe of it; it was dangerous to overthrow eſtabliſhed cuſtoms; the actions of the attorney-general were cognizable by parliament, which controul muſt for ever prevent a licentious exertion of his power, &c.

513 Diſputes concerning the behaviour of the judges

Theſe arguments, however, even with the rejection of the motion, did not put an end to the diſputes on this head. The courts of juſtice themſelves were at this time held up in a very deſpicable light, on account of ſome late deciſions which had been deemed contrary to law and uſual practice. By theſe the judges had aſſumed a power of determining whether a paper was a libel or not; and the buſineſs of the jury was confined to the determination of the fact regarding its publication; and thus it was ſaid to have appeared, that the judges had it in their power to puniſh a man who had been found guilty of publiſhing a paper, whether ſeditious or not. Lord Chatham, in a ſpeech on the Middleſex election, took occaſion to mention theſe abuſes; and was anſwered by lord Manſfield, who looked upon himſelf to be particularly pointed at. The former, however, was ſo little convinced by his anſwer, that he drew from it an additional confirmation of his own arguments; and moved that a day ſhould be appointed for taking into conſideration the conduct of the judges; in which he was ably ſeconded by the late lord chancellor. A committee was accordingly moved for on December 6th 1770, to inquire into the matter; but, after much debate, was rejected by 184 to 76. The affair, however, did not yet ſeem to be determined. Lord Manſfield gave notice next day, that on Monday he would communicate to the houſe of lords a matter of the utmoſt importance; but, when that day came, he produced nothing but a paper containing the caſe of Woodfall the printer as tried in the court of king's bench, that whoever pleaſed might read or take copies of it. This was looked upon as exceedingly frivolous, and greatly diſappointed the expectations of the whole houſe. His lordſhip was aſked, whether he meant that the paper ſhould be entered on the journals of the houſe or not? To which he anſwered, that he had no ſuch intention, but only that it ſhould be left in the hands of the clerk; on which the affair would probably have been overlooked altogether, had not the late lord chancellor, who all along ſtrongly ſupported the motion, ſtood up to accuſe lord Manſfield, from the very paper to which he appealed, of a practice repugnant to the law of England. Hence he took occaſion to propoſe ſome queries relative to the power of juries, and challenged his antagoniſt to a debate either at that time or ſoon after. But this method of proceeding was complained of as too precipitate, and an excuſe was likewiſe made for not aſſigning a day for the debate at any other time; ſo that the matter ſoon ſunk into oblivion. It was, however, loudly talked of without doors; and the judges, who had already fallen much in the eſtimation of the people, now became much more obnoxious. Pamphlets were printed containing the moſt ſevere accuſations; compariſons were made betwixt ſome of the law lords and their predeceſſors, and even the print-ſhops were filled with ridiculous and ſatirical pictures.

514
Shameful tumult in the houſe of lords.

An accident which took place ſoon after contributed alſo greatly to leſſen the character not only of the miniſterial party, but even that of both houſes of parliament taken collectively, in the eyes of the vulgar, to an extreme degree; and indeed it muſt be owned that nothing could be more derogatory to the honour of the firſt aſſembly of the nation, or to that of the individuals who compoſed it. A motion was made on the 10th of December 1770 by the Duke of Mancheſter, that an addreſs be preſented to his majeſty, that he would be graciouſly pleaſed to give orders for quickening our preparations for defence in the Weſt-Indies and in the Mediterranean; and particularly for ſecuring the poſts of Gibraltar and Minorca. But while his grace was deſcanting on the negligence of miniſtry in leaving poſts of ſuch importance in a defenceleſs ſtate, he was ſuddenly interrupted by lord Gower, who inſiſted on having the houſe immediately cleared of all but thoſe who had a right to ſit there. "When motions (ſaid he) are thus brought in by ſurpriſe, and without the knowledge of the houſe as to their contents, it is impoſſible but ſuch things may be ſpoken as are improper for the general ear; eſpecially as the enemy may have ſpies in the houſe, in order to convey ſecret intelligence, and expoſe the nakedneſs of our poſſeſſions." His lordſhip was anſwered by the duke of Richmond, who complained of the interruption given to the duke of Mancheſter as a proceeding both irregular and inſidious. This produced a conſiderable degree of altercation, and the cry of "Clear the houſe!" reſounded from all quarters. Several members attempted to ſpeak, but finding it impoſſible, and piqued at this ſhameful behaviour, 18 or 19 of them left the houſe in a body. The members of the houſe of commons then preſent were not only commanded to depart, but ſome of the lords went perſonally to the bar, and inſiſted on their leaving the houſe immediately. Theſe unfortunate members alleged in excuſe, that they attended with a bill, and were there in the diſcharge of their duty; but this availed nothing, they were peremptorily ordered to withdraw till their meſſage ſhould be delivered; and, after going through the uſual forms, were turned out of doors amidſt the greateſt tumult and uproar. In the mean time the lords, who had juſt left the houſe of peers, had gone to the lower houſe, where they were liſtening to the debates, when the commoners, who had been turned out of the houſe of lords, arrived full of indignation, and making loud complaints of the affront they had received. This was reſented by turning out indiſcriminately all the ſpectators; among whom were the 18 peers juſt mentioned, who were thus ſhut out from both houſes. The affair terminated in a miſunderſtanding betwixt the two houſes, which continued during the whole ſeſſion. Sixteen lords joined in a proteſt, and in the warmeſt terms cenſured the treatment they had met with, as well as the unprecedented behaviour of adminiſtration, who had thus attempted to ſuppreſs the freedom of argument, and render the conduct of the houſe an object of cenſure and ridicule to the whole world.

515
Members of the houſe of commons affronted, which occaſions a miſunderſtanding betwixt the two houſes.

516
Monſtrous inſtance of corruption in New Shoreham

After the diſcuſſion of the affair of Falkland's iſlands in the manner already related, a moſt unheard of inſtance of corruption was laid before parliament in the borough of New Shoreham in Suſſex. The conteſt was occaſioned by the returning officer, Mr Roberts, having returned a candidate with only 37 votes, when the other had 87; and, on bringing him to trial for this ſtrange proceeding, the following ſcene of villany was laid open. A great number of the freemen of the borough had formed themſelves into a ſociety, called the *Chriſtian Society or Club*; but, inſtead of keeping up the character indicated by this title, it was clearly proved by the returning officer, who formerly belonged to it, that it was employed only for the purpoſes of venality. A ſelect committee of the members were appointed to ſell the borough to the higheſt bidder. The committee men never appeared at elections themſelves, but gave orders to the reſt, and directed them how to vote; and, after the election was over, ſhared the profits among themſelves. Though all this was clearly proved, the returning officer was diſmiſſed with only a reprimand from the ſpeaker of the houſe of commons, for having treſpaſſed upon the forms to be ſacredly obſerved by a returning officer. A more ſevere puniſhment, however, was reſerved for the borough, and thoſe wretches who had aſſumed the name of the *Chriſtian Club*. A motion for an inquiry being carried unanimouſly, a bill was brought in to incapacitate 81 freemen of this borough, whoſe names were mentioned, from ever voting at parliamentary elections; and, for the more effectually preventing bribery and corruption, the attorney general was ordered to proſecute the committee belonging to the Chriſtian club: the members were allowed counſel, and many different opinions were offered regarding the mode of puniſhment. Some were mercifully inclined only to reprimand them, while others propoſed to disfranchiſe the borough; however, the bill for incapacitation was paſſed at length, though it did not receive the royal aſſent till the laſt day of the ſeſſion.

517
Extreme licentiouſneſs of the preſs

The unbounded licentiouſneſs of the preſs now called the attention of parliament, though the evil appeared in a manner incapable of being checked. At this time neither rank nor character were any ſecurity againſt the voice of calumny from one party or other; and indeed it was hard to ſay on what ſide the moſt intemperate violence appeared. The miniſtry, however,

ever, provoked by a long courſe of oppoſition, made the loudeſt complaints of the freedom taken with their names; while it was retorted by oppoſition, that the abuſe from one quarter was as great as from the other. Some members of the houſe of commons complained that their ſpeeches had been miſrepreſented in the papers and endeavoured to put a ſtop to the practice of printing them.

518
Conteſt of the houſe of commons with ſome printers.

It was now conſidered as a matter contrary to the ſtanding order of the houſe to print the ſpeeches of the members of parliament at all; and a motion for calling two of the principal printers to account was carried by a conſiderable majority. The printers, however, did not attend the ſummons of the meſſenger; and a final order for their appearance was directed to be left at their houſes, and declared to be ſufficient notice when left at their houſes. The diſobedience of the printers on this occaſion was undoubtedly heightened by the favour they hoped to obtain from the popular party; and indeed it was not without the moſt ſevere animadverſions that the miniſtry were able to carry their motions againſt them. This oppoſition increaſed by its being farther moved that they ſhould be taken into cuſtody by the ſerjeant at arms for contempt of the orders of the houſe. The temper and diſpoſition of the people towards the houſe was now objected, and the great impropriety of adding to their alarms by any unneceſſary ſtretch of the executive power; but the majority urged the neceſſity of preſerving the dignity of the houſe, and putting an end to thoſe offenſive freedoms which had been taken with its members. The ſerjeant at arms next complained, that not being able to meet with the printers at their houſes, he had been treated with indignity by their ſervants; on which a royal proclamation was iſſued for apprehending Wheble and Thomſon, the two obnoxious printers with a reward of L.50 annexed. But in the mean time ſix other printers, who had rendered themſelves equally obnoxious on a ſimilar account, were ordered to attend the houſe, though the motion was not carried without great oppoſition, during which time the houſe divided between 20 and 30 times. Some of the delinquents were reprimanded at the bar, and one who did not attend was ordered to be taken into cuſtody for contempt. Wheble being apprehended in conſequence of the proclamation, was carried before Mr Alderman Wilkes, by whom he was diſcharged. To this magiſtrate it appeared that Mr Wheble had been apprehended in direct violation of his rights as an Engliſhman, as well as of the chartered privileges of a citizen of London; which opinion he declared in a letter to the earl of Halifax, one of the ſecretaries of ſtate. Thompſon was diſcharged in the ſame manner; but the captors received certificates from the magiſtates, in order to obtain the promiſed rewards. J. Miller, one of the ſix who had refuſed to attend, was taken into cuſtody from his own houſe by the meſſenger of the houſe of commons.

519
Lord Mayor ſets Miller at liberty and impriſons the meſſenger of the houſe of commons.

On this he ſent for a conſtable, and was carried along with the meſſenger before the lord mayor, and aldermen Wilkes and Oliver at the manſion houſe. The lord mayor refuſed to deliver up the printer and meſſenger at the requeſt of the ſerjeant at arms; and after ſome diſputes the meſſenger was committed to priſon, as he had been accuſed by Miller of aſſault and falſe impriſonment, and the ſerjeant had refuſed to find bail; however, he was immediately releaſed upon the bail being given.

By this affront, not only the majority, but many of the popular party alſo were greatly irritated; however, the members in oppoſition took care to lay all the blame on the abſurd conduct of adminiſtration with regard to the Middleſex election; in conſequence of which they had incurred ſuch a general odium, that the people thwarted every meaſure propoſed by them, and eluded and deſpiſed their power on every occaſion.

520
Proceedings againſt him.

The lord mayor was ordered to attend the houſe next day; at which time he pleaded that he had acted in no manner of way inconſiſtent with the duties of his office; as, by an oath which he took when entering upon it, he was bound to preſerve the franchiſes of the city, and his conduct was farther to be vindicated from the terms of the city charters, as recogniſed by act of parliament. It was then moved that he ſhould be allowed counſel; the queſtion appearing to belong to the lawyers, as his lordſhip did not pretend to deny the privileges of the houſe, though he contended for an exemption from that privilege by virtue of charters and an act of parliament. This motion, however, was over-ruled, it being inſiſted that no council could ever be permitted againſt the privileges of the houſe. This refuſal of counſel took its riſe from a tranſaction in the reign of Henry VIII. and was now pleaded as the cuſtom of parliament. Some propoſed that the lord mayor ſhould be heard by council, provided the privilege of the houſe was not affected; but it was conſidered as abſurd to the laſt degree that his lordſhip ſhould be heard by council on every point except the very one in queſtion. At the ſame time a motion was carried, that the lord mayor's clerk ſhould attend with the book of minutes; and notwithſtanding all oppoſition, he was obliged to expunge out of it the recognizance of Whittam the meſſenger. This was followed by a reſolution that there ſhould be no more proceedings at law in the caſe; a great altercation enſued, and ſeveral of the minority at laſt left the houſe in the utmoſt rage.

521
And againſt Alderman Oliver.

Though it was now one o'clock in the morning, the miniſterial party were ſo ardent in the proſecution of their victory, that they refuſed to adjourn; proceeding now to the trial of Mr Oliver, who, as well as the lord mayor, was far from expreſſing any ſorrow for what he had done. Some propoſed to cenſure his conduct, others were for expulſion; but when it was propoſed to ſend him to the Tower, the utmoſt confuſion and mutual reproach took place; ſome members declared, that they would accompany him to the place of his confinement; others left the houſe, while miniſtry uſed their utmoſt endeavours to perſuade him into ſome kind of apology or conceſſion for what he had done; but finding that to no purpoſe, they at laſt carried the motion for his impriſonment, and he was committed accordingly.

522
Both committed to the Tower.

Ample amends, however, was made for this puniſhment by the unbounded popular applauſe heaped on both the lord mayor and alderman on this occaſion, and which indeed threatened very ſerious conſequences. Some days after the commitment of Mr Oliver, when the lord mayor attended at the houſe of commons, ſeveral very alarming inſults were offered to many of the members, particularly lord North; who, on this occaſion, loſt his hat, and narrowly eſcaped with his life. Some of the members of the minority interpoſed, and expoſtulated with the mob on the impropriety of their conduct, by which means all further diſturbance was prevented; and had it not been for this timely interference, it is ſuppoſed that the fray would not have ended without much bloodſhed.

523 Ridiculous ſhift to avoid a conteſt with Wilkes.

After the confuſion was in ſome meaſure diſpelled, the debates concerning the lord mayor again took place. Many arguments were brought againſt proceeding farther in the matter: but being diſregarded, the minority members left the houſe. His lordſhip refuſed the favour offered him of being committed to the cuſtody of the ſerjeant at arms, upon which it was reſolved to commit him to the Tower; the motion for this purpoſe being carried by 200 againſt 39. Mr Wilkes, on being ordered to attend, wrote a letter addreſſed to the ſpeaker of the houſe, in which he obſerved, that no mention had been made of his being a member; and that if his ſeat in parliament, to which he had been duly elected, was to be granted him, he would attend and juſtify his conduct. Adminiſtration, however, were too wiſe now to encounter this hero, and at the ſame time were under no little embarraſſment how to get off; ſo at laſt they were reduced to the miſerable ſhift of ordering him to attend on the 8th of April 1771, at the ſame time that they adjourned the houſe to the 9th.

524 Committee for inquiring into the obſtructions to the authority of the houſe of commons.

The many affronts and indignities which adminiſtration had of late been obliged to put up with, now rendered it abſolutely neceſſary to fall upon ſome method to ſhow that their authority was not altogether loſt. For this purpoſe a committee was appointed by ballot to inquire into the reaſon why there had been ſo many obſtructions to the authority of the houſe of commons. This committee having ſat from the 28th of March to the 30th of April, at laſt gave in the following report. "Your committee beg leave to obſerve, that in the diligent ſearch they have made in the journals, they have not been able to find an inſtance that any court or magiſtrate has preſumed to commit, during the ſitting of parliament, an officer of the houſe for executing the orders of the houſe. They further beg leave to obſerve, that they have not been able to find, that there ever has been an inſtance wherein this houſe has ſuffered any perſon, committed by order of this houſe, to be diſcharged, during the ſame ſeſſions, by any authority whatever, without again committing ſuch perſons. As therefore, with regard to J. Millar, who was delivered from the cuſtody of the meſſenger by the lord mayor, who, for the ſaid offence, is now under the cenſure of the houſe, it appears to your committee, that it highly concerns the dignity and power of the houſe to maintain its authority in this inſtance, by retaking the ſaid J. Millar, the committee recommend to the conſideration of the houſe, whether it may not be expedient, that the houſe ſhould order that the ſaid J. Millar ſhould be again taken into cuſtody of the ſerjeant at arms; and that his deputy or deputies be ſtrictly enjoined to call upon the magiſtrates, officers of the peace, and other perſons, who by the ſpeaker's warrant are required to be aiding and aſſiſting to him in the execution thereof, for ſuch aſſiſtance as the ſaid ſerjeant, his deputy or deputies, ſhall find neceſſary, to enable him or them to take into cuſtody the ſaid J. Millar."

525 The iſſue of this conteſt unfavourable to adminiſtration.

526 Diſſatisfaction on account of the embankment bill.

Nothing could have been more imprudent than the urging with ſuch violence a conteſt againſt ſuch contemptible adverſaries; and in which they were finally baffled. What they intended for puniſhment really afforded the criminals matter of triumph and exultation. Every honour that the city of London could beſtow was conferred upon the magiſtrates, while the complaints and execrations of the people at large became louder than ever. Every ſtep taken about this time by adminiſtration ſeemed calculated to add to the public ill humour. Towards the end of the ſeſſion a bill was brought in "for enabling certain perſons to incloſe and embank part of the river Thames, adjoining to Durham yard, Saliſbury-ſtreet, Cecil-ſtreet, and Beaufort buildings, in the county of Middleſex." This bill was oppoſed, as appearing contrary to the ancient rights and privileges of the city of London; but was eaſily carried through both houſes, though it produced a proteſt in the upper houſe; and a few days before the riſing of the ſeſſion, the city of London petitioned againſt it. In this petition it was complained of as a violent and unjuſt tranſaction, totally unprecedented, being an invaſion of the property which the city claimed in the ſoil or bed of the river. It was afterwards complained of in a remonſtrance, as an infringement of the rights of the people, and urged as a reaſon for the diſſolution of parliament.

527 Eaſt India affairs conſidered.

The only other tranſaction of moment during this ſeſſion related to the Eaſt India company. It was now propoſed to raiſe 2000 men in England for the ſervice of the company, the officers to be appointed by the king, and to be paid by the company. But after much ſpeculation, it was rejected as unconſtitutional and dangerous to keep an armed force in the kingdom which was not paid by government; and that, however inconſiderable the number propoſed was at preſent, it might ſoon be increaſed on any frivolous pretence. It was likewiſe urged, that it would prove an obſtruction to the recruiting ſervice for the army, on account of the ſuperior advantages of enliſting in the company's ſervice. The advocates for the bill urged the inconveniency of ſending out a ſufficient number of men annually to recruit the Indian forces; and that, unleſs parliament ſhould adhere to the promiſe they formerly made of aſſiſting the company in recruiting, they would be daily expoſed to vaſt loſs and expence from the tricks of recruiting parties. The ſeſſion roſe on the 8th of May. In the ſpeech from the throne, it was obſerved, that the ſatisfaction obtained from his Catholic majeſty for the injury done to this kingdom, and the proofs of the pacific diſpoſition which the courts of France and Spain had given by laying aſide their armaments, enabled us to reduce our forces by ſea and land. The zeal manifeſted by parliament could not fail to convince the world of its affectionate attachment to the crown and regard to the intereſts of the country. His majeſty's endeavours were promiſed to put an end to the troubles which ſtill prevailed in ſome parts of the continent; thanks were given to the commons for the unanimity, cheerfulneſs, and public ſpirit with which they had granted the ſupplies; and an apology was made for the extraordinary demands which had been made. The ſpeech concluded with adviſing the members to uſe their beſt endeavours, in their reſpective ſtations and counties, to render the national happineſs complete, by diſcouraging needleſs ſuſpicions and domeſtic diſturbances. His majeſty had no other object, and could have no other intereſt, than to reign in the hearts of a free and happy people; and it was his earneſt wiſh, that his ſubjects might not be prevented, by miſtakes or animoſities among themſelves, from enjoying the happineſs they had in their power.

528 Popular party diſcouraged.

The many defeats that had been received by oppoſition during this and the foregoing ſeſſions, now began to diſcourage them from proceeding ſuch lengths in the cauſe of patriotiſm as they had formerly done. Many of them had alſo loſt much of their popularity by taking an active part againſt the printers; and as every motion had been carried in favour of adminiſtration by nearly two to one, a general diſcouragement and languor began to take place among the popular party. The only gainers indeed by the late contentions were the city magiſtrates and printers who had been puniſhed by the houſe of commons. On the riſing of the parliament, when the lord mayor and alderman were releaſed from the tower, they were welcomed by every mark of congratulation. The city was illuminated; and the mob, as uſual, took vengeance on the refractory by breaking their windows. A committee was even appointed to carry on a proſecution againſt the ſpeaker of the houſe of commons; but as this did not ſeem likely to afford any redreſs, they determined once more to have recourſe to the throne. Accordingly, on the 10th of July 1771, another petition and remonſtrance was preſented, the ſubjects of which were the embankments on the Thames, the proceedings againſt the magiſtrates, and a ſpeedy diſſolution of parliament was requeſted. But this met with as unfavourable an anſwer as before. His majeſty replied, that he was ready to put an end to the real grievances of his faithful ſubjects; but was ſorry to find that a part of them ſtill renewed requeſts which he had repeatedly refuſed to comply with.

529 Debates on the augmentation of the number of ſeamen.

In the ſpeech from the throne, when the parliament met, January 21ſt 1772, his majeſty obſerved, that the performance of the king of Spain's engagements, and the behaviour of the other European powers, promiſed a continuance of peace; and though the neceſſity of keeping up a reſpectable naval force was evident, yet no extraordinary aid for that purpoſe would be neceſſary; and he concluded with recommending the moſt vigilant and active attention to the concerns of the country, with an aſſurance of the interpoſition of the crown to remedy abuſes or ſupply defects. Little diſpute was made about the addreſſes in anſwer to this ſpeech, though an ample ſubject of altercation very ſoon occurred. This was a motion made by adminiſtration, intimating the neceſſity of raiſing 25,000 ſeamen for the ſervice of the current year; it being always neceſſary, they ſaid, for us to preſerve a ſuperiority to the French in the Eaſt Indies, which had not been the caſe ſince they ſent a conſiderable fleet thither. "It was equally neceſſary (they added) to preſerve the preſent ſtrength of the Weſt Indies unimpaired; as the Spaniards knew the importance of our ſettlements there too well not to make an attack upon them firſt if ever a rupture ſhould take place. Twenty of the beſt ſhips in the navy were alſo now employed as guardſhips, and wanted nothing but men to fit them for actual ſervice."

A declaration of this kind, coming immediately after the aſſurances of peace that had been given from the throne, was ſaid to be a contradiction; that the peace-eſtabliſhment would thus be augmented till we were overburdened by it; 500,000 l. would thus be added to the national expences; and as the ſame augmentation might every year be made on ſimilar pretences, we ſhould thus be obliged to ſubmit to the hardſhips of war in time of a profound peace. If the aſſurances of peace from the throne were well founded, the force in the Eaſt Indies was already too great; if, on the contrary, a war was at hand, it would be too ſmall notwithſtanding the propoſed augmentation; and the ſame way Jamaica was likely to ſuffer from the inferiority.

530 Petition againſt ſubſcribing the XXXIX articles.

Theſe remonſtrances were by no means ſufficient to put a ſtop to any meaſure which had at this time been ſuggeſted by adminiſtration. The queſtion for the augmentation was carried without a diviſion: after which the ſubject of religion came to be diſcuſſed. This was occaſioned by the general tendency to Arianiſm or Socinianiſm, which had for ſome time prevailed to a great degree, and had at laſt infected the eſtabliſhed church in ſuch a manner, that the ſubſcription to her ſtandards was reckoned intolerable by many of the clergy. Meetings had been frequently held by the diſcontented members, in order to conſider of ſome mode of relief; and in the beginning of February 1772, about 250 of them, with ſeveral profeſſors of law and phyſic, joined in a petition to the houſe of commons, expreſſing their diſſatisfaction with ſubſcription to any human forms, and praying for relief. In this petition they aſſerted, that they held certain rights and privileges from God alone, without being ſubject to any other authority; ſuch as the exerciſe of their own reaſon and judgment, by which they were inſtructed and confirmed in their belief of the Chriſtian religion, as contained in the holy ſcriptures. They accounted it a bleſſing to live under a government which maintained the ſufficiency of the ſcriptures to inſtruct in all things neceſſary to ſalvation. Hence they concluded, that they had a right from nature, as well as from the principles of the reformed religion, to judge for themſelves what was or was not contained in the ſcriptures. From this invaluable privilege, however, they found themſelves in a great meaſure precluded by the laws relative to ſubſcription; by which they were enjoined to acknowledge certain articles and confeſſions of faith framed by fallible men as entirely agreeable to ſcripture. They prayed therefore to be relieved from ſuch an impoſition, and to be reſtored to their undoubted right of interpreting ſcripture for themſelves, without being bound by any human explanation of it, or being required to acknowledge by ſubſcription or declaration the truth of any formulary of religious faith and doctrine whatever excepting the holy ſcripture itſelf.

The affair of ſubſcription they looked upon to be not only a grievance to themſelves, but an encroachment on their rights as men and members of a Proteſtant eſtabliſhment, as well as a great hindrance to the ſpreading of the Chriſtian religion, tending to diſcourage further inquiry into the true ſenſe of ſcripture, to divide communions, and to cauſe a mutual diſlike betwixt fellow Proteſtants; giving occaſion for unbelievers to reproach and vility the clergy, by repreſenting them as guilty of prevarication, and of accommodating their faith to lucrative views and political conſiderations. It afforded alſo to Papiſts and others diſaffected to the religious eſtabliſhment of the church of England, an occaſion of reflecting upon it as inconſiſtent, and authoriſing doubtful and precarious doctrines, at the ſame time that the ſcripture alone was acknowledged to be certain and ſufficient for ſalvation. It had likewiſe a tendency to divide the clergy among themſelves; ſubjecting one part, who aſſerted their privilege as Proteſtants, to be reviled, both from the pulpit and the preſs, by another who ſeemed to judge the articles they had ſubſcribed to be of equal authority with the ſcripture itſelf; and laſtly, it occaſioned ſcruples and embarraſſments of conſcience to thoſe who were about to enter into the miniſtry, or prevented the cheerful exerciſe of it to thoſe who were already entered. By reaſon of theſe embarraſſments the clerical part of the petitioners found themſelves under great difficulties, being obliged in ſome ſenſe to join with the adverſaries of revelation, in ſuppoſing the one true ſenſe of ſcripture to be expreſſed in the preſent eſtabliſhed ſyſtem of faith; or elſe to incur the reproach of having deſerted their ſubſcription, &c. while ſuch of the petitioners as had been educated with a view to the profeſſions of civil law and phyſic, could not but think it a great hardſhip to be obliged, as they all were in one of the univerſities, even at their firſt matriculation and admiſſion, though at an age very improper for ſuch important diſquiſitions, to ſubſcribe their aſſent to a variety of theological tenets, concerning which their private opinions could be of no conſequence to the public, in order to intitle them to academical degrees in thoſe faculties; more eſpecially as the courſe of their ſtudies and attention to their practice did not afford them leiſure ſufficient to examine how far theſe tenets were conſonant to the word of God.

This petition was preſented by Sir William Meredith, who, along with the other members who favoured the cauſe, enforced it by many arguments drawn from the principles of toleration. They maintained alſo that nothing but hypocriſy and prevarication could ariſe from obliging men to ſubſcribe what they did not believe; that the repeal of the laws for ſubſcription would prevent the increaſe of diſſenters, ſo very conſpicuous at this time, and incline many of them to return to the church. The articles themſelves were ſaid to have been compiled in a hurry; that they contained doctrines highly controvertible; and that this reſtraint on the conſciences of men was of all others the greateſt hardſhip. The majority of parliament, however, were found inimical to the petition, though ſome, who oppoſed it at preſent, wiſhed for time to conſider it more deliberately, or to refer it to a committee of the clergy. By the reſt it was urged, that the matter of the petition was a violent infraction of the laws of the Engliſh religion; and that, if this was granted, another would ſoon follow againſt the liturgy The conduct of many of the petitioners, inſtead of being founded in any regard for religion, had its origin in hypocriſy and diſſoluteneſs, and certainly proceeded in many inſtances from a diſbelief of the Trinity, and of the divinity of our Saviour. The complaints of men were to be diſregarded when they wiſhed to profit by the emoluments of the church without ſubſcribing to its laws; beſides, the king was bound by his coronation oath to continue the church-government without alteration. It was likewiſe urged, that if people were to be reſtrained by no other article than an aſſent to the truth of the ſcriptures, the church would ſoon be over-run with impiety. Many had already founded blaſphemous tenets on the right of private opinion; and though it could not be denied that every man has this right for himſelf, yet none has a right to obtrude his ſingularities upon others; and if any of the clergy found the delicacy of their conſciences affected after they had accepted of benefices, they were welcome to leave them.

Some of the moſt moderate oppoſers of the petition endeavoured to vindicate the character of the clergy from the imputations laid upon them, and contended that the legiſlature had a controuling power over the articles of the union, and confirmed their aſſertion by mentioning the act againſt occaſional conformity, as well as another againſt elective patronages, both of them paſſed ſince the union; and it ſeemed to be the general wiſh of the houſe that the profeſſors of law and phyſic might be relieved from ſubſcription, though they did not conſider their ſhare in the matter as of any great importance to the public. It was at laſt thrown out by a majority of near 150.

531 Rejected.

The rejection of the ſubſcription bill was followed by that of a bill for quieting the poſſeſſions of his majeſty's ſubjects from dormant claims of the church; after which the attention of parliament was called to one of the utmoſt importance, and which was introduced by a meſſage from the king. This was the famous royal marriage bill, occcaſioned by the marriage of the duke of Cumberland with Mrs Horton, a widow lady, daughter of lord Irnham and ſiſter to colonel Luttrel, and that of the duke of Glouceſter with the counteſs dowager of Waldegrave. By the meſſage it was recommended to both houſes to take it into their conſideration, whether it might not be expedient to ſupply the defects of the laws then in being, and by ſome new regulations more effectually to prevent the deſcendants of his late majeſty (excepting the iſſue of the princeſſes who had married, or might hereafter marry into foreign families) from marrying without the conſent of his majeſty, his heirs and ſucceſſors. In conſequence of this a bill was brought in, declaring all ſuch marriages, without the conſent abovementioned, to be null and void. The deſcendants of his majeſty, however, if above the age of 25 years, might marry without the royal conſent, provided they give intimation, a twelvemonth before hand, to the privy council, and no oppoſition to the match was made by parliament during that interval.

532 Royal marriage-bill.

533 Proteſts againſt it.

This bill met with the moſt violent and powerful oppoſition. The principal arguments againſt it were expreſſed in two proteſts from the upper houſe, and were to the following purpoſe: 1. The doctrine that marriages in the royal family are of the higheſt importance to the ſtate, and that therefore the kings of this realm have ever been truſted with the care thereof, is both abſurd and unconſtitutional; though it would from that period have the force of a parliamentary declaration. The immediate tendency of this was to create as many prerogatives to the crown as there are matters of importance in the ſtate; and to extend them in a manner as vague and exceptionable as had ever been done in the moſt deſpotic periods. 2. The enacting part of the bill had an inconvenient and impolitic extent; namely, to all the deſcendants of Geo. II. In proceſs of time, that deſcription might become very general, and comprehend a great number of people; and it was apprehended that it would be an intolerable grievance for the marriages of ſo many ſubjects, perhaps diſperſed among the various ranks of civil life, to be ſubject to the reſtrictions of this act, eſpecially as the abettors of this doctrine had alſo maintained, that the care and approbation of the marriage alſo included the education and cuſtody of the perſon. This extenſive power might in time make many of the firſt families of the kingdom entirely dependent on the crown; and it was regretted that all endeavours to limit, in ſome degree, the generality of that deſcription, had proved ineffectual. 3. The time of nonage for the royal family appeared to be improperly extended beyond the limit of 21 years; a period which the wiſdom of the conſtitution ſeems, with great wiſdom, to have aſſigned to minority. 4. The deferring their marriage to the age of 26 might alſo be attended with other bad conſequences, by driving them into a diſorderly courſe of life, which ought to be particularly guarded againſt in thoſe of ſuch an exalted ſtation. 5. The power given by this bill to a prince to marry after the age of 26, is totally defeated by the proviſo which declares the conſent of parliament to be ultimately neceſſary. Thus great difficulties muſt be laid on future parliaments, as their ſilence, in ſuch a caſe, muſt imply a diſapprobation of the king's refuſal; and their concurrence with it might prove a perpetual prohibition from marriage to the party concerned. 6. The right of conferring a diſcretionary power of prohibiting all marriages appears to be above the reach of any legiſlature whatever, as being contrary to the inherent rights of human nature; which, as they are not derived from, or held under, the ſanction of any civil laws, cannot be taken away by them in any caſe whatever. The legiſlature no doubt has a right to preſcribe rules to marriage as well as to every other kind of contract; but there is an eſſential difference between regulating the mode by which a right may be enjoyed, and eſtabliſhing a principle which may tend entirely to annihilate that right. To diſable a man during life from contracting marriage, or, which is the ſame thing, to make his power of contracting ſuch marriage dependent neither on his own choice nor on any fixed rule of law, but on the arbitrary pleaſure of any man, or ſet of men, is exceeding the power permitted by divine providence to human legiſlature, and directly contrary not only to the divine command, but alſo to the rights of domeſtic ſociety and comfort, &c. 7. This bill has a natural tendency to produce a diſputed title to the crown. If thoſe who are affected by it are in power, they will eaſily procure a repeal of this act, and the confirmation of a marriage made contrary to it; and if they are not, it will at leaſt be the ſource of the moſt dangerous faction that can exiſt in any country, viz. one attached to the pretender to the crown; whoſe claim, he may aſſert, has been ſet aſide by no other authority than that of an act to which the legiſlature was not competent, as being contrary to the common rights of mankind. 8. The bill provides no ſecurity againſt the improper marriages of princeſſes married into foreign families, and thoſe of their iſſue; which may full as materially affect the intereſt of this nation as the marriages of princes reſiding in the dominions of Great Britain. It provides no remedy againſt the improper marriage of the king reigning, though evidently the moſt important of all others to the public. It provides nothing againſt the indiſcreet marriage of a prince of the blood, being regent at the age of 21; nor furniſhes any remedy againſt his permitting ſuch marriages to others of the blood royal, being fully inveſted with the regal power for this purpoſe, without the aſſiſtance of council.

The anſwer to all theſe arguments was, that the inconveniences ſo much talked of were merely imaginary; and if the king ſhould make any improper uſe of his authority, parliament had it either in their power to prevent the effect, or puniſh the miniſter who adviſed it. The crown, it was ſaid, was diſhonoured by improper connections, and many of the greateſt national calamities have proceeded from improper alliances between the royal family and ſubjects; and that if, from after experience, we ſhould find any material grievances enſue from this act, it could as eaſily be repealed at that time as thrown out now, and on better grounds. It was very rapidly carried through both houſes; in the upper houſe by 90 to 26; and in the lower by 165, to 115.

534
Bill for the relief of diſſenters propoſed.

Though the late deciſion concerning ſubſcription to the 39 articles did not ſeem to promiſe much ſucceſs to any innovations in religious matters, yet the caſe of diſſenting miniſters was introduced ſoon after the diſcuſſion of the royal marriage act; the advocates for it being encouraged to bring it forward chiefly on account of ſome favourable hints thrown out in the debates on the ſubſcription-bill. A petition was now preſented by a great body of theſe people, praying to be relieved from the hardſhip of ſubſcribing to the articles of a church to which they did not belong. This, however, was moſt violently oppoſed by the opponents of the former bill, though with very little ſucceſs in the houſe of commons, where it was carried through by a prodigious majority. Here it was maintained that nothing can advance the true intereſt of religion ſo much as toleration; and if articles of ſubſcription are neceſſary, it muſt only be for men deſtitute of principle, and who would, in compliance with ambition or avarice, as readily ſubſcribe to one ſet of articles as another. If thus any of the fundamental doctrines of Chriſtianity, are impugned, there are abundance of laws in exiſtence to correct the impiety. The diſſenters have indeed altered ſome of their original forms and doctrines, but that only in matters of indifference. It is the effect of learning, leiſure, and refinement, to give men many opportunities of altering eſtabliſhed forms. This has been the caſe formerly, and always will be. The diſſenters have long been virtually exempted from this ſubſcription; and yet the piety and decency of many of them, particularly in Scotland and Ireland, where no ſuch laws are in being, ſufficiently ſhow, that men, whoſe minds are ſtedfaſt in the purity of religion, will not be confined nor influenced by laws of human invention. But though the diſſenters enjoy full liberty by connivance at preſent, where is their ſecurity againſt the ſudden attacks of malice and envy, which may be backed by the ſanction of law? Every neglect of a law by connivance is an additional proof of the neceſſity of abrogating that law; and liberty is but an empty name, where it is enjoyed by an overſight only, as it were, of our ſuperiors. 535 Rejected. In the houſe of lords, however, the bill was rejected by a majority of 70. Here the doctrine of univerſal toleration was ſtrenuouſly oppoſed, as well as the great danger ſet forth, to which the church of England would be expoſed by departing from the laws which guarded its privileges. The diſſenters, it was ſaid, had great cauſe to be ſatisfied with the favour they enjoyed by connivance; and the laws were only kept on record as a neceſſary curb, leſt in the degeneracy of a declining kingdom, religion ſhould be deſtitute of protection againſt hereſy and blaſphemy.

The only other affairs of this ſeſſion were ſome attempts at an inquiry into the affairs of the Eaſt India company, which were now in a very critical ſituation. 536 Eaſt India affairs. Theſe, however, did not come under conſideration till the next ſeſſion, which took place November 26th 1772, when his majeſty gave this ſituation of the affairs of the company as a reaſon why he had called them together ſooner than uſual. The continuance of the pacific diſpoſition of other powers was mentioned, and ſatisfaction expreſſed that the continuance of peace had afforded an opportunity of reducing the naval eſtabliſhment, though a great force muſt always be neceſſary for the defence of theſe kingdoms. Oeconomy was promiſed with regard to the ſupplies, and it was recommended to take every method that could be deviſed to remedy the dearneſs of proviſions.

The affairs of the Eaſt India company took up the greateſt part of the preſent ſeſſion. It had been projected, as far back as the year 1767, when they were in a very flouriſhing condition, to bring them under the inſpection of government, that the nation might ſhare the immenſe wealth ſuppoſed to be enjoyed by the company. The deſign, however, did not ſucceed at that time, nor would it probably have been eaſily brought to bear, had not the affairs of the company been embarraſſed by the bad conduct of their ſervants. During the laſt ceſſion a bill had been brought in for reſtraining the governor and council from all kind of trade, as well as for enlarging the power of the company over its ſervants. The bill, however, was rejected after the ſecond reading, and indeed was thought to have been propoſed only to introduce the ſucceeding buſineſs. The debates on the ſubject procured in a great meaſure the general belief of two points of much importance to the ſucceſs of the ſcheme, viz. that the affairs of the Eaſt India company were in a very bad ſituation, owing to the behaviour of its ſervants; and that the company was at any rate inſufficient for the government of ſuch extenſive poſſeſſions; of conſequence that there was an evident neceſſity of giving up the management of it to the crown. A motion was now made in parliament, by a gentleman unconnected with adminiſtration, for a ſelect committee to inquire into the affairs of the company: but many reaſons were urged againſt this appointment, particularly that the ſeaſon was too far advanced for a buſineſs of ſuch importance; that the committee, being a ſecret one, was not accountable for its conduct; and that, as the miniſter would have it in his power to nominate the members of the committee, conſiderable partiality might on that account take place. The motion, however, was carried without a diviſion; and the members were choſen by ballot.

The affairs of the Eaſt India company proceeded from bad to worſe during the receſs. The treaſury at home was quite exhauſted; while bills to a vaſt amount, drawn on Bengal, were nearly due; which, with their debt to the bank and other public offices, along with the ſum to be paid to government, reduced them almoſt to the brink of Bankruptcy. They were therefore reduced to the expedient of borrowing a ſum of money from adminiſtration: but their application was received with great indifference. The miniſter deſired them to apply to parliament. The reports of the ſelect committee, in the mean time, contrary to the promiſe of ſecrecy, were publiſhed, and gave the public no favourable opinion of the behaviour of the company's ſervants. On the meeting of parliament, the miniſter moved for another committee, under the title of the *committee of ſecrecy*, to conſiſt of 13 perſons, for taking into conſideration the ſtate of the company's affairs; which might thus undergo a full inveſtigation, without any thing being known to the world, which had excited ſuch indignation in the former caſe. The members of this new committee were alſo to be choſen by ballot; ſo that no objection could militate againſt them that did not militate, with equal ſtrength, againſt the whole houſe. It was objected, that this mode of ſecret inquiry, by a ſmall number, was unprecedented and unconſtitutional; that the members would in effect be nominated by the miniſter, and act under his direction; and that a free inveſtigation by the whole parliament was eſſentially different from that by a ſecret committee. In the latter caſe, every information that the miniſter thought proper to conceal would be withheld: at any rate, a committee of ſecrecy is an evident abſurdity; a committee can be no longer a ſecret than during the time it takes up for inquiry. Its proceedings muſt be laid before the public; and in caſe of unjuſt accounts, the parliament had no means of being undeceived. Theſe reaſons, however, were of no avail at preſent. The committee of ſecrecy was carried, as the other had been, without a diviſion; and, as had been predicted, the members, though choſen by ballot, were almoſt all of them devoted to adminiſtration. The ſelect committee was likewiſe revived, that they might be, as it was ſaid, checks upon one another; ſo that between them the nation would have every requiſite degree of information on the whole affair.

537 Reſtraining bill propoſed. In a very ſhort time after the appointment of the ſecret committee, a report was given in, ſtating that the company were in great diſtreſs for want of money; and as this was the caſe, a bill ought to be brought in for reſtraining them from ſending out ſupervisors to India, a ſcheme which they had meditated at this time. The miniſter and his adherents enlarged greatly on the utility of this bill: which, they ſaid, was highly expedient. It was the ſincere wiſh of parliament to render them a great and glorious company: it was abſolutely neceſſary for this purpoſe not to allow them to engage in an expenſive commiſſion, at a time when their affairs were ſo

much embarraſſed that they were obliged to apply to government for a loan. It was even doubted whether the company, without the ſanction of parliamentary authority, had power to appoint a commiſſion of this kind. On the other hand, the miniſter's propoſal was ſaid by oppoſition to be unconſtitutional and inſidious. The want of caſh at preſent experienced by the Eaſt India company was not of ſuch great importance, their credit being then as fully eſtabliſhed as ever. They had made choice of a ſet of men in whom they could confide; the many loſſes occaſioned by their ſervants rendered the commiſſion indiſpenſably neceſſary; and the expence would be paid from the ſavings which muſt undoubtedly ariſe from ſo prudent a ſtep. It was unreaſonable, becauſe the Eaſt India company, or any other, are diſtreſſed, to allow them no opportunities of extricating themſelves. The company could not be ſaid to want reſpect for parliament; they had ſhowed this already by delaying the departure of the commiſſion till the inquiry begun by the houſe was finiſhed: nor could they be wanting in reſpect to their own intereſt, charter, and conſtitution; which they ſeemed to ſhow by every poſſible mark of oppoſition to this bill. Adminiſtration boaſted of their intentions and their wiſhes to render this company great and glorious; but how could we expect greatneſs or glory to proceed from a quarter where it did not exiſt? The dignity of parliament was leſſened, and its glory effaced, by the conduct of miniſters, and the many wanton acts of authority lately committed. It was a curious method of rendering a company great and glorious to plunder the proprietors of immenſe ſums of money by exorbitant grants, or by taking away their charters; for, after this act, it was plain that charters could no longer be depended upon. Two gentlemen belonging to the company, and then preſent in the houſe, offered to pledge themſelves, that the commiſſion of ſuperviſion ſhould not be allowed to depart until, from further reports, a full knowledge of the company's affairs ſhould be acquired. This, however, was inſtantly rejected, it being ſaid to be defective in ſecurity; that the Eaſt India company would not ſcruple to make an agreement of this kind to-day, and break it to-morrow; which could only be prevented by an act of parliament, eſpecially as the miniſtry had no motives for promoting this meaſure, but a regard for the welfare of the company, and a deſire to reſtore its affairs to a better ſtate.

538
Ineffectual attempts of the company to prevent the paſſing of the bill.

Notwithſtanding all the arguments uſed by adminiſtration in favour of this bill, however, the company were ſo far from thinking it to their advantage, that they uſed every endeavour to prevent its paſſing into a law. They petitioned; and ſome of their ſervants were examined in the houſe of commons in order to ſhow the neceſſity of ſuperviſors being ſent out, who might be qualified to reduce their affairs to ſome order by being on the ſpot, and enabled to curb the exceſſes of which the company's ſervants had too frequently been guilty. During this examination it appeared, that from the year 1765 to 1773 the expences of the company had increaſed from 700,000l. to 1,700,000l. annually, and that government had received near two millions from the company every year; that they had immenſe profits in extraordinaries, while the proprietors loſt conſiderably of the dividend which the profits of their trade alone would have produced. In ſpite of all oppoſition, however, the bill for reſtraining the company from ſending out any commiſſion of ſuperviſion was carried by a majority of 153 to 28. In the houſe of lords it met with ſimilar ſucceſs, being carried by 26 to 6, though the minority thought proper to enter a proteſt. The reaſons given againſt it in this proteſt were, that it took away from a great body corporate, and from ſeveral free ſubjects of this realm, the exerciſe of a legal franchiſe, without any legal cauſe of forfeiture aſſigned. The perſons appointing the commiſſioners had by law a right to elect, and the perſons choſen had a legal capacity of being elected. The ſuperviſors had a full right veſted in them agreeable to the powers and conditions of their appointment; but though no abuſe was ſuggeſted nor any delinquency charged upon them, theſe legal rights and capacities were taken away by a mere arbitrary act of power, the precedent for which leaves no ſort of ſecurity to the ſubject for his liberties. The bill ſeemed likewiſe a manifeſt violation of the public faith. The charter of the Eaſt India company was granted by the crown, authoriſed by act of parliament, and purchaſed for valuable conſiderations of money lent and paid. By this the company were allowed to manage their own affairs as they thought proper, and by perſons of their own appointment; but by this bill the exerciſe of the power juſt mentioned was ſuſpended for a time, and by grounding the ſuperviſion upon the actual interference of parliament with the affairs of the company, eſtabliſhed a principle which might be uſed for perpetuating the reſtraint to an indefinite length of time. It is indeed difficult to ſettle the legal boundary of legiſlative power, but it is evident, that parliament is as much bound as any individual to obſerve its own compacts; otherwiſe it is impoſſible to underſtand what is meant by public faith, or how public credit can ſubſiſt. It appeared by evidence upon oath at the bar of the houſe of lords, that the company had received aſſurances from their chairman and deputy chairman, that the appoinment of a commiſſion for ſuperintending and regulating their affairs would be approved by adminiſtration; and it was extremely hard that they ſhould be able to find no ſecurity for their charter privileges againſt thoſe very miniſters, under whoſe ſanction they had reaſon to believe they were all along acting. It was alſo the more incumbent on the company at preſent to give the moſt ſtrict attention to their affairs, to enable them to anſwer the exhorbitant demands of government, as it appeared, from the witneſſes at the bar, that its exactions amounted to more than the whole profits of the late acquiſitions, and the trade enſuing from them; while the proprietors, who had ſpent ſo much, and ſo often riſked their all for obtaining theſe acquiſitions, had not been permitted even to divide ſo much as the profits of their former trade would have afforded.

539
Proteſt againſt it in the houſe of lords.

540
Second report of the ſelect committee.

The ſecret committee now gave in their ſecond report, containing a ſtatement of the debt, credit, and effects of the company in England; beginning with an account of the caſh in the company's treaſury on the 1ſt day of December 1772, and containing a ſtatement of all their debts and claims againſt them in every part of the world. Thus it appeared that the caſh, credit, 541 State of the company's affairs.

542 The ſtatement unſatisfactory.

credit, and effects of the company amounted to L. 6,397,299 : 10 : 6, and their debts to L. 2,032,306, which being deducted from the above account of their effects, left a balance in favor of the company of L. 4,364,993 : 10 : 6, without any violation of the fortifications and buildings of the company abroad. The ſtatement, however, was complained of as unfair; and it was ſaid, that impartiality was not to be expected from a ſet of men who had it in their power to make what report they pleaſed for the intereſt of government meaſures; but the members proteſted their innocence; and adminiſtration inſiſted, that, until poof could be brought that the ſtatement was unfair, the houſe was bound to adhere to it as juſt.

543 Application of the company to government for a loan.

The buſineſs was revived after the holidays by an application from the company to government for a loan of L. 1,500,000 for four years, at 4 *per cent.* intereſt, with liberty of repaying the ſame according to the abilities of the company, in payments of not leſs than L. 300,000; and that the company ſhould not make a dividend of more than 6 *per cent.* until the loan ſhould be reduced to L. 750,000; that then they might raiſe their dividend to 8 *per cent.* and after the whole loan was diſcharged, that the ſurplus of the nett profits ariſing in England, above the ſaid dividend, ſhould be appropriated to the payment of the company's bond-debt, until it was reduced to L. 1,500,000, when the ſurplus profits ſhould be equally divided between the public and the company. It was alſo requeſted, that the company ſhould be releaſed from the heavy penal intereſt incurred by the non-payment of money owing in conſequence of the late acts for the indemnity on teas; and that they ſhould be diſcharged from the annual payment of the L. 400,000 to the public for the remainder of the five years ſpecified in the agreement. They farther requeſted, that the accounts of the Duannee revenues, of the charges of collection, expences of Bengal, company's accounts of ſales, &c. ſhould be delivered annually to parliament, and that leave might be given to export teas free of all duty to America, and to foreign parts. This requeſt was judged expedient to be granted, and the following reſolutions were agreed to, "That the affairs of the Eaſt-India company are in ſuch a ſtate as to require the aſſiſtance of parliament; that a loan is neceſſary to reinſtate the company's affairs; that the ſupply be granted; and that care be taken that the company be prevented from experiencing the like exigencies for the future. The two following motions were alſo founded upon the report of the ſecret committee, *viz.* That, ſuppoſing the public ſhould advance a loan to the Eaſt-India company, it was the opinion of the committee that the dividend ſhould be reſtrained to 6 *per cent.* until the payment of the ſum advanced; and that the company be allowed to divide no more than 7 *per cent.* until their bond-debt be reduced to L. 1,500,000.

544 Reſolutions of adminiſtration in conſequence.

545 Oppoſed in vain by the company.

Theſe ſevere reſtrictions were judged proper by adminiſtration for the ſecurity of the public, and were ſuch, they ſaid, as every creditor has a right to make before hand with a perſon who wiſhes to borrow money from him. The company, however, replied, that theſe reſtrictions were contrary to the propoſals they had made, and void of foundation, as being built on the erroneous reports of the ſecret committee. The chairman of the company declared at a general court, that the government had agreed, or would agree, to the propoſed increaſe of dividend, before the participation of profits took place between the government and commany; the firſt lord of the treaſury had told him ſo, and now wiſhed to deny what he had ſaid by uſing theſe expreſſions in private converſation, and when he did not conſider the chairman as acting officially. But if this was the caſe, to what purpoſe did public men hold converſations, ſince they were afterwards to deny or forget what paſſed? Some time was alſo demanded to conſider of theſe motions; but that being denied, the queſtion was put and carried as miniſtry wiſhed.

546 Territorial right of the company to their poſſeſſions denied.

The next ſtep was to deprive the company of their territorial right to the countries they poſſeſſed in the Eaſt-Indies. This had been allowed them in the moſt explicit manner, as appears by ſome of the papers which paſſed between the French and Engliſh miniſters during the negociations for the treaty of Paris; from one of which papers the following is an extract: "Reſpecting thoſe territorial acquiſitions which the Engliſh Eaſt-India company have made in Aſia, every diſpute relative thereto muſt be ſettled by that company itſelf, the crown of England having no right to interfere in what is allowed to be the legal and excluſive property of a body corporate belonging to the Engliſh nation." This territorial right, however, was now denied. After reading the company's petition, lord North told the houſe that it was the opinion of ſeveral great lawyers, that ſuch territorial poſſeſſions as the ſubjects of any ſtate ſhall acquire by conqueſt, are virtually the property of the ſtate, and not of thoſe individuals who acquire them. It was his opinion, however, that it would be more beneficial to the public and to the Eaſt-India company, to *let* the territorial acquiſitions remain in the poſſeſſion of the company for a limited time, not exceeding ſix years, to commence from the agreement betwixt the public and the company. At the ſame time it was moved, that no participation of profits ſhould take place betwixt the public and the company until after the repayment of L. 1,400,000 advanced to the company; and the reduction of the company's bond-debt to L. 1,500,000. That after the payment of the loan advanced to the company, and the reduction of their bond-debts to the ſums ſpecified, three-fourths of the nett ſurplus profits of the company at home above the ſum of 8 per cent. upon their capital ſtock, ſhould be paid into the exchequer, for the uſe of the public, and the remaining fourth be ſet apart either for reducing the company's bond-debt, or for compoſing a fund for the diſcharging of any contingent exigencies the company might labour under.

547 The company petition again ineffectually.

Theſe proceedings were exceedingly diſagreeable to the company. They now preſented a petition complaining of the injuſtice of demanding any farther terms on account of the loan, after that loan was diſcharged. The limitations of the company's dividend to 7 per cent. after the diſcharge of the loan, until their bond-debt ſhould be reduced to L. 1,500,000, ſeemed not to be founded upon any juſt calculation of their commercial profits; nor could it with reaſon be alleged that it was neceſſary either to their credit or that of the public to reſtrain them in ſuch a manner. The additional dividend of 1 per cent. was an object of ſome conſequence to the proprietors, but very little to the diſcharge of their debt to the public; and the hardſhips of being limited in this manner were exceedingly aggravated by the loſſes ſuſtained, and the expences they had incurred in acquiring and ſecuring the territorial revenues in India, at the riſk of their whole capital, while the public reaped ſuch great advantages. The limitation of the company to a term not exceeding ſix years for the poſſeſſion of their Indian territories they looked upon to be entirely arbitrary, as it might be conſtrued into a final deciſion againſt the company reſpecting thoſe territories to which they inſiſted that they had an undoubted right. Neither could they acquieſce in thoſe reſolutions by which three-fourths of the ſurplus nett profits of the company at home, above the ſum of 8 *per cent. per annum* upon the capital ſtock, ſhould be paid into the exchequer for the uſe of the public, and the remainder be employed either in further reducing the company's bond-debt, or for compoſing a fund to be ſet apart for the uſe of the company in caſe of extraordinary emergencies; ſuch unheard of diſpoſal of their property without their conſent, not being warranted by the largeſt pretenſions ever made againſt them. It was likewiſe ſubverſive of all their rights and privileges, by denying them the diſpoſal of their own property after their creditors were properly ſecured by law. Their petition concluded with aſſuring miniſters, that, rather than ſubmit to theſe conditions, they deſired that any claims againſt the poſſeſſions of the company might receive a legal deciſion; from which, whatever might be the event, they would at leaſt have the ſatisfaction to know what they could call their own.

548
They are allowed to export tea duty free.

No regard being ſhown to this petition, the motions were carried in favour of adminiſtration. To make ſome kind of recompenſe, however, it was agreed on their part, that as the company had a ſtock of teas amounting to about 17 millions of pounds in their warehouſes, they ſhould be allowed to export as much of it as they thought proper free of duty, and employ the money thence ariſing for the behoof of their own affairs.

This conceſſion in favour of the Eaſt India company proved in the event the loſs of the American colonies; nor indeed could theſe arbitrary proceedings with ſuch a conſiderable body tend to impreſs the minds of any part of the nation with ideas favourable to the views of adminiſtration. In other reſpects the miniſter abated nothing of the diſpoſition he had from firſt to laſt ſhown with regard to the company.

549
Eaſt-India regulation bill brought in.

On the 3d of May 1773, the following reſolutions were laid down by him as the foundation of a bill for the eſtabliſhing certain regulations for the better management of the Eaſt-India company, as well in India as in Europe. Theſe were, 1. That the court of directors ſhould in future be elected for four years; ſix members annually, but not to hold their ſeats longer than four years. 2. That no perſon ſhould vote at the election of the directors who had not poſſeſſed their ſtock twelve months. 3. That the ſtock of qualification ſhould for the future be L1000, inſtead of L500. 4. The mayor's court of Calcutta ſhould for the future be confined to ſmall mercantile cauſes, to which its juriſdiction only extended before the territorial acquiſitions. 5. That, inſtead of this court, thus taken away, a new one ſhould be eſtabliſhed, conſiſting of a chief juſtice and three puiſne judges. 6. Theſe judges to be appointed by the crown. 7. That a ſuperiority be given to the preſidency of Bengal over the other preſidencies in India. Each of theſe reſolutions was carried by a great majority. The ſalaries of the judges were fixed at L. 6000 each, and that of the chief juſtice at L. 8000. The governor of the council was to have L. 25,000 annually, and the members of the council L. 10,000 each.

550
Is diſagreeable to the company.

By the friends of the company, however, the bill was ſuppoſed to have a tendency to effect a total alteration in the company's conſtitution in England; as well as the adminiſtration of all its preſidencies in Aſia, in order to ſubject all their affairs, both at home and abroad, to the immediate power of the crown. No delinquency was charged, nor any ſpecific ground of forfeiture aſſigned, yet by this bill more than 1200 freemen were to be disfranchiſed and deprived of any voice in the management of their property. By cutting off the L. 500 ſtockholders, the proprietary would become more manageable by the crown; nor was there any ſecurity that the directors would be faithful to the intereſts of the company when they were no longer reſponſible to them for their actions. By the eſtabliſhment of a general preſidency over all the affairs of the company, and by the nomination of judges for India, government would in effect transfer the whole management of the affairs of the company to the crown, and the company would have no farther ſhare in the buſineſs than to pay what ſalaries the crown thought fit to aſſign them.

551
Petition of the proprietors of 500l. ſtock.

The proprietors of L. 500 ſtock preſented a petition, ſetting forth, that, by king William's charter granted to the company, and repeatedly confirmed ſince that time, in conſideration of many large ſums repeatedly advanced by the company to the public, they were legally poſſeſſed of a right of voting at the election of directors, making of by-laws, or in any other matter relating to the affairs and government of the company; but by a clauſe in this regulating bill they were deprived of this right, and that under a pretence of preventing the pernicious practice of ſplitting ſtock by colluſive transfers; but ſo far were the proprietors from giving away to ſuch practices, that in the year 1767 they petitioned parliament for an act, by which the ſeveral proprietors intitled to vote ſhould be obliged to hold this qualification ſix months at leaſt before the exerciſe of their right, afterwards extending the time to twelve months, rather than the act ſhould fail of its intended effect. This propoſed increaſe of the qualification of the voters, however, could not in any degree anſwer the end deſired; for the ſplitting of ſtock being confined to ſuch proprietors as held large quantities, they would find it an eaſy matter to place their ſtocks in the hands of half the number of perſons, and thus extend their influence in a great and undue proportion; but if ever government conceived deſigns againſt the company, they would find it much eaſier to execute them while the proprietors were few and opulent, than when they were numerous, and at the ſame time independent and poſſeſſed of moderate fortunes.

552
Motion in their favour rejected in the houſe of commons.

This petition produced a motion in the houſe of commons, "That it does not appear that the proprietors of L. 500 ſtock in the Eaſt-India company have been guilty of any delinquency in the exerciſe of their charter-rights according to the ſeveral acts of parliament made in their behalf." This, however, being rejected, the regulating bill paſſed in the houſe of commons by a majority of more than ſix to one. In the houſe of lords it paſſed by 74 to 17. The duke of Richmond moved for a conference with the houſe of commons; but this was refuſed. He then moved that copies of all the papers which had been laid before the commons ſhould be laid before the lords alſo; but this being likewiſe refuſed, he joined ſix other members in a proteſt, the ſubſtance of which was, that the whole was a ſcheme of government to get the power and wealth of the company into their hands; pointing out at the ſame time the many particular infringements on public and private rights by paſſing the bill.

553 Inveſtigation of the company's affairs by the ſelect and ſecret committees.

554 Lord Clive accuſed.

All this time inquiries went on by the ſelect and ſecret committees; the affairs of the company were inveſtigated from the year 1756, and many witneſſes examined concerning them. A report was preſented by general Burgoyne, containing many charges of cruelty and rapacity in the conduct of ſeveral gentlemen concerned in the management of the affairs of the company; particularly with regard to the depoſition of Surajah Dowlah in 1756. This was ſaid to have been the origin of all the evils that had happened ſince that time. He inſiſted much on the treachery uſed in bringing about that revolution, and particularly the fictitious treaty with Omichund; expoſing the conduct of lord Clive, who had cauſed admiral Watſon's name to be affixed to that treaty, which the admiral had refuſed to ſign in perſon*. He concluded with moving for the reſtitution of all the money received in preſents or otherwiſe in India, while the receivers acted in a public capacity; and at laſt ſtated the following reſolutions: "That all acquiſitions made under the influence of a military force, or by treaty with foreign powers, do of right belong to the ſtate; that to appropriate acquiſitions obtained by ſuch means is illegal; and that great ſums of money had been obtained by ſuch means from the ſovereign princes in India." The general belief that many of the company's ſervants had acted in a moſt infamous manner, was at this time ſo ſtrong, that the above reſolutions were carried almoſt unanimouſly. Lord Clive defended himſelf by general proteſtations of innocence; which, however, gained but little credit, till he entered into a particular refutation of the charges againſt him. His friends were not of opinion that theſe were of an atrocious nature, and wiſhed to excuſe him by policy, neceſſity, &c. rather than load him with any great degree of guilt. The treaty with Omichund was juſtified by neceſſity. Some ſaid, indeed, that as Omichund had the character of the moſt accompliſhed villain in Aſia, an Engliſhman only wiſhed to have a trial of ſkill with him. This ſevere ſarcaſm, however, was a mere piece of wit, without any ſolid foundation; for the crime, if any there was in that tranſaction, undoubtedly lay in the dethroning a ſovereign prince by means of traitors, not the cheating of theſe traitors of their reward. Indeed, if once we admit treachery into our dealings at all, it is in vain to pretend any ſubjection to the rules of juſtice; for we are already beyond its juriſdiction.

555 He is acquitted.

General Burgoyne now moved, "That Lord Clive, in conſequence of the powers veſted in him in India, had received at various times preſents to the amount of L.234,000 Sterling, to the diſhonour and detriment of the ſtate;" but this being rejected after violent debates, the following was ſubſtituted: "That lord Clive did, in ſo doing, abuſe the power with which he was entruſted, to the evil example of the ſervants of the public." This alſo being rejected, another was added, "That lord Clive, when he received the ſum abovementioned, did at the ſame time render great and meritorious ſervices to his country." Thus the matter was concluded, and the affairs of the company delivered into the hands of adminiſtration, who declared that their regard for its welfare was the ſole motive for bringing about this revolution.

556 Proceedings in American affairs.

The affairs of the Eaſt-India company were ſucceeded by thoſe of America. The ill humour occaſioned by the taxes laid on that country has been already taken notice of. The ſtamp-act had excited among them a ſpirit of induſtry, œconomy, and a deſire of ſerving themſelves with their own manufactures, which had never been forgotten. This was at that time, as well as afterwards, imputed to wilfulneſs, or the diſcontent of a few, which would afterwards ſubſide of itſelf, or be ſuppreſſed by the voice of the majority; when things would of courſe revert to their old channel. The trifling tax on tea, however, which had not been repealed, and the allowance given to the company to export what quantities they pleaſed, now threw matters into a ferment not to be quelled by any means whatever. The various proceedings in America, the tumults, and ſubſequent war, are fully taken notice of under the article *United States of America*. Here it only remains to give an account of the manner in which the legiſlature and people of Great Britain were affected by theſe events. It has already been remarked, that ever ſince the concluſion of the peace in 1763, the diſpoſition ſhown by government to augment the revenue, for which indeed there was at that ime an evident neceſſity, had produced in the popular party of Great Britain a ſpirit very ſimilar to that manifeſted by the Americans, though in an inferior degree; ſo that the patriots of Britain conſidered the Americans as oppreſſed by government, and ſuffering in the ſame cauſe with themſelves. The deſtruction of the tea at Boſton and other places in America, however, conſiderably diminiſhed the number of their friends, and made many of thoſe who ſtill adhered much leſs ſanguine in their cauſe. The matter was announced to parliament by a ſpecial meſſage from the throne. Lord North and the other miniſters ſet forth the conduct of the coloniſts, particularly of the town of Boſton, in a moſt atrocious light, and concluded that now government was perfectly juſtifiable in any meaſures they might think proper to redreſs the wrong, and inflict ſuch puniſhment on the town as the enormity of the crime ſeemed to deſerve. Oppoſition did not pretend to exculpate, though it was ſtill attempted to excuſe them by deriving all the diſturbances in that country from the arbitrary and abſurd meaſures purſued and obſtinately adhered to at home. This heavy charge the miniſtry evaded by drawing the attention of the houſe to the more important conſideration, Whether the Americans were now to be dependent, or independent, on Great Britain? The Boſton port-bill being then brought in, was carried, but not without conſiderable oppoſition, both within and without doors. A petition was firſt preſented by Mr Bollan, agent for the

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* See *Indoſtan*.

the council of Maſſachuſett's bay, urging an act of queen Elizabeth for the ſecurity of the liberty of the **557 Debates on the Boſton port bill, and petitions againſt it.** colonies. This was preſented before the bill had actually made its appearance; but ſo little regard was paid to it, that, during the very time it lay on the table, the bill was brought in by lord North. After it had paſſed two readings, that gentlemen preſented another, deſiring to be heard in behalf of the town of Boſton, for the council of Maſſachuſett's bay. This was abſolutely refuſed; becauſe, though Mr Bollan was agent for the colony, he was not for the corporation of the town of Boſton. Neither could he be ſo for the council of Maſſachuſett's bay; for as that was neceſſarily fluctuating, the body which had appointed him was now no longer exiſting. This appeared very inconſiſtent to many of the members, and produced a greater oppoſition in the houſe than would otherwiſe in all probability have enſued. A new petition quickly followed from the lord mayor, in the name of the natives and inhabitants of North America reſiding at that time in London. This was written in a more ſpirited ſtyle, and boldly inſiſted that the bill was illegal, unprecedented, unjuſt; and that, under ſuch a precedent, no man or body of men in America could have a moment's ſecurity; the charge being brought by the enemies of the town, and the puniſhment inflicted without hearing them in their own defence, or even making them acquainted with the charge; and they concluded with theſe remarkable words, that "the attachment of America would not ſurvive the juſtice of **558 Paſſes without a diviſion.** Britain." As little regard being paid to this as to the former petitions, and all propoſals for a delay rejected, the bill paſſed both houſes without a diviſion; the minority, notwithſtanding their oppoſition, not chooſing to diſſent publicly from the firſt ſtep taken **559 Repeal of the tea duty refuſed.** by government to reduce the colonies. That this obnoxious bill might not be ſent to America without ſome mitigation, however, they propoſed the repeal of the duty on tea laid on in 1767; but this was alſo rejected, probably from a vain expectation that the oppoſition of the Americans was that of a mere tumultuous mob, and that by ſhowing a proper ſpirit and perſeverance the miniſtry could not fail to come off victorious at laſt.

The extreme obſtinacy ſhown by miniſters, in this firſt inſtance, undoubtedly proved very prejudicial to their cauſe, not only by exaſperating the Americans, but by rouſing the indignation of minority, and making their oppoſition ſo violent and determined, that the Americans could not but conclude, that they had a very ſtrong party in their favour on that ſide of the Atlantic. This appeared in every ſubſequent tranſaction relating to the colonies. The bill for regulating the government of Maſſachuſett's bay did not paſs without a proteſt, from which we ſhall only extract the **560 Proteſt on the regulating bill.** following ſentence: "This act, unexampled in the records of parliament, has been entered on the journals of this houſe as voted *nemine diſſentiente*, and has been ſtated in the debate of this day to have been ſent to the colonies as paſſed without a diviſion in either houſe, and therefore as conveying the uncontroverted univerſal ſenſe of the nation. The deſpair of making effectual oppoſition to an unjuſt meaſure has been conſtrued into an approbation of it."

The like conſequences enſued on paſſing the act for the impartial adminiſtration of juſtice. In the proteſt **561 On the impartial adminiſtration of juſtice bill.** on this occaſion the lords uſed the following expreſſions: "The bill amounts to a declaration, that the houſe knows no means of retaining the colonies in due obedience but by an army rendered independent of the ordinary courſe of law in the place where they are employed. A military force ſufficient for governing upon this plan cannot be maintained without the inevitable ruin of the nation. This bill ſeems to be one of the many experiments towards the introduction of eſſential innovations into the government of this empire. The virtual indemnity provided by this bill for thoſe who ſhall be indicted for murders committed under colour of office, can anſwer no other purpoſe. We conſider that to be an idemnity which renders trial, and conſequently puniſhment impracticable. And trial is impracticable, when the very governor, under whoſe authority acts of violence may be committed, is impowered to ſend the inſtruments of that violence to 3000 miles diſtance from the ſcene of their offence, beyond the reach of their proſecutor, and the local evidence which may tend to their conviction. The authority given by this bill to compel the tranſportation from America to Great Britain of any number of witneſſes at the pleaſure of the parties proſecuting and proſecuted, without any regard to their age, ſex, health, circumſtances, buſineſs, or duties, ſeems to us ſo extravagant in its principles, and ſo impracticable in its execution, as to confirm us further in our opinion of the ſpirit which animates the whole ſyſtem of the preſent American regulations."

562 Debates on the Quebec bill. A ſtill greater oppoſition was made to the Quebec bill, inſomuch that, before it could be carried, the miniſters were obliged to drop much of that high and aſpiring tone to which they had accuſtomed themſelves in talking of American affairs. The minority contended, that here, without any neceſſity pleaded, or even ſuggeſted, an arbitrary influence was extended by act of parliament to that province, furniſhing a dangerous precedent, and an additional inſtance of the averſion which miniſtry bore to the rights of the people. They argued likewiſe in favour of the mode of trial by juries, and thought that the eſtabliſhment of the Roman catholic religion there gave it a preference over the Proteſtant, which was now only to be exerciſed by toleration. The people at large alſo were alarmed at the religious part of the bill, and it is not impoſſible that the ſuſpicions conceived at this time might contribute in ſome meaſure to the dangerous inſurrections of 1779 and 1780.

At the concluſion of the ſeſſion his majeſty expreſſed the greateſt ſatiſfaction at what had been done, and hopes of the good effects that would attend the new regulations. The reception they met with in America is related in its proper place; in Britain the people ſeemed to wait the event with indifference, but their bad ſucceſs with the coloniſts furniſhed the minority with new matter of reproach to caſt on adminiſtration. The parliament in the mean time was diſſolved by proclamation, and a very ſhort time allowed for the election of new members; ſo that if oppoſition at that time had any ſtrength, they had not now time to exert it. **563 Parliamentary proceedings in 1774.** The new parliament met on the 30th of November 1774; when his majeſty acquainted the houſes that a moſt daring ſpirit of reſiſtance ſtill prevailed in America, ca, notwithſtanding the moſt proper means had been taken to prevent the miſchiefs thence ariſing, and aſſured them that they might depend on a firm reſolution to withſtand every attempt to weaken or impair the ſupreme authority of this legiſlature over all the dominions of the crown. In anſwer to this ſpeech the minority demanded a communication of all the letters, orders, and inſtructions relating to American affairs; but this being over-ruled, and the addreſs carried as a matter of form, American affairs were delayed, in ſpite of all oppoſition, till after the holidays. In the queſtion on the addreſs, the ſtrength of adminiſtration was to that of their adverſaries as 264 to 73.

564 Lord Chatham's motion for a recal of the troops rejected.

In the beginning of 1775 the minority received a conſiderable acceſſion of ſtrength by the return of lord Chatham, who, after long abſence, again made his appearance in parliament. He now teſtified his diſapprobation of the meaſures which had been purſued with regard to America in the warmeſt terms; moved for addreſſing the king to recal the troops from Boſton; predicted, that if miniſters went on in the way they had done for ſome time, they would make the crown not worth the king's wearing; that the kingdom was undone, &c. All his eloquence, however, proved at this time ineffectual; adminiſtration was determined upon forcing the Americans into ſubjection, and his motion was rejected by 68 to 18.

565 American papers laid before parliament.

Lord North now preſented the papers which had been called for by the minority; but, leſt the publication of particular names ſhould prove detrimental to individuals, only ſuch parts as adminiſtration thought proper for public inſpection were laid before the houſe. This was complained of, but to no purpoſe; and the papers, in their mutilated ſtate, were laid before a committee of the whole houſe.

566 A great number of petitions from the trading companies.

In the mean time petitions againſt coercive meaſures with America had been received from moſt of the trading companies of the kingdom; which, though highly diſpleaſing to adminiſtration, could not be abſolutely rejected, though it was fully determined not to yield to their requeſts in the ſmalleſt degree. A committee was therefore appointed to take them into conſideration, which was not to take place until the American affairs were alſo conſidered. The reaſon given for this method of proceeding was, that the conſideration of commercial matters ought not to interfere with thoſe of the political kind; each of them being ſufficiently embarraſſing without any other.

567 Conſigned to the committee of oblivion.

This delay of hearing theſe petitions was ſuppoſed to be an abſolute rejection of them in effect; and ſo indeed it proved to be, the committee to which they were conſigned being humorouſly called the *committee of oblivion*.

568 Ineffectual remonſtrance.

The merchants of London, however, were determined not to give up the point until they had exerted themſelves to the utmoſt. They drew up a paper in which they denied the diſtinction eſtabliſhed by miniſtry. They affirmed that the connection between Great Britain and America was chiefly of a commercial nature, and that the manifold regulations adopted for the mutual proſperity of the colonies and of the mother-country formed the great political chain which united them to one another. Queſtions of commerce and policy, therefore, with regard to them, ought never to be divided, but examined jointly, and could never be thoroughly underſtood if conſidered in any other way.

This remonſtrance was ſeconded by all the powers of oppoſition; but the truth was, that adminiſtration had already determined what line of conduct they were to follow, and therefore wiſhed to hear as little as poſſible on the ſubject. "War (ſays Dr Andrews) was now the word; and notwithſtanding no weightier reaſon could be given for not attending to what the merchants had to ſay, than this very determination, yet that was the very motive that impelled miniſters to refuſe them a hearing, leſt theſe ſhould make it appear how unwiſe it was to precipitate the nation into ſuch a meaſure."

But though there is not the leaſt reaſon to doubt that adminiſtration were now fully determined upon a war, and therefore wiſhed to be troubled with as few objections as poſſible, they were by no means deficient in arguments for the defence of their own conduct.

569 Arguments uſed in favour of adminiſtration.

They alleged that the petitions ſo much recommended to the attention of the houſe were principally the work of a factious party. The advantages accruing from the American trade were owing to the dependent ſituation of the colonies, who now aimed at a ſuperiority over Great Britain, or at leaſt at ſhaking off entirely the ſuperiority which the mother country had till now exerciſed over them without the ſmalleſt complaint. It was the advantage of the merchants themſelves that was conſulted by maintaining that ſuperiority; and the merchants themſelves would be the firſt to feel the bad conſequences of its being loſt. War and its conſequences are no doubt very terrible, but ſometimes are neceſſary to prevent greater evils. The greateſt evil that can befal a trading nation is the loſs of its commerce; and were the Americans to perſiſt in their courſes at that time for a few years longer, this conſequence muſt inevitably enſue.

It was beſides inſiſted, that though adminiſtration were to yield the preſent conteſt, the warmeſt advocates for America could not pretend to ſay what would be the laſt of its demands. The Americans aimed in reality at the repeal of whatever appeared obnoxious to their immediate intereſt: But that, and their real intereſt differed very much. The greateſt political evil that could befal them was to be deprived of the political and commercial ſupport they received from Great Britain; and to this they muſt ultimately ſubmit, if they ſhould ever ſucceed in the purſuit of that deluſive phantom of independence which they now accounted their happieſt ſituation. In ſhort, adminiſtration inſiſted, not without a great ſhow of reaſon, that the Americans were not to be reclaimed by conceſſions. Mercantile people indeed, might imagine ſo, from the facility with which conceſſions would be made, and the ſpeed with which tranquillity would be reſtored. But tranquillity procured in this manner would laſt no longer than till the colonies, unfettered by any regulations, perceived, or imagined they perceived, the benefit of dealing with other countries, and carried their own commodities wherever they thought proper. This was the point at which they inconteſtibly aimed, whatever they might pretend to the contrary; for, notwithſtanding the boaſts they made of the vaſt buſineſs tranſacted with Britain, it was well known to ariſe from the immenſe credit they were indulged with there, and which they could not expect elſewhere.

The honour and character of the nation were now alſo ſaid to be at ſtake. The Britiſh had often taken up arms for matters of leſs conſequence; why then ſhould they now heſitate in a caſe like the preſent, where honour and intereſt both called upon them for the moſt vigorous and ſpeedy exertions? Formerly it was the cuſtom of the merchants to ſecond the wiſhes of miniſtry in this reſpect, inſtead of oppoſing them. The inconvenience of ſuſpending their profits for a time muſt be ſubmitted to, and their enemies would experience as many if not more of the ſame kind; and it would be unworthy of the character they had ſo long ſuſtained to yield to indignities for the ſake of profit. The loſſes abovementioned, however, would be but trifling in compariſon of thoſe that would follow in time to come, ſhould Britain from want of ſpirit give up the aſſertion of her juſt rights. This was a policy hitherto unknown in Britain, which had heretofore been noted for the ardour and celerity with which they were maintained.

570 **On the petition of congreſs to the king.**

The end of all this altercation was, that the motion in favour of the merchants petitions was rejected by 250 to 89. This point, however, was no ſooner diſcuſſed, than a violent debate aroſe about the petition of congreſs to the king, which had been delivered and by him referred to parliament. It was argued by adminiſtration, that no petition could be received from the continental congreſs, which was no legal body, and it would be admitting their legality to receive a petition from them; the general aſſemblies and their agents were the only lawful repreſentatives of the colonies, and none elſe would be admitted. Oppoſition replied and argued as much as poſſible, but to no purpoſe; and, after an ineffectual ſtruggle, they had the mortification to find that the petition was finally rejected by 218 to 68.

571 **Chatham's conciliatory plan rejected.**

In the mean time a conciliatory plan was prepared by the earl of Chatham, which was preſented on the 1ſt of February 1775. The intent of his bill, he ſaid, was to ſettle the troubles in America, and to aſſert at the ſame time the ſupreme legiſlative authority and ſuperintending power of Great Britain over her colonies. This was to be done by their acknowledging on their part the ſupremacy of the Britiſh legiſlature and the ſuperintending power of parliament. No taxes were to be levied in America, but with the free conſent of their aſſemblies. It aſſerted a right in the crown to keep and ſtation a military force eſtabliſhed by law in any part of its dominions; but declared, that it could not be legally employed to enforce implicit and *unlawful* ſubmiſſion. A congreſs might alſo be held, in order to recognize the ſupreme ſovereignty of Great Britain over the colonies, and to ſettle, at the ſame time, an annual revenue upon the crown, diſpoſeable by parliament, and applicable to the exigencies of the nation. On complying with theſe conditions, the acts complained of by congreſs were to be ſuſpended, with every other meaſure pointed out as a grievance, and the conſtitution of their governments to remain as ſettled by their charters. This bill was, however, deemed at once totally inadmiſſible, on account of its alleged partiality to America, by the various conceſſions it enacted, and particularly by empowering the colonies to aſſemble in congreſs; a meaſure which, of all others, was at that time the moſt offenſive, and ſuppoſed to be the moſt injurious to the Britiſh intereſts.

Lord Chatham was by no means deficient in arguments in ſupport of his favourite plan; but theſe, though ſupported by all the powers of eloquence, proved unſucceſsful; the propoſal was ultimately rejected by 61 to 32. So determined were the majority in giving this an entire rejection, that it was not even permitted to lie upon the table; which, however, may be conſidered as a piece of indignity offered to that great man, proceeding rather from the indifference with which he had been received at court for ſome time, than from any real and thorough conviction of the inutility of the plan he propoſed.

572 **Petition of the Weſt India planters.**

A new petition was next preſented to the houſe of commons by the proprietors of eſtates in the Weſt India iſlands; repreſenting their alarm at the aſſociation of the Americans, and their intended ſtoppage of trade with the Britiſh iſlands; the ſituation of which, they ſaid, would be very calamitous, if the acts in queſtion were not immediately repealed. The trade of theſe iſlands was at that time of the moſt extenſive nature. All quarters of the globe were concerned in it; the returns centured in Britain, and were an immenſe addition to its opulence, inſomuch that the Britiſh property there amounted to no leſs than 30 milions ſterling. But the Weſt Indies, however wealthy, did not produce the neceſſaries of life in ſufficient abundance for their inhabitants. Large importations were continually wanted, which could only be ſupplied from North America; and were they to be cut off from a communication with that continent, they would ſhortly be reduced to the utmoſt diſtreſs. Such was the ſubſtance of this petition; to which no more attention was paid than had been to the reſt.

573 **Rejected.**

To adminiſtration all petitions now appeared to be the contrivance of faction; and it was ſaid, that however inconvenient the coercive meaſures might be, they ought not to be retarded by the conſideration of any temporary loſſes. As it was neceſſary, however, to let the nation know the ultimate reſolves of adminiſtration reſpecting America, it was at laſt done by lord North in a long ſpeech, in which the moſt remarkable circumſtances relating to the diſpute were enumerated. It was aſſerted, that univerſal fermentation then prevailing in America, proceeded from the unwarrantable arts and practices uſed to diſpoſe them againſt the ruling powers in Britain; and aſſerted, that, nowithſtanding all their complaints, the public charges borne by individuals in America were, on the ſtricteſt computation, not more than 1 to 50, when compared with what was paid by individuals in England. Nothing, therefore, but a ſettled determination to quarrel with the parent ſtate could induce the Americans to perſiſt in their diſobedience to the lawful injunctions laid upon them, which were neither injudicious nor oppreſſive; but, on the contrary, framed with all poſſible lenity, and counterbalanced by advantages which were not poſſeſſed by Britain. It was therefore a ſpirit of reſiſtance which animated America, and not a diſcontent at oppreſſions which plainly had no exiſtence. For this reaſon it was propoſed to the houſe to ſend a greater force to America; and to paſs a temporary act, ſuſpending all the foreign trade of the different colonies of New England,

and particularly the Newfoundland fiſhery, until they conſented to acknowledge the ſupreme authority of the Britiſh legiſlature, &c. upon which theſe reſtrictions ſhould be taken off, and their real grievances, if any ſuch there were, redreſſed upon making proper application. New England, they ſaid, was juſtly ſingled out upon this occaſion, as being the moſt guilty of the whole. The others, as leſs faulty, it was hoped, would yield with leſs compulſion; but the queſtion now was ſimply, Whether we would at once abandon all claims on the colonies, and inſtanly give up the advantages ariſing from our ſovereignty, and the commerce dependent on it? or, Whether we ſhould reſort to the meaſures indiſpenſably neceſſary to enſure both?

574 On the addreſs on the American papers.

An addreſs was now carried, which, in the ideas of oppoſition, amounted to an abſolute declaration of war. The conſequences, therefore, were pointed out with the utmoſt freedom, and ſome even denied the charge of rebellion fixed on the province of Maſſachuſett's bay. The people there, they ſaid, had done nothing but what the conſtitution allowed: they had reſiſted arbitrary meaſures; and the examples ſo frequently ſet them at home were ſufficient to juſtify their conduct. The appellation of *rebels*, they ſaid was dangerous, and might better be ſpared; it would only ſerve to render them deſperate, and inſpire them with a determination to reſiſt to the laſt, from an apprehenſion that their lives and properties were forfeited. This laſt conſideration, however, was made very light of by adminiſtration. Great ſtreſs, they ſaid, was laid upon the union of the colonies, but a very little time would ſhew with how much impropriety. The principles on which they were aſſociated were too ſelf-denying to be ſupported by human nature, and were too inimical to the intereſt and feelings of individuals to bind them long together. In other reſpects this union of the colonies might be viewed with indifference, and even contempt. The natives of America, it was ſaid were no ſoldiers; they were averſe to military diſcipline, and incapable of ſubordination; they were of a ſlothful and ſpiritleſs diſpoſition; uncleanly, liable to ſickneſs, and eaſily overcome by fatigue. Such people as theſe would never face a Britiſh army; and a very ſmall force would be neceſſary to put an end to all their projects of independence.

575 On the recommitment of it.

Theſe were the principal arguments for and againſt this addreſs, which was carried by 296 to 106; but ſo important was the ſubject of it deemed by the minority, that a motion was made for recommitting it on account of the conſquences that would probably reſult from the proſecution of the meaſures recommended. A very long and violent debate enſued; the event of which was, that adminiſtration contended as uſual for the neceſſity of enforcing obedience with fire and ſword. The Americans, they ſaid, were become incorrigible through forbearance; lenity was a ſubject of deriſion among them, and was imputed to imbecillity and fear; they imagined themſelves able to aboliſh the ſovereignty of Britain in that country, and were now reſolved to do it. It was therefore incumbent on every native of Britain, in ſuch a caſe, to ſtand forth and vindicate the intereſt and glory of his country; and it was the duty of parliament and miniſtry to call forth the whole ſpirit of the nation to a conteſt in which every thing dear to them both in their public and private capacities was ſo deeply concerned.

In this, and ſome former debates, the danger of being involved in foreign wars on account of the colonies had been inſiſted on; but this was looked upon by adminiſtration to be improbable. It was hardly to be imagined, they ſaid, that foreign powers would behave in a manner ſo very impolitic as to encourage rebellions in other colonies, which might, in a very ſhort time, become precedents for imitation in their own. The number of friends to government in America was likewiſe very much relied upon. A proper reinforcement to the troops already there would encourage thoſe to declare themſelves who were at preſent too timid to avow their ſentiments: Theſe, if duly ſupported, would be found to be no inconſiderable number; and, when added to the forces ſtationed among them, would undoubtedly counterbalance the power of the malecontents. This project of arming the Americans againſt one another was reprobated by oppoſition more than all the reſt. The addreſs itſelf was a meaſure replete with barbarity as well as imprudence; tending to put arms in the hands of every man throughout the continent who ſuſpected the deſigns of the Britiſh adminiſtration, and to expoſe to ill uſage and ruin every perſon who was known, or imagined, to be a friend to Great Britain. The Americans were ſaid to aſpire at independence; but if any thing could bring this about, it would be the conduct of miniſtry. The moſt obedient and loyal ſubjects cannot have patience for ever with a tyrannical government. They will undoubtedly riſe at laſt, and aſſert their rights; and thoſe who ſtyle them rebels on that account ought to remember, that oppreſſion not only produces but juſtifies reſiſtance. It had always been believed by the Americans, without any contradiction from Britain, that internal taxation in America belonged to the aſſemblies of the colonies, and to them only. There were opinions in all nations, which the legiſlature would reſpect, while they produced no bad conſequences. This opinion ought not therefore to have been attacked at ſuch an improper ſeaſon, after having been virtually recognized by the repeal of ſeveral acts, and approved by ſome of the moſt learned and intelligent people in the kingdom. It was the greateſt misfortune that could befal a ſtate, when its rulers endeavoured, without any apparent neceſſity to alter the ſyſtem and maxims of governing long adopted, and the utility of which had been confirmed by experience. This was, however, the caſe with Britain. The mildneſs and benignity which was wont to direct the meaſures of former miniſters was now laid aſide for ſeverity and imperiouſneſs; while implicit obedience was impoſed upon the coloniſts, as the only condition by which they could purchaſe peace.

The aſperſions of cowardice ſo largely thrown upon the Americans by the miniſterial party, did not paſs unnoticed. It was obſerved, however, that were theſe ever ſo juſt, the very nature of their country would fight for them. By this alone our military enterpriſes would be retarded and impeded in a conſiderable degree; while the ſinews of war would undoubtedly be greatly relaxed, as the ſuſpenſion of ſuch a conſiderable commerce as that of our colonies could not fail to be ſeverely felt.

Beſides all this, the views and principles of miniſters were attacked in the moſt violent manner. They were ſaid to be reviving the old exploded doctrines of hereditary right and paſſive obedience.—They required the Americans to ſubmit unconditionally to the will of Great Britain, for no other reaſon but becauſe ſhe was the parent ſtate: but if no better reaſon could be produced, they could not be juſtly blamed for their diſobedience. The ties between Great Britain and her colonies, however, were of a far more noble as well as more binding nature than even origin and conſanguinity. Theſe ties were the conſtitution tranſmitted from Britain, and the brotherly aſſiſtance hitherto afforded them by Engliſhmen; and which ought to render the name dear to them. While theſe ties remained unviolated, there was no room to complain of their behaviour; but they would never ſubmit to deſpotic authority in Engliſhmen more than in any others. Such unwarrantable principles rendered it no longer a queſtion, whether the meaſures of adminiſtration ſhould be conſidered, but whether the miniſters themſelves ought not to be deprived of the power they exerciſed ſo unconſtitutionally? And the queſtion was not now between Great Britain and America, but, whether we ſhould give up our colonies or our miniſters?

Language of this kind excited the indignation of the miniſterial party to a very high degree. They now charged minority, in very plain terms, with the guilt of all that had happened. A factious republican ſpirit, they ſaid, was gone forth; by which every perſon who wrote or ſpoke on the American cauſe was actuated; and which had not only induced the Americans to commence a rebellion againſt the parent ſtate, but had filled the houſe with incendiaries. The final iſſue of the diſpute was, that the recommitment of the addreſs was loſt by 288 to 109. The debates were the moſt violent that had ever been known in the Britiſh parliament; and ſo important was the ſubject reckoned, that not only the natives of Britain, but even the foreign miniſters in London, watched the motions of adminiſtration with the utmoſt anxiety, as conſidering it a point which might probably give a new face to the affairs of all Europe.

576 Petition from the Weſt India merchants.

All theſe victories of adminiſtration were not ſufficient to prevent new enemies from ſtarting up. Petitions had been preparing by the London merchants trading to America, and from thoſe concerned in the Weſt-India trade, to be preſented to the houſe of lords. This taſk was undertaken by the marquis of Rockingham, but he was prevented by a previous motion in favour of the addreſs. A long and violent debate, however, enſued concerning the neceſſity and propriety of receiving them. The papers on which the addreſs had been founded were ſaid to be partial and mutilated, for which reaſon the houſe ought to pay the greater regard to the repreſentation of the merchants; whoſe teſtimony, as perſons deeply and eſſentially intereſted in bringing truth to light, might be depended on with much greater ſafety. It was urged, that they earneſtly deſired to be heard before the houſe took any final determination with regard to America; a refuſal would amount to a public declaration, that parliament was reſolved to oppoſe the ſenſe of the petition, right or wrong; and ſuch treatment was in every reſpect unwarrantable, and no leſs contrary to ſound policy than to equity and good manners.

577 Rejected.

All theſe repreſentations, however, had no weight with adminiſtration: they affected great ſorrow at being obliged to declare that the petition could not be received conſiſtently with the intereſt of the kingdom; they put the merchants in mind that the American proceedings threatened fatally to diminiſh the commercial greatneſs of this kingdom, in which caſe none would ſuffer ſo much as themſelves; and they inſiſted that confidence ought to be put in the wiſdom of parliament, as it was not doubted that by properly aſſerting the ſupremacy of the Britiſh legiſlature in the manner propoſed, all thoſe advantages about which they were ſo anxious would be ſecured. They were therefore exhorted to ſubmit to temporary inconveniencies, which could not be avoided in the preſent poſture of affairs, though probably they would not be of long duration.

578 On the New England reſtraining bill.

In the mean time matters went on from bad to worſe in New England; ſo that it was ſoon perceived either that the friends of government in that colony did not exert themſelves, or that they were far from being ſo numerous as had been imagined. In order to make their coercive plan the more effectual, therefore, it was now judged neceſſary to extend it ſo that every individual of the colony ſhould become ſenſible of the puniſhment. This, it was ſuppoſed, would be done by a bill for reſtraining the four provinces of New England from commerce with Great Britain, Ireland, or the Britiſh Weſt-India Iſlands; and prohibiting them from carrying on the fiſhery at Newfoundland. The reaſons given for this were in ſubſtance the ſame with thoſe for the others; and indeed both parties had now ſo much exhauſted their arguments, that very little new matter was left for either. Every ſtep taken by miniſtry, and every propoſal made by them, however, produced a violent debate; and though they conſtantly gained the victory, it was not without the mortification of hearing their principles and conduct reprobated in the moſt opprobious manner. In the preſent inſtance the bill was carried by 261 againſt 85; but a petition againſt it was quickly offered by the London merchants concerned in the American trade, ſetting forth the danger that would accrue to the fiſheries of Great Britain from ſuch a prohibition.

579 General account of the American fiſheries.

From the evidence brought in ſupport of this petition it appeared, that ten years before the American fiſheries had been in ſuch a flouriſhing ſtate, that the four provinces of New England alone employed near 46,000 ton of ſhipping and 6000 ſeamen; and that the produce of their fiſheries in the foreign markets amounted, in the year 1764, to upwards of L. 320,000. Since that time they had greatly increaſed; and what rendered the fiſheries particularly valuable was, that all the materials uſed in them, excepting only the timber for building the veſſels, and the ſalt for curing the fiſh, were purchaſed in Britain, and the nett proceeds of the trade were alſo remitted thither. It appeared alſo, that it would not be practicable to tranſfer theſe fiſheries to Halifax or Quebec, though ever ſo much encouragement were given to either of theſe places, as they had neither veſſels nor people to man them, and would never be able to procure ſupplies of ſeamen from New-England on account of the averſion of the inhabitants to the government of theſe two provinces.

580 Of the inhabitants of Nantucket.

Some other circumſtances were likewiſe urged as ſtrong reaſons againſt this bill; particularly the commercial concerns of the city of London with New-England (to which alone the colony ſtood indebted for near a million), and the bad conſequences of it to the people of Nantucket. This is a barren iſland, lying off the coaſt of New-England, about 15 miles long, and three broad, containing about 6000 inhabitants, almoſt all quakers. The natural produce of this iſland, it was alleged, could not maintain 20 families; but the induſtry of the inhabitants were ſuch, that they kept 130 veſſels conſtantly employed in the whale-fiſhery, which they carried on in the north ſeas, to the coaſts of Africa and Brazil, and even as far as Falkland's iſlands, and the ſhores of Terra Magellanica. Theſe people, it was ſaid, ought undoubtedly to have been exempted from the common calamity, were it only from the applauſe due to ſo much induſtry and reſolution.

The inſtance of Nantucket was ſo ſtrong, that adminiſtration with all their obſtinacy, were obliged to relax a little; and, of their own accord, afforded them the relief they had ſuch juſt reaſon to expect. That the petition in the main might prove unſucceſsful, however, another was preſented by the inhabitants of Poole, the tenor of which was directly oppoſite to that of the city of London. In this it was ſet forth, that the reſtrictions propoſed by the bill would not prove detrimental to the trade of England, which was fully able with proper exertions, to ſupply the demands of foreign markets. The advantage of the Newfoundland fiſhery more than that of New-England to this country was, that it bred a great number of hardy ſeamen peculiarly fit for the ſervice of the navy, while the New-England ſeamen were, by act of parliament, exempt from being preſſed. It appeared alſo from the examination of witneſſes taken in ſupport of this petition, that the fiſhery from Britain to Newfoundland employed about 400 ſhips, amounting to 360,000 tons, and 2000 ſhallops carrying 20,000 tons and navigated by as many ſeamen. Each ſeaſon produced 600,000 quintals of fiſh, and the returns at a moderate rate were valued at L. 500,000.

581 Remarkable proteſt againſt the reſtraining bill.

This bill was debated with great animoſity in the houſe of peers, and produced a remarkable proteſt, in which the meaſures of government were ſpoken of with great ſeverity. "That government (ſaid they) which attempts to preſerve its authority by deſtroying the trade of its ſubjects, and by involving the innocent and guilty in a common ruin, if it acts from a choice of ſuch means, confeſſes itſelf unworthy; if from inability to find any other, admits itſelf wholly incompetent to the end of its inſtitution." They alſo reprobated in ſevere terms the aſſertion already mentioned, that the Americans wanted ſpirit to reſiſt, and that Britain would find them an eaſy conqueſt. Such language was repreſented as altogether void of foundation, and the mere effect of party ſpirit and reſentment. It was alſo the more imprudent and unadviſed, as tending, in caſe of coercive meaſures, to ſlaken the care and ſolicitude with which they ought to be purſued, and to occaſion remiſſneſs in thoſe to whom they might be entruſted, from a perſuaſion that the enemy to be encountered was not to be feared, and could eaſily be overcome.

582 On the force to be ſent to America.

The final reſolution of reducing the colonies by force being now taken, it became neceſſary to make proper preparations for that purpoſe; and in this the conduct of adminiſtration was little leſs cenſured than in other reſpects. As the abovementioned opinion, that the Americans were timid and incapable of becoming ſoldiers, prevailed greatly at that time, a force of 10,000 men was judged ſufficient to reduce the province of New-England to obedience. This was vehemently oppoſed by the minority. They inſiſted that the force was totally inadequate, and only calculated to produce expence to no purpoſe. The firſt impreſſion, they very juſtly obſerved, ought to be deciſive, if poſſible; and in order to render it ſo, it was neceſſary to ſend ſuch a fleet and army as might enſure the confidence of the public, and be certainly capable of ſurmounting all obſtacles. Many of the friends of adminiſtration were of the ſame ſentiments in this reſpect; and the only reaſon aſſigned for acting otherwiſe was an hope that the Americans would upon more mature conſideration, deſiſt from their oppoſition. That they might the more readily be induced to this ſubmiſſion, lord North's conciliatory propoſition was formed. By this it was enacted, that when the governor, council, and aſſembly of any of the colonies ſhould propoſe to make a proviſion for the common defence, &c. and if ſuch proviſion ſhould be approved of by the king in parliament, the levying or impoſing of taxes on that colony ſhould then be foreborne, thoſe duties excepted which it might be expedient to impoſe for the regulation of commerce; the net produce of which ſhould be carried to the account of the colony where it was raiſed. But this propoſal, though highly extolled by the friends of adminiſtration, was no leſs reprobated by minority than the others had been. It was ſaid to be inſidious, and calculated for the purpoſe of raiſing a revenue, which was now ſaid to be the object of miniſters. There was no eſſential difference between the preſent and former modes of taxation. The colonies were as effectually taxed without their conſent by requiring them to pay a ſtated ſum, as by laying a number of duties upon them to the ſame amount. There was beſides a capital deficiency in the propoſals, viz. that no ſum was ſpecified; ſo that the Americans were left totally ignorant of what the demands of Britain might be. After a long debate, however, the queſtion was carried in favour of adminiſtration by 274 to 88.

583 Lord North's conciliatory bill.

584 Ineffectual endeavour of the Weſt India planters.

The like fate attended a petition to the throne from the iſland of Jamaica. Inſtead of relaxing any thing of their ſeverity, the miniſtry now included the ſouthern colonies in the reſtrictions laid on New England. Still, however, the petitioners were indefatigable in their endeavours to be heard. The Weſt-India merchants and planters ſeconded their laſt petition by a large detail of circumſtances relating to the Britiſh iſlands in that part of the world. This affair was conducted by Mr Glover, a gentleman equally celebrated for his literary talents and commercial knowledge. From his inveſtigations it appeared, that, excluſive of the intrinſic worth of the iſlands themſelves, their ſtock in trade and other property amounted to no leſs

585 Immenſe value of theſe iſlands.

than 60 millions; the exportation to Britain had of late been near 200,000 hogſheads and puncheons of ſugar and rum, amounting to no leſs than four millions in value; the direct revenue ariſing from which was 700,000 pounds, beſides that which accrued from the collateral branches depending upon it. All this, however, was urged in vain.

586 All conciliatory propoſals not only ineſfectual but detrimental.

Conciliatory propoſals were made by Mr Burke and Mr Hartly, but they were rejected by great majorities. Theſe propoſals, indeed, inſtead of ſerving the cauſe they were meant to promote, did the very reverſe. A dread was entertained of the conſequences which might enſue from the republican opinions now ſo prevalent in the colonies, and all partiality towards them was looked upon in ſuch a criminal light, that their opponents became deaf, on many occaſions, to the voice of reaſon and humanity when urged in their behalf.

587 Extreme violence of both parties

On the other hand, the favourers of America, urged on by a furious zeal, and even reſentment againſt thoſe whom they looked upon to be promoters of arbitrary meaſures, erred equally in their oppoſition to miniſtry. This violent party ſpirit appeared not only among the people at large, but broke forth with the utmoſt fury in parliament, where the debates often reſembled the railings of Billingſgate, rather than the deliberations of the firſt aſſembly in a great and powerful nation.

588 Miſrepreſentations on both ſides.

In this temper of mind it is no wonder that the ſtate of affairs was ſcarce ever truly repreſented by either party. Government continued to enact new laws, now in vain, againſt the Americans; their antagoniſts oppoſed theſe in a manner ſo little different from what has been already related, that any farther account of the debates would be as unentertaining as tedious. Other petitions were preſented and treated with neglect. The increaſe of union and preparations for war among the coloniſts were by the miniſterial party treated as the mere commotions of an headſtrong mob; and by the other as an aſſociation of an injured and virtuous people, who were about to found a mighty empire in the weſt, while Britain was to ſink in utter diſgrace and contempt by their mere ſeceſſion, without making any account of their exploits in the field, which could not fail to equal thoſe of the heroes of antiquity. On the ſame principles the event of the ſkirmiſh at Lexington was magnified by the one into a "diſgraceful defeat" on the part of the Britiſh; and by the other treated with abſolute unconcern, as if no regard whatever was to be paid to it, nor any inference drawn from thence concerning the fate of the war in general. Thus alſo the battle at Bunkers Hill, and all the tranſactions of the year 1775, were unfairly ſtated by both parties; and the only conſequence enſuing from theſe miſrepreſentations was the inflaming to a violent degree the reſentment betwixt the two parties; one of which depreſſed the Americans to the rank of conſummate poltroons, while the other exalted them almoſt to that of demigods.

While theſe altercations continued to agitate the minds of the ſuperior claſſes of the people in Britain, the middle and lower ranks remained in a kind of indifference, or rather were againſt the proceedings of miniſtry. This oppoſition could not indeed influence the councils of the nation, but in other reſpects it proved very troubleſome. The levies were obſtructed, and the recruiting ſervice was never known to go on ſo heavily; numbers of people of that deſcription not only refuſing the uſual proffers, but even reprobating the cauſe in which they were ſolicited to engage.

689 Reſignation of lord Effingham and other officers.

Beſides this, ſeveral officers of high rank ſhowed a great averſion at the ſervice. Lord Effingham, who had diſtinguiſhed himſelf by his oppoſition to miniſterial meaſures, reſigned the command of his regiment, rather than fight againſt the cauſe he had eſpouſed ſo warmly. His example was followed by that of ſeveral other officers; and it is not to be doubted that, while this ſtep conferred upon them a very conſiderable ſhare of popularity, it excited in the minds of miniſtry an equal degree of reſentment. Lord Effingham, in particular, received the public thanks of the cities of London and Dublin; both of which ſhowed an extreme averſion to the commencement of hoſtilities with America.

590 The city of London reſents the conduct of miniſtry.

The former, indeed, could ſcarcely reſtrain themſelves within any bounds of moderation. After the affair at Lexington they framed a remonſtrance and petition, animadverting in the moſt ſevere manner on the miniſtry and parliament; and it was not without the greateſt difficulty that the more moderate party procured one to be drawn up, under the name of an "humble petition," couched in leſs reprehenſible terms.

591 Diſtreſſes of the nation in conſequence of the American war.

In the mean time ſeveral inconveniences began to be felt in different parts of the nation. The ſuſpenſion of the ſale and purchaſe of negro ſlaves in the Weſt Indies and in North America, and the prohibition to export arms and gunpowder, had greatly impeded the African trade from Briſtol and Liverpool. In conſequence of this, a great number of ſhips which formerly ſailed from theſe ports had been laid up, and near 3000 ſailors belonging to Liverpool diſmiſſed from ſervice. Their ſituation ſoon rendered them riotous; and it was not without the aſſiſtance of the military that they were quelled. Theſe diſtreſſes, however, made no impreſſion on adminiſtration; who having once laid it down as a maxim, that the ſubjection of America was the greateſt political good that could happen to Britain, were, in a conſiſtence with their own principles, obliged to overlook every diſaſter that might happen in the mean time as a temporary inconvenience, which ought not to be regarded in the proſecution of a great and magnificent plan.

But whatever might be the views of adminiſtration in this reſpect, it was far otherwiſe with the generality of the nation. They felt the preſent inconveniences ſeverely, while the ſubjugation of America preſented them with no ſolid foundation to hope for an equivalent.

592 Laſt petition of congreſs rejected.

It was with the utmoſt ſatisfaction, therefore, that they received the news of Mr. Penn's arrival in 1775, with a new petition from the congreſs to be preſented to the king; after which he was to give it to the public. Their expectation, however, was ſoon diſappointed. The petition was delivered to lord Dartmouth on the firſt of September; and in three days it was replied, that no anſwer would be given to it. This laconic procedure excited no ſmall ſurpriſe, as it was univerſally allowed that the language of the petition was reſpectful, and that it expreſſed the higheſt deſire of peace and reconciliation. Lord Dartmouth's anſwer, therefore, could not but be conſidered as a final renunciation of all friendly intercourſe with the colonies, and which would drive them into a connection with foreign powers; a reſource at which they themſelves had hinted when they firſt took up arms. It was alſo thought not only to be injudicious in itſelf, but very ill-timed, and not at all conſiſtent with the ſituation of the affairs of Britain at that time. On the other hand, the friends of adminiſtration inſiſted, that the petition offered nothing that could in a conſiſtency with the dignity of the Britiſh empire be taken any notice of. Inſtead of profeſſing any repentance for their own conduct, they had offered ſtipulations, and even required conceſſions on the part of Britain. It was likewiſe ſaid on the part of adminiſtration, that fear had a ſhare in framing the propoſals now held out. The Americans were very ſenſible, that though the firſt ſteps taken by Britain had not anſwered the purpoſe, much greater efforts would quickly follow; and that, without being allowed ſome time, it was impoſſible they could bring their matters to bear. The petition, therefore, might be conſidered as written with a view to procraſtinate matters, which was by no means admiſſible on the part of Britain. The colonies were already well apprized of the conditions on which they would be reſtored to favour; and had it at any time in their power to put a ſtop to the operations of war by accepting theſe conditions: but it would be imprudent to ſtop the military preparations upon ſuch an uncertain expectation as the petition from congreſs held out. It was alſo plain, that a great majority of the nation approved of the meaſures of government; for addreſſes were received from all quarters, recommending, in the moſt explicit manner, a vigorous exertion againſt America.

593 Revival of the diſtinction and animoſity betwixt whigs and tories.

The rejection of this petition inflamed the minds of both parties more than ever againſt each other. The obſolete diſtinction of *Whig* and *Tory* was now revived, and that with ſuch animoſity, that Britain itſelf, as well as America, now ſeemed in danger of becoming a ſeat of war and bloodſhed. The tories were accuſed as the promoters of thoſe ſanguinary addreſſes already mentioned. They were ſaid to be the great miſinformers of government; and the falſe repreſentations they induſtriouſly procured from all quarters, had contributed more than any thing elſe to inflame the animoſity and produce the civil war. They were upbraided with their attachment to the Stuart family. England, it was ſaid, had, through their machinations, been made a ſcene of blood in the laſt century; and had been perpetually tottering on the brink of ruin from the reſtoration to the revolution. At that time indeed the more ſenſible part of the nation, wearied out with perpetual attempts to enſlave them, took the reſolution of expelling an ill adviſed monarch, whom nothing could prevent from purſuing their pernicious plans to his own ruin. But the tories were an incorrigible race, who could not be cured even by experience; for though they had ſeen repeated inſtances of the miſchief attending their plans, they adhered to them with as great obſtinacy as if the greateſt benefits had on all occaſions accrued from them. Diſſention at home and diſgrace abroad had been the conſtant attendants of their councils; while the only objects they ever had in view were the eſtabliſhment and propagation of their own tenets; for theſe alone they laboured, the honour and intereſt of the nation being entirely out of the queſtion. Theſe they would willingly ſacrifice to the points abovementioned; and as an inſtance of the effects of their councils, the treaty of Utrecht was mentioned. Here, ſaid their antagoniſts, the fruits of a triumphant war, carried on for twelve years, were loſt at once by thoſe feuds which the tories occaſioned through their reſtleſs endeavours to compaſs their iniquitous projects.

On the other hand, the tories ſaid that the whigs were the genuine deſcendants and repreſentatives of thoſe republican incendiaries who had in the laſt century overturned the conſtitution and deſolated the kingdom. They pretended indeed to aſſert the liberty of Britain; but under this pretence they wiſhed to engroſs all the authority to themſelves, as might eaſily be proved by an impartial examination of their conduct in the unhappy times alluded to. In the preſent diſpute the principal queſtion was, Whether the king and parliament, when united, were to be obeyed or reſiſted? The tories inſiſted that they were to be obeyed; the whigs, that they were to be reſiſted. The truth was, therefore, that there were two parties in Britain; the one of which was of opinion, that the colonies owed obedience to Great Britain in all caſes whatever, and that in caſe of refuſal they ought to be compelled to obey; but the other, though it acknowledged the ſame obligation on the colonies, thought it was unadviſeable to force it. The only conſtitutional method of deciding this queſtion was by an appeal to parliament. That appeal had already been made, and parliament had determined on compulſion. The deciſion ought therefore to be conſidered as that of the voice of the nation; and were a parliamentary majority to be viewed in any other light, all things would fall into confuſion, and no rule of government remain. The doctrines of the whigs were alſo ſaid to be inadmiſſible in ſound policy. Authority, ſovereign and uncontrolled, muſt reſide ſomewhere; and allowing every charge of bribery and corruption (which were brought by the other party moſt liberally) to be true, it were ſtill better to be governed in ſome inſtances by ſuch means, than to have no government at all. This muſt at laſt be the caſe were continual appeals to be made to the people; as they would undoubtedly be followed by perpetual broils at home as well as diſaſters abroad.

594 Misfortunes of the Newfoundland fleet.

To theſe violent bickerings at home, ſome very ſerious commercial misfortunes were now added. It had been repreſented as very probable, during the laſt ſeſſion of parliament, that the bill for depriving the people of New England of the benefits of the Newfoundland fiſhery, would redound greatly to the intereſt of Great Britain, by throwing into her hands alone the profits which were formerly divided with the colonies. This expectation, however, proved totally void of foundation. The number of ſhips fitted out that year was ſcarcely greater than uſual. The congreſs had alſo prohibited them from being ſupplied with proviſions; ſo that not only thoſe on board the ſhips, but even the inhabitants on the iſland of Newfoundland itſelf, were in danger of periſhing. Many of the ſhips were therefore obliged to go in queſt of proviſions, inſtead of proſecuting the buſineſs on which they came. On the whole, therefore, inſtead of any increaſe, the profits of

595 Violent and deſtructive ſtorm.

the fiſhery ſuffered this year a diminution of near 500,000l. Along with this, ſome natural cauſes co-operated, which, by the more ſuperſtitious, were conſidered as the effects of divine wrath. A moſt violent and uncommon ſtorm took place in theſe latitudes during the fiſhing ſeaſon. The ſea roſe full 30 feet above its ordinary level; and that with ſuch rapidity, that no time was allowed for avoiding its fury. Upwards of 700 fiſhing boats periſhed, with all the people in them; and ſome ſhips foundered, with their whole crews. Nor was the devaſtation much leſs on ſhore, as the waters broke in upon the land, occaſioning vaſt loſs and deſtruction.

596 Ineffectual petitions, &c.

By theſe misfortunes, the general ſtagnation of commerce, and the little ſucceſs that had hitherto attended the Britiſh arms, the mercantile part of the nation were thrown into deſpair. Petitions were poured in from all quarters, the contents of which were ſimilar to thoſe already mentioned, and their reception exactly the ſame. Miniſters had determined on their plan; and the only difficulty was, how to put it in execution as quickly as they deſired.

597 Difficulty of procuring foreign ſuccours.

For this purpoſe, application was made to the petty ſtates of Germany, who are wont to hire out their forces, and who had frequently ſent auxiliaries to Britain in former caſes of exigency. At preſent, however, the ſcheme met with conſiderable difficulties, occaſioned by the diſtance, as well as the danger, of the deſertion of the mercenaries. The princes were likewiſe alarmed at the appearance of loſing ſo many ſubjects for ever; while the latter were no leſs ſtartled at the propoſal of being tranſported acroſs the ocean into a new world, there to be expoſed to all the miſeries of war, with very little hope of ever ſeeing their native country again. Other reſources, however, were deviſed, by calling in the aſſiſtance of the Heſſians, and obtaining from Holland that body of Scots troops which had been ſo long in their ſervice. But in both theſe views adminiſtration were diſappointed.

598 France and Holland eſpouſe the American cauſe.

All the ſtates of Europe looked upon Britain with an invidious eye, though none ſo much as Holland and France; theſe being the two powers who had moſt reaſon to hope for advantage from the quarrel. A very ſtrong party in Holland contended for the American intereſt. Pamphlets were daily publiſhed at Amſterdam in juſtification of the colonies: their caſe was compared with that of the Netherlands in former times; and they were exhorted to perſevere in their claims againſt the pretenſions of Britain. Her they repreſented as inſatiably covetous of wealth and power, and deſirous of ſeizing every thing ſhe could. She was alſo taxed with being of a domineering diſpoſition; and that, ſince her ſucceſſes in the war of 1755, ſhe had become intolerable, not only to her neighbours, but to the whole world: nay, that even during the war ſhe had exerciſed an abſolute ſovereignty at ſea, and did not ſcruple to avow a right and title to rule over that element.

599 Auxiliaries obtained from Heſſe and Brunſwick.

But though theſe powers thus early expreſſed their hoſtile diſpoſition towards Britain, it was otherwiſe with the princes of Heſſe and Brunſwick; by whom, and ſome other German princes of inferior note, a conſiderable number of troops were ſupplied. At the ſame time, that as many Britiſh forces as poſſible might be employed, large draughts were made from the garriſons of Gibraltar and Minorca, who were ſupplied in return with an equal number of men from the electorate of Hanover. In juſtice to the miniſters, indeed, it muſt be owned, that they proſecuted the ſcheme they had undertaken with all poſſible vigour; inſomuch that the expences already began to occaſion conſiderable alarm. This was owing, in the firſt inſtance, to the bad ſucceſs of the Britiſh arms, which occaſioned a demand for money altogether unlooked for. It had always been ſuppoſed, that the Britiſh army would be completely victorious; or at leaſt would remain ſo far maſters of the field, that they could eaſily command what ſupplies of freſh proviſions were neceſſary.

600 Vaſt ſums expended to ſupply the garriſon of Boſton.

Inſtead of this, they were now cooped up in ſuch a manner as to be actually in danger of periſhing for want. The ſupplies, therefore, of neceſſity, were ſent from Britain; and indeed the exertions for their relief were ſuch as muſt give high ideas of the opulence and ſpirit of the Britiſh nation. For theſe troops there were ſhipped no fewer than 5000 live oxen, 14,000 ſheep, with a proportionable number of hogs, immenſe quantities of vegetables, prepared with all poſſible care; 10,000 butts of ſmall beer, and 5000 butts of ſtrong beer. Some idea of the expences of theſe articles may be obtained from an account of what was paid for articles trifling in compariſon of the above. For a regiment of light horſe in Boſton, L. 20,000 were paid for oats, hay, and beans. The articles of vinegar, vegetables, and caſks, at no leſs; and every thing elſe in proportion. The contingencies occaſioned by military operations amounted to near L. 500,000. The prodigious expences, therefore, of maintaining an inconſiderable armament at ſuch a diſtance, could not fail to give a very unfavourable opinion of the war at large, and juſtly raiſe ſuſpicions, that even the treaſures of Britain would not be able to defray the expence. One advantage, however, was derived from ſuch immenſe profuſion; the price of every thing was augmented; that of ſhipping particularly roſe one-fourth in the ton: and though the profits made by contractors and their numerous friends were complained of, the benefits which accrued to multitudes employed in the various branches of public buſineſs ſeemed in ſome meaſure to make amends for every thing.

601 Almoſt all the Boſton ſtores deſtroyed or taken.

Misfortune, however, ſeemed now to attend every ſcheme in which Britain engaged herſelf. Some part of it, indeed, in the preſent caſe, might be derived from miſmanagement. The ſailing of the tranſports was delayed ſo long that their voyages were loſt. They remained for a long time wind-bound; and, after leaving port, met with ſuch ſtormy weather, that they were toſſed to and fro, in the channel till moſt of the live ſtock they had on board periſhed. After clearing the coaſt of England, their progreſs was retarded by a continuance of bad weather. They were forced by the periodical winds from the coaſt of America into the ocean. Some were driven to the Weſt-Indies, others were captured by American privateers, and only a very few reached the harbour of Boſton, with their cargoes quite damaged, ſo that they could be of little or no uſe. Notwithſtanding the immenſe ſupplies abovementioned, therefore, a ſubſcription was ſet on foot for the relief of the ſoldiers, as well as of the families of thoſe who died in the ſervice. This was liberal on the whole, though many refuſed to contribute,

bute, from their diſapprobation of the cauſe; and bitter complaints were made of want of œconomy throughout the whole American department.

602 Violent animoſities betwixt the two parties.

603 Mr Sayre committed to the Tower.

All this time the violent animoſities between the parties continued; the deſire of peace was gradually extinguiſhed on both ſides; and the foundation laid of an enmity ſcarce ever to be extinguiſhed. Each ſeemed to be ſeriouſly of opinion that the other would willingly ruin the nation if poſſible; a remarkable inſtance of which was the commitment of Mr Sayre, an engraver in London, to the tower for high treaſon. The accuſation laid againſt him was no leſs than that of having formed a deſign to ſeize his majeſty as he went to the houſe of lords: but the ſcheme itſelf, and the method in which it was to be executed, appeared both ſo ridiculous, that the priſoner was very ſoon diſcharged; after which he commenced a proceſs againſt lord Rochfort for falſe impriſonment.

604 Parliamentary debates.

With reſpect to the parliamentary proceedings during this period, very little can be ſaid, further than that every meaſure of adminiſtration, whether right or wrong, was violently oppoſed. The employment of foreign troops, and admitting them into the fortreſſes of Gibraltar and Minorca, were moſt ſeverely cenſured, as being contrary to the bill of rights. Adminiſtration contended that this bill only forbad the introduction of a foreign military power into the kingdom during peace; but the times were not peaceable, and the introduction of the troops was evidently with a view to quell a rebellion. The force deſigned for the conqueſt of America was then declared to be inadequate to the purpoſe; but it was replied on the part of miniſtry, that the deſign was to conciliate, not to conquer. The force (25,000 men) was ſufficient to ſtrike terror; and though this ſhould not inſtantly be produced, conciliatory offers would ſtill be held out after every blow that was ſtruck.

635 Military operations of the Americans.

In the mean time the Americans, ſenſible of the dangerous ſituation in which they ſtood, exerted themſelves to the utmoſt to diſlodge the Britiſh troops from Boſton. This being at length accompliſhed in March 1776, they proceeded to put their towns in the moſt formidable ſtate of defence; inſomuch that they ſeem, if properly defended, to have been almoſt impregnable. This was evident from the repulſe of Sir Peter Parker at Charleſtown: But they did not exert equal ſpirit in the defence of New-York; where, beſides loſing the town, they received ſuch a defeat as ſeemed to threaten their affairs with total ruin. See AMERICA.

606 Their cauſe believed in Britain to be deſperate.

607 Vaſt expences attending the war

In this view it appeared to the generality of the people in Britain. The ſucceſsful campaign of 1776 was looked upon as ſo deciſive, that little room was left to ſuppoſe the Americans capable of ever retrieving their affairs. Oppoſition were much embarraſſed, and now almoſt reduced to the ſingle argument of the interference of foreign powers, which they had often unſucceſsfully uſed before. Beſides this, indeed, the obſtinacy of the Americans in refuſing the offers of lord Howe, even at the moment of their greateſt depreſſion, ſeemed to be a very bad preſage. The ſtrength of miniſtry, however, now became ſo deciſive, that whatever they propoſed was immediately carried. The number of ſeamen for 1777 was augmented to 45,000, and upwards of five millions voted for the expence of the navy, and to diſcharge its debt. The expences of the land-ſervice amounted to near three millions, beſides the extraordinaries of the former year, which amounted to more than L. 1,200,000; and though this vaſt profuſion became the ſubject of much complaint and animadverſion, the power of miniſtry ſilenced every oppoſer.

608 Perplexity of adminiſtration on the news of general Burgoyne's defeat.

609 They extricate themſelves with great dexterity.

But however adminiſtration might now triumph, their exultation was but of ſhort continuance. The misfortune of general Burgoyne at Saratoga threw the whole nation into a kind of deſpair, and reduced the miniſtry to the greateſt perplexity. The great difficulty now was to contrive means for raiſing a ſufficient number of forces to carry on the war; but from this they extricated themſelves by what muſt be allowed a maſterly contrivance. This was the encouraging levies for government ſervice by cities and private perſons; and as the deſign was kept a profound ſecret before the Chriſtmas receſs, they were not diſturbed by the dangerous clamours of oppoſition. The receſs was purpoſely extended in order to give time for the ſcheme to take effect; and before parliament met again it was actually accompliſhed, ſo that miniſters could once more face their opponents without any fear.

610 The French reſolve to aſſiſt America.

Another and more weighty conſideration, however, now occurred. The European ſtates in general had long beheld the grandeur of Britain with an invidious eye. The news of the diſaſter at Saratoga was therefore received among them as thoſe of the defeat of Charles XII. at Pultowa was among the powers whom he had ſo long commanded. Of all theſe the French, for obvious reaſons, were the moſt active in ſupporting the Americans. Numbers of the young nobility were eager to ſignalize themſelves in the American cauſe; and among the reſt the marquis de la Fayette, a young noblemen of the firſt rank and fortune. Impelled by an enthuſiaſtic ardour in favour of the American cauſe, he purchaſed a veſſel, loaded her with military ſtores, and ſailed in her with ſeveral of his friends to America, where he preſented his ſervices to Congreſs. From them he met with a moſt gracious reception, and was inveſted with a command, in which he loſt no opportunity of diſtinguiſhing himſelf. Beſides this nobleman, ſeveral other officers from France and Germany actually entered the American ſervice, and by their military talents greatly contributed to the exertions which the colonies were afterwards enabled to make.

This aſſiſtance, however, would have been but trifling, had not the French court alſo intereſted itſelf in their behalf; for by the time, or very ſoon after, the news of general Burgoyne's diſaſter arrived in Britain, a treaty was on foot between the French court and the United States of America.

Even before this time France had ſhowed ſuch an extreme partiality towards the Americans, as might have plainly indicated their deſign of ultimately aſſiſting them in their national capacity. The encouragement given to the American privateers in all the ports of France had produced ſtrong remonſtrances on the part of Britain; and an order was at laſt demanded, that all theſe privateers with their prizes ſhould depart the kingdom. With this they found it neceſſary to comply at that time, leſt repriſals ſhould be made by capturing their whole Newfoundland fleet then out on the fiſhery. So many delays, however, were made on various pretences, that not a ſingle veſſel was diſmiſſed from any of their ports. So far indeed were the French court from any deſign of this kind, that in the month of July 1777 the whole body of merchants throughout the kingdom were aſſured from government that they might depend on protection in their trade with America.

All this time the greateſt preparations were made throughout the whole kingdom of France for war; ſo that the moſt judicious politicians were of opinion that a rupture with that power ſhould have immediately followed the commencement of hoſtilities with America, and for which the behaviour of the former furniſhed abundant reaſons of juſtification. Whatever might have been the motives of the Britiſh miniſtry, however, it is certain, that in defiance of probability, even when joined by the moſt acrimonious cenſures of oppoſition, they continued to pretend ignorance of any hoſtile intentions in the court of France, until that court of its own accord thought proper to announce them. This was done by a formal notification to the court of Britain in the month of March 1778, and that in the moſt mortifying terms. In this declaration it was announced, that not only a treaty of friendſhip and commerce was concluded betwixt France and America, but Britain was inſulted with being told that America was actually in poſſeſſion of independency, as if the former had already exerted her utmoſt efforts without being able to reduce them. A merit was alſo made of having entered into no commercial ſtipulations in favour of France excluſive of Britain. Nothing, therefore, could be more offenſive; and though it could not decently be ſaid on the part of the French monarch that he wiſhed for war, yet his pacific intentions were conveyed in ſuch haughty terms, that the whole could only be conſidered as a declaration of thoſe hoſtilities which he pretended to avoid.

611
Treaty with America announced to the court of Britain.

Both parties now united in their opinion that a war with France was unavoidable; but they were not for that reaſon any further advanced towards a reconciliation. It muſt be owned, indeed that the minority had now, according to their own account, received very great provocation. They had from the beginning reprobated the American war, and prognoſticated its bad ſucceſs. In this they had been over-ruled, and the character of the Americans repreſented in ſuch a manner as almoſt to preclude the idea of their being able to reſiſt. They had reſiſted, however; and by deſtroying or taking priſoners a whole army, verified thoſe predictions which had been ſo often treated with ridicule. The popular party had, times without number, inſiſted in the moſt earneſt manner for ſome kind of conceſſion towards America; but this had conſtantly been refuſed with an unparalleled and inveterate obſtinacy. They now ſaw theſe very conceſſions offered to America after the defeat of Burgoyne, which, had they been granted in time, would have prevented all the miſchief. Added to all this, the expences for the enſuing year had been hurried through the houſe before the Chriſtians vacation; the levies had been raiſed by ſubſcription without conſent of parliament at all; yet both theſe proceedings had been determined to be ſtrictly legal and conſtitutional. Every enquiry into the meaſures of government had been fruſtrated; and one into the ſtate of the nation in general, which could not be abſolutely rejected, was rendered ineffectual by delays and evaſion. Laſtly, they now ſaw their country involved in a foreign war with a nation well provided for all emergencies, while they had ſupinely ſuffered them to go on, without making the leaſt effort to put themſelves in a proper ſtate of defence.

612
Severe charges againſt adminiſtration.

For theſe reaſons oppoſition inſiſted that the preſent miniſtry ought no longer to be truſted with the management of public affairs. An acknowledgment of the independence of America was now by many ſuppoſed to be the only rational ſtep that could be taken, which might now be done with a good grace, and which we would unavoidably be obliged to take at laſt whether we would or not. By acknowledging this independence before they had time to enter into excluſive engagements with France, their trade would be open to all the world. This of courſe would leſſen their correſpondence with France, and leave them at liberty to form ſuch connections as they thought moſt proper. The miniſterial party, however, ſtill inſiſted on vigorous meaſures, repreſenting it as a ſpiritleſs and diſgraceful meaſure to bend beneath the power of France, and ſetting forth the reſources of Great Britain as ſufficient to reſiſt the efforts of all her enemies. The diſhonour of leaving the American loyaliſts expoſed to the reſentment of their countrymen was alſo ſet forth in the ſtrongeſt manner. Theſe, by very intelligent people, were ſaid to be by far the greater number. Were it not more eligible, on the very ſtrength of ſuch an affirmation, to make trial of its veracity, and to put arms into their hands? Whatever the danger of the experiment might be, we could not abandon them without expoſing our reputation, and loſing that character of fidelity to our engagements for which we had hitherto been ſo juſtly reſpected. Unanimity in the preſent caſe was ſtrongly, and indeed very juſtly, inſiſted upon; but when oppoſition complained of ſome occult irreſiſtible influence by which the councils of the nation were directed, in deſpite of every ſuggeſtion of reaſon and argument, the charge was denied in the ſtrongeſt manner, and miniſters diſclaimed every motive of their conduct, excepting that of an internal conviction of its own rectitude.

613
Removal of the miniſters inſiſted upon.

Notwithſtanding the violence of theſe altercations, however, the greateſt courage and ſteadineſs was manifeſted by the cool and deliberate part of the nation. The French reſolved in the firſt place to excite a general terror by threatening an invaſion. This was evidently impracticable, without their procuring firſt the ſuperiority at ſea: yet as multitudes in the country were apt to be terrified by the very mention of a French invaſion, orders were iſſued to draw out and embody the militia, which was then compoſed of men in every reſpect as well exerciſed and diſciplined as any regular troops. It was complained, however, that a French ſquadron of 12 ſhips of the line had ſailed from Toulon, without any obſtruction, under the command of the count d'Eſtaing. The moſt grievous apprehenſions were entertained from the great inferiority of lord Howe's naval force, which might expoſe him to a total defeat, and the whole fleet of tranſports to be taken or deſtroyed by the enemy. But whatever might have been the probabilities in this caſe, it is certain that either the fortune or conduct of

614
Invaſion threatened by the French.

615
D'Eſtaing ſails with a ſquadron from Toulon.

of this commander were ſuch, that no exploit of any great conſequence was ever performed by him. That matters, however, might be put in the beſt ſituation poſſible, addreſſes were moved for the recalling of the fleets and armies from America, in order to ſtation them in places where they might contribute more effectually to the defence of the kingdom. This was oppoſed not only by adminiſtration, but even by ſome of the moſt popular members of oppoſition themſelves. Of this opinion were lord Chatham and the earl of Shelburne; the former of whom reſiſted it with a vehemence of ſpeech peculiar on this occaſion.

616 Exploits of D'Eſtaing.

The operations of the French in America, with the various ſucceſs of the war, are related under the article *United States of America*. Here we have only to take notice, that d'Eſtaing, having failed in his attempt on the Britiſh fleet at New-York, and in aſſiſting his allies in their attempt on Rhode Iſland, as well as having by other parts of his conduct greatly diſguſted them, ſailed for the Weſt-Indies, where he unſucceſsfully attacked the iſland of St Lucia*. Being repulſed in this attempt, he ſailed to the iſland of Grenada, which he reduced, treating the vanquiſhed in a very cruel manner†; while a body of troops diſpatched by him alſo reduced the iſland of St Vincent.

* See *St Lucia*.

† See *Grenada*.

617 Engagement betwixt him and admiral Byron.

618 Bravery of ſome Engliſh captains

By this time the French admiral was powerfully reinforced; ſo that his fleet conſiſted of 26 ſail of the line and 12 frigates. During the time he was employed at Grenada, Admiral Byron with the Britiſh ſquadron, was accompanying the homeward bound Weſt-India fleet till out of danger; after which he ſailed with a body of troops under General Grant, for the recovery of St Vincent; but before they could reach that iſland, certain intelligence was received of the deſcent at Grenada. On this they ſteered directly for that iſland, where they encountered the French fleet without heſitation, notwithſtanding the great ſuperiority of the latter. At this time the French ſquadron amounted to 27 ſail of the line and ſeven frigates; while that of Britain conſiſted only of 21 line of battle ſhips and one frigate. The Britiſh admirals, Byron and Barrington, endeavoured to bring the enemy to a cloſe engagement, but this was as ſtudiouſly avoided by d'Eſtaing; and ſuch was the dexterity and circumſpection with which the latter conducted matters, that it was only by ſeizing the tranſient opportunities of the different movements occaſioned by the wind and weather, that ſome of the Britiſh ſhips could cloſe in with their antagoniſts. Even when this was the caſe, the engagement was carried on upon ſuch unequal terms, that the Britiſh ſhips were terribly ſhattered. For ſome time captains Collingwood, Edwards, and Cornwallis, ſtood the fire of the whole French fleet. Captain Fanſhaw of the Monmouth, a 64 gun ſhip, ſingly threw himſelf in the way of the enemy's van to ſtop them. Several of the Britiſh ſhips forced their way to the very mouth of St George's harbour on the iſland of Grenada: but finding it in the hands of the French, an end was put to the engagement; nor did the French care to renew it, though the Britiſh ſhips had ſuffered very much.

619 General ſtate of the ſucceſs of the American and Weſt Indian war.

D'Eſtaing now having received freſh reinforcements, ſet ſail for the continent of America, after conveying the homeward bound fleet of French merchantmen in their return from the Weſt-India iſlands. His diſaſtrous attempt on the town of Savannah, with the ſubſequent diſcord betwixt him and the coloniſts, are related under the article *United States of America*. Here we have only to take notice, that thus the fears which had been excited by the ſuperiority of the French in the Weſt-Indian ſeas were effectually diſſipated. The Iſlands of Dominica, St Vincent, and Grenada, were indeed loſt; the firſt being taken by the marquis de Bouille, governor of Martinico, and the two laſt by d'Eſtaing as already related*: but theſe ſucceſſes were balanced by the failure of the French commander in every other enterpriſe; by his terrible diſaſter at the Savannah; and by the acquiſition of St Lucia, which was taken in the year 1778 by admiral Barrington and general Preſcot and Meadows†. In other parts of the Weſt-Indian ſeas alſo the honour of the Britiſh arms were very effectually ſupported by the bravery and vigilance of the commanders on that ſtation. Here admiral Hide Parker, aſſiſted by admiral Rowley, kept the enemy in continual alarm, and intercepted the trade of the French iſlands in ſuch a manner as greatly diſtreſſed them. Three large frigates diſpatched by count d'Eſtaing after his failure in America were taken, and a great part of a convoy ſeized or deſtroyed in ſight of M. de la Motte Piquet's ſquadron in the harbour of Port Royal at Martinico, the admiral himſelf having narrowly eſcaped. He had ſailed out of that harbour, in order to favour the eſcape of the convoy already mentioned; which having partly effected, he withdrew; but was purſued ſo cloſely, that he had ſcarcely time to ſhelter himſelf under the batteries on ſhore.

* See theſe articles.

† See *St Lucia*.

Theſe ſucceſſes, which happened in the years 1778, 1779, and beginning of 1780, kept the event of the war pretty much in an equilibrium on the weſtern ſeas and continent; but in the mean time the moſt violent diſſentions prevailed through every department of the Britiſh government in Europe, which threatened at laſt to involve the whole nation in confuſion and bloodſhed.

620 Bad condition of the Britiſh navy in Europe.

621 Operations of Admiral Keppel and his engagement with the French fleet.

Among other charges brought by the members in oppoſition againſt the miniſtry, that of neglecting the navy had been one of the moſt conſiderable; nor indeed does it appear that the charge was altogether without foundation. Without a fleet, however, it was now impoſſible to avoid the danger of an invaſion. At this time, indeed, the fleet was in a very weak condition, but the valour and experience of the officers ſeemed in ſome meaſure to compenſate that defect. The chief command was given to admiral Keppel, who had ſerved with uncommon reputation during the laſt war. Admirals Sir Robert Harland and Sir Hugh Palliſer ſerved under him, both of them officers of undoubted courage and capacity. Arriving at Portſmouth towards the end of March 1778, admiral Keppel exerted himſelf with ſo much induſtry and diligence, that excluſive of thoſe ſhips which it was found neceſſary to diſpatch to the coaſt of North America under admiral Byron, a fleet of 20 ſail of the line was got in complete readineſs by the beginning of June, and ten more in a forward ſtate of preparation.

At the head of this fleet, admiral Keppel ſailed from Portſmouth on the 13th of June, in order to protect the vaſt number of commercial ſhipping expected from all parts of the world, and at the ſame time to watch the motion of the French fleet at Breſt.

On the arrival of the Britiſh fleet off the coaſt of France, two French frigates approached it, in order to make their obſervations. Theſe were the Licorne of 32 guns and the Belle Poule of 26. In conſequence of a ſignal to give chace, the Milford frigate overtook the Licorne towards the cloſe of the day, and requeſted the French captain to come under the Britiſh admiral's ſtern: upon his refuſal, a ſhip of the line came up, and compelled him to come into the fleet. Next morning, the Licorne ſeeming by her motions to be altering her courſe, a ſhot was fired acroſs her way as a ſignal for keeping it. Hereupon ſhe diſcharged a broadſide and a volley of ſmall arms into the America of 64 guns that lay cloſe to her, and immediately ſtruck. The behaviour of the French captain was the more aſtoniſhing, as lord Longford, captain of the America, was at that inſtant engaged in converſation with him in terms of civility; but though ſuch behaviour certainly merited ſevere chaſtiſement, no hoſtile return was made.

The Arethuſa of 26 guns, commanded by captain Marſhal, with the Alert cutter, was mean while in purſuit of the Belle Poule, that was alſo accompanied by a ſchooner, and the chaſe was continued till they were both out of ſight of the fleet. On his coming up, he informed the French captain of his orders to bring him to the admiral, and requeſted his compliance. This being refuſed, the Arethuſa fired a ſhot acroſs the Belle Poule, which ſhe returned with a diſcharge of her broadſide. The engagement thus begun, continued more than two hours with uncommon warmth and fury.

The Belle Poule was greatly ſuperior not only in number, but in the weight of her metal: her guns were all 12 pounders; thoſe of the Arethuſa only ſix: Notwithſtanding this inferiority, ſhe maintained ſo deſperate a fight, that the French frigate ſuffered a much greater loſs of men than the Britiſh. The ſlain and wounded on board the former, amounted, by their own account, to near 100; on board the latter, they were not half that proportion.

Captain Fairfax in the Alert, during the engagement between the two frigates, attacked the French ſchooner, which being of much the ſame force, the diſpute continued two hours with great bravery on both ſides, when ſhe ſtruck to the Engliſh cutter.

The Arethuſa received ſo much damage that ſhe became almoſt unmanageable: the captain endeavoured to put her into ſuch a poſition, as to continue the engagement; but was unable to do it. Being at the ſame time upon the enemy's coaſt, and cloſe on the ſhore, the danger of grounding in ſuch a ſituation obliged him to act with the more caution, as it was midnight. The Belle Poule, in the mean time, ſtood into a ſmall bay, ſurrounded with rocks, where ſhe was protected from all attacks: ſhe had ſuffered ſo much, that the captain apprehending that ſhe could not ſtand another engagement, had reſolved, in caſe he found himſelf in danger of one, to run her aground: but her ſituation prevented any ſuch attempt; and as ſoon as it was day-light, a number of boats came out from ſhore, and towed her into a place of ſafety. Notwithſtanding the evident and great ſuperiority on the ſide of the French, this action was extolled by them as a proof of ſingular bravery, and the account of it received with as much triumph as if it had been a victory.

On the 18th of June, the day following the engagement with the Belle Poule, another frigate fell in with the Britiſh fleet; and was captured by the admiral's orders, on account of the behaviour of the Licorne.

The capture of theſe French frigates produced ſuch intelligence to the admiral, as proved of the utmoſt importance, at the ſame time that it was highly alarming. He was informed that the fleet at Breſt conſiſted of 32 ſhips of the line and 12 frigates. This was in every reſpect a moſt fortunate diſcovery, as he had no more with him than 20 ſhips of the line and three frigates. The ſuperiority of the enemy being ſuch as neither ſkill nor courage could oppoſe in his preſent circumſtances; and as the conſequences of a defeat muſt have been fatal to his country, he thought himſelf bound in prudence to return to Portſmouth for a reinforcement. Here he arrived on the 27th of June, and remained there till the ſhips from the Mediterranean, and the Spaniſh and Portugueſe trade, and the ſummer fleet from the Weſt-Indies coming home, brought him a ſupply of ſeamen, and enabled him to put to ſea again, with an addition of ten ſhips of the line. But ſtill there was a great deficiency of frigates, owing to the great numbers that were on the American ſtation, and the neceſſity of manning the ſhips of the line preferably to all others.

In the mean time, the preparations at Breſt being fully completed, the French fleet put to ſea on the 8th of July. It conſiſted of 32 ſail of the line, beſides a large number of frigates. Count D'Orvilliers commanded in chief. The other principal officers in this fleet were counts Duchaffault, de Guichen, and de Graſſe; monſieur de Rochechoart and monſieur de la Motte Piquet. A prince of the blood royal had alſo been ſent to ſerve on board of this fleet; this was the duke of Chartres, ſon and heir to the duke of Orleans, firſt prince of the blood royal of France in the collateral line. He commanded one of the diviſions in quality of admiral.

On the 9th day of July, the Britiſh fleet ſailed out of Portſmouth in three diviſions; the firſt commanded by Sir Robert Harland, the third by Sir Hugh Palliſer, and the centre by Admiral Keppel, accompanied by Admiral Campbell, an officer of great courage and merit. The French had been informed that the Britiſh fleet was greatly inferior to their own; which was but too true at the time when they received this information. Being yet unappriſed of the reinforcement it was returned with, the admiral ſailed at firſt in queſt of it intending to attack it while in the weak condition it had been repreſented to him.

As the Britiſh admiral was equally intent on coming to action as ſoon as poſſible, they were not long before they met. On the 23d of July they came in ſight. But the apppearance of the Britiſh ſhips ſoon convinced the French admiral of his miſtake, and he immediately determined to avoid an engagement no leſs cautiouſly than he had eagerly ſought it before.

Herein he was favoured by the approach of night: All that could be done on the part of the Britiſh was to form the line of battle in expectation that the enemy would do the ſame. During the night the wind changed ſo favourably for the French, as to give them the weather gage. This putting the choice of coming to action, or declining it, entirely in their own power, deprived the Britiſh admiral of the opportunity of forcing them to engage as he had propoſed.

During the ſpace of four days, the French had the option of coming to action; but conſtantly exerted their utmoſt care and induſtry to avoid it. The Britiſh fleet continued the whole time beating up againſt the wind, evidently with a reſolution to attack them. But notwithſtanding the vigour and ſkill manifeſted in this purſuit, the Britiſh admiral had the mortification to ſee his endeavours continually eluded by the vigilance and precaution of the enemy not to loſe the leaſt advantage that wind and weather could afford.

The chaſe laſted till the 27th of July. Between ten and eleven in the morning, an alteration of wind and weather occaſioned ſeveral motions in both fleets that brought them, unintentionally on the part of the French, and chiefly through the dexterous management of the Britiſh admiral, ſo near each other, that it was no longer in their power to decline an engagement. Both fleets were now on the ſame tack: had they ſo remained, the Britiſh fleet on coming up with the French would have had an opportunity of a fair engagement, ſhip to ſhip; which would hardly have failed of proving very deciſive: but this was a manner of combating quite contrary to the wiſhes of the French admiral. Inſtead of receiving the Britiſh fleet in this poſition, as ſoon as he found that an action muſt enſue, he put his ſhips on the contrary tack, that, ſailing in oppoſite directions, they might only fire at each other as they paſſed by. By this means a cloſe and ſidelong action would be effectually evaded. As ſoon as the van of the Britiſh fleet, conſiſting of Sir Robert Harland's diviſion, came up, they directed their fire upon it; but at too great a diſtance to make any impreſſion: the fire was not returned by the Britiſh ſhips till they came cloſe up to the enemy, and were ſure of doing execution. In this manner they all paſſed cloſe alongſide each other in oppoſite directions, making a very heavy and deſtructive fire.

The centre diviſion of the Britiſh line having paſſed the rearmoſt ſhips of the enemy, the firſt care of the admiral was to effect a renewal of the engagement, as ſoon as the ſhips of the different fleets, yet in action, had got clear of each other reſpectively. Sir Robert Harland, with ſome ſhips of his diviſion, had already tacked, and ſtood towards the French; but the remaining part of the fleet had not yet tacked, and ſome were dropped to leeward, and repairing the damages they had received in the action. His own ſhip the Victory had ſuffered too much to tack about inſtantly; and had he done it, he would have thrown the ſhips aſtern of him into diſorder. As ſoon as it was practicable, however, the Victory wore, and ſteered again upon the enemy before any other ſhip of the centre diviſion; of which not above three or four were able to do the ſame. The other ſhips not having recovered their ſtations near enough to ſupport each other on a renewal of action, in order to collect them more readily for that purpoſe, he made the ſignal for the line of battle a-head. It was now three in the afternoon; but the ſhips of the Britiſh fleet had not ſufficiently regained their ſtations to engage. The Victory lay neareſt the enemy, with the four ſhips abovementioned, and ſeven more of Sir Robert Harland's diviſion. Theſe twelve were the only ſhips in any condition for immediate ſervice; of the others belonging to the centre and of Sir Robert Harland's diviſion, three were a great way aſtern, and five at a conſiderable diſtance to leeward, much diſabled in their rigging.

Sir Hugh Palliſer who commanded the rear diviſion during the time of action, in which he behaved with ſignal bravery, came of courſe the laſt out of it; and in conſequence of the admiral's ſignal for the line, was to have led the van on renewing the fight; but his diviſion was upon a contrary tack, and was entirely out of the line. The French, on the other hand, expecting directly to be re-attacked, had cloſed together in tacking, and were now ſpreading themſelves into a line of battle. On diſcovering the poſition of the Britiſh ſhips that were fallen to leeward, they immediately ſtood towards them, in order to cut them off. This obliged the admiral to wear, and to ſteer athwart the enemy's foremoſt diviſion, in order to ſecure them; directing, at the ſame time, Sir Robert Harland to form his diviſion in a line aſtern, in order to face the enemy till Sir Hugh Palliſer could come up, and enable him to act more effectually.

The admiral, in moving to the protection of the leeward ſhips, was now drawing near the enemy. As Sir Hugh Palliſer ſtill continued to windward, he made a ſignal for all the ſhips in that poſition to come into his wake: Sir Hugh Palliſer repeated this ſignal; but it was unluckily miſtaken by the ſhips of his diviſion as an order to come into his own wake, which they did accordingly; and as he ſtill remained in his poſition, they retained theirs of courſe.

Sir Robert Harland was now directed to take his ſtation ahead, and the ſignal repeated for Sir Hugh Palliſer's diviſion to come into his wake; but this ſignal was not complied with, any more than a verbal meſſage to that purpoſe, and other ſubſequent ſignals for that diviſion's coming into its ſtation in the line, before it was too late to recommence any operations againſt the enemy.

In the night, the French took the determination to put it wholly out of the power of the Britiſh fleet to attack them a ſecond time. For this purpoſe, three of their ſwifteſt ſailing veſſels were fixed in the ſtations occupied during the day by the three admiral ſhips of the reſpective diviſions, with lights at the maſt-heads, to deceive the Britiſh fleet into the belief that the French fleet kept its poſition with an intent to fight next morning. Protected by this ſtratagem, the remainder of the French fleet drew off unperceived and unſuſpected during the night, and retired with all ſpeed towards Breſt: they continued this retreat the whole courſe of the following day, and entered that port in the evening. Their departure was not diſcovered till break of day; but it was too late to purſue them, as they were only diſcernable from the maſt-heads of the largeſt ſhips in the Britiſh fleet. The three ſhips that had remained with the lights were purſued: but the veſſels that chaced them were ſo unable to overtake them from the damages they had received in the preceding day's engagement, that they were quickly recalled; and the admiral made the beſt of his way to Plymouth, as being the neareſt port, in order to put his fleet into a proper condition to return in queſt of the enemy.

The killed and wounded on board the Britiſh fleet amounted to ſomewhat more than 500; but the French, it has been aſſerted on grounds of great credibility, loſt 3000. This appears the leſs improbable, from the conſideration that the French, in all their naval engagements, aim principally at the maſt and rigging, and the Britiſh chiefly at the body of the ſhips.

622 Subſequent diſſentions, and trial of the admiral

This action, whatever might have been the merit of the commanders, proved a ſource of the moſt fatal animoſities. The bulk of the nation had ſo long been accuſtomed to hear of great and glorious victories at ſea, that it was ſuppoſed a kind of impoſſibility for a French and Britiſh fleet to encounter without the total ruin of the former. The event of the laſt engagement, therefore, became an object of very ſevere criticiſm; and complaints were made, that, through the bad conduct of the blue diviſion, an opportunity had been loſt of gaining a complete victory over the French fleet. Theſe complaints were quickly introduced into the public papers; and were carried on with a warmth and vehemence that ſet the whole nation into a ferment of the moſt violent and outrageous nature. The friends of Sir Hugh Palliſer, the vice admiral of the blue, were no leſs violent in the defence of his conduct than his opponents were in its condemnation; while thoſe who eſpouſed the cauſe of the admiral, manifeſted no leſs determination in accuſing him of being the real cauſe of the eſcape of the French fleet, through his diſobedience of the ſignals and orders of his commander, and by remaining at a diſtance with his diviſion, inſtead of coming to the aſſiſtance of the reſt of the fleet.

An accuſation of ſo weighty a nature very much alarmed Sir Hugh Palliſer. He therefore applied to admiral Keppel for a juſtification of his conduct; and required of him to ſign and publiſh a paper relative to the engagement of the 27th of July; therein ſpecifying as a fact, that he did not intend by his ſignals on the evening of that day to renew the battle then, but to be in readineſs for it the next morning.

On the rejection of this demand, Sir Hugh Palliſer publiſhed in one of the daily papers a variety of circumſtances concerning that engagement; reflecting ſeverely on the conduct of the admiral, and prefacing the whole by a letter ſigned with his name.

An attack ſo public, and ſo detrimental to his character, induced admiral Keppel to declare to the admiralty, that unleſs Sir Hugh Palliſer ſhould explain this matter to his ſatisfaction, he could not, conſiſtently with his reputation, ever act conjointly with him.

This altercation happening before the meeting of parliament, was of courſe taken notice of when it met. In the houſe of peers an inquiry was demanded into the conduct of the commanders of the fleet on the 27th of July, on account of the declaration of admiral Keppel, that he would not reſume the command until ſuch an inquiry had taken place.

In the houſe of commons alſo it was urged, that as admiral Keppel had expreſſed a public refuſal to ſerve in conjunction with Sir Hugh Palliſer, the cauſe of ſuch a declaration ought to be inveſtigated. Admiral Keppel and Sir Hugh Palliſer, who were both preſent in the houſe on this occaſion, ſpoke ſeverally to the point in queſtion in ſupport of their reſpective conduct. The iſſue of the conteſt between them was, that a motion was made for an addreſs to the Crown to bring Sir Hugh Palliſer to a trial for his behaviour in the late engagement with the French fleet. In anſwer to this motion, Sir Hugh Palliſer replied, in a ſpeech of great warmth and vehemence, that he had already demanded and obtained a court-martial to ſit on admiral Keppel, whom he charged with having through his miſconduct cauſed the failure of ſucceſs in that engagement.

This intelligence was received with great aſtoniſhment in the houſe. It had been, and ſtill continued to be, the general deſire of individuals of all parties, to heal this breach between the two officers at a time when the ſervices of both were ſo much needed. It was therefore with univerſal concern the houſe was informed of the determination that had been taken to bring admiral Keppel to a trial. The admiral, however, conducted himſelf on this occaſion with remarkable temper and coolneſs of expreſſion. He acquieſced without reluctance in the orders that had been laid upon him to prepare for a trial of his conduct; which he hoped would not, upon inquiry, appear to have been diſhonourable or injurious to his country, any more than diſgraceful to himſelf.

The conduct of the board of admiralty in admitting the charges againſt admiral Keppel, and appointing a trial, was greatly condemned in the houſe. It was ſaid to have been their duty to have laboured with the utmoſt earneſtneſs, and exerted their whole official influence, to ſtifle this unhappy diſagreement between two brave and valuable men; the conſequences of which they well knew, and ought to have obviated, by interpoſing as reconciliators, inſtead of promoting the diſpute, by conſenting to bring it to a judicial and public hearing. On the other hand, it was anſwered, that they could not, conſiſtently with the impartiality which they owed to every officer of the navy, refuſe to receive all matters of complaint relating to ſubjects of their department. They had no right to decide on the merits of any caſe laid before them, but were bound to refer it to a court compoſed of naval officers, who were the only proper and competent judges of each others conduct in profeſſional matters. In conformity with theſe principles, which were founded upon the cleareſt equity, they left the deciſion of the preſent altercation to the gentlemen of the navy; whoſe honour and integrity in all inſtances of this kind had never been called in queſtion, and by whoſe verdict alone it was but juſt and reaſonable that every officer in that line of ſervice ſhould wiſh to ſtand or fall.

The arguments upon this ſubject were urged with great heat and violence on both ſides. They produced uncommon animoſity and rancour, and gave riſe to a ſpirit of contention that diffuſed itſelf through all claſſes of ſociety. Such was the height of paſſion that prevailed every where, that the critical circumſtances of the nation were wholly forgotten, and the attention of the public entirely abſorbed in this fatal diſpute. Individuals of all ranks and all profeſſions engaged in it with as much zeal as if they had been perſonally concerned in the iſſue. The diſſatisfaction that was excited upon this occaſion among the upper claſſes in the navy, appeared in a memorial preſented to the king by twelve of the oldeſt and moſt diſtinguiſhed admirals, at the head of whom was the name of lord Hawke. The conduct of Sir Hugh Palliſer was therein condemned without reſerve; that of the admiralty itſelf was ſeverely cenſured, as having eſtabliſhed a precedent pregnant with the moſt ruinous conſequences to the naval ſervice of the kingdom. By the meaſure it had now adopted, the board had ſubmitted to become the inſtrument of any individual who might be prompted by iniquitous motives to deprive the navy of its beſt and higheſt officers. It was a deſtructive violation, they ſaid, of all order and diſcipline in the navy, to permit and countenance long concealed, and afterwards precipitately adopted charges, and recriminatory accuſations of ſubordinate officers againſt their commanders in chief. It was no leſs improper and ſcandalous, to ſuffer men at once in high civil office, and in ſubordinate command, previous to their making ſuch accuſations, to attempt to corrupt the judgment of the public, by publiſhing libels on their officers in a common newſpaper, which tended at once to excite diſſentions in the navy, and to prejudice the minds of thoſe who were to try the merits of the accuſation againſt the ſuperior officer.

It was remarkable in this memorial, that the majority of thoſe who ſubſcribed it were not only officers of the firſt rank and importance in the navy, but unconnected with the oppoſition, and attached by various motives to the court and miniſtry. This evinced their conduct in the preſent inſtance to have been uninfluenced by conſiderations of party.

No buſineſs of any conſequence was agitated in either of the houſes of parliament while the trial continued. It began upon the 7th of January 1779, and laſted more than a month, not ending till the 11th day of February enſuing. After a long and accurate inveſtigation of every ſpecies of evidence that could be produced, the court-martial acquitted admiral Keppel of all the charges that had been brought againſt him in the moſt complete and honorable manner. He was declared to have acted the part of a judicious, brave, and experienced officer; and the accuſation was condemned in the moſt ſevere manner.

Both houſes of parliament voted him their thanks for the eminent ſervices he had performed, and the whole nation reſounded with his applauſe. The city of London beſtowed every honour and mark of reſpect in its power upon admiral Keppel; while the reſentment againſt his accuſer was ſo ſtrong, that it conſtrained him to retire wholly from public life, and to reſign all his employments.

But notwithſtanding the high degree of national favour and eſteem in which admiral Keppel now ſtood, he thought it prudent to withdraw from a ſituation wherein he fonnd himſelf not acceptable to thoſe in power, by reſigning his command.

623 Unſucceſsful attack on the board of admiralty.

The conduct of thoſe who preſided at the admiralty board now became an object of ſevere cenſure; and a number of facts were cited to prove that its conduct for many years paſt had been highly reprehenſible. The debates were uncommonly violent; and the reſolution to condemn the conduct of the admiralty was loſt only by a majority of 34. Adminiſtration, however ſtill kept their ground; for though a ſecond attempt was made to ſhow that the ſtate of the navy was inadequate to the vaſt ſums beſtowed upon it, the point was again loſt by much the ſame majority. The argument uſed by the miniſtry in defence of their conduct in this caſe was, that the ſhips now conſtructed were of a much larger ſize, and conſequently much more expenſive than formerly. But however they might be victorious in argument, it is certain that the conduct of the admiralty was very far from giving general ſatisfaction at preſent. Not only admiral Keppel, but lord Howe, declared his reſolution to relinquiſh the ſervice while it continued under the direction of its managers at that time. Their reſignation was followed by that of Sir Robert Harland, Sir John Linſay, and ſeveral others; nay, ſo general was the diſlike to the ſervice now become, that no fewer than 20 captains of the firſt diſtinction had propoſed to go in a body to reſign their commiſſions at once; and were prevented from doing ſo only by the great occaſion they ſaw there was at that time for their ſervices.

624 Reſignation of admirals Keppel, Howe, and other officers.

625 Inquiry in to the conduct of the American war.

This extreme averſion to the ſervice produced a direct attack upon lord Sandwich, at that time firſt lord of the admiralty. But though in this as well as other caſes the miniſtry were ſtill victorious, they could not prevent an inquiry into the cauſe of our want of ſucceſs in the American war. This was inſiſted upon by lord and general Howe, whoſe conduct had been ſo much reflected upon, that a vindication was become abſolutely neceſſary. The inquiry was indeed very diſagreable to adminiſtration, and therefore evaded as long as poſſible. From the evidence of lord Cornwallis, and other officers of high rank, however, it appeared that the forces ſent to America were not at any time ſufficient to reduce it; that the Americans were almoſt univerſally unfriendly to the Britiſh cauſe; and that the nature of the country was ſuch, that the conqueſt of it muſt be exceſſively difficult. It appeared alſo that the camp of the Americans on Long Iſland was ſo ſtrong, that it could not have been attacked with any probability of ſucceſs, after their defeat in 1776, without artillery and other neceſſary preparations. In every inſtance, therefore, the general's conduct was ſhewn to have been the moſt eligible and judicious poſſible. Theſe facts, however, being directly oppoſite to what the miniſtry wiſhed to appear, counter evidence was brought in, with a view to invalidate the teſtimony of the very reſpectable witneſs abovementioned. In this buſineſs only two were examined, *viz.* major-general Robertſon, and Mr Joſeph Galloway an American gentleman. From the evidence of Mr Galloway eſpecially it appeared, that the conduct of general Howe had not been unexceptionable; that the greater part of the Americans were friendly to the cauſe of Britain; that the country was not ſo full of obſtructions as had been repreſented; woods and foreſts being no obſtructions to the marching of armies in as many colums as they pleaſed; that ſoldiers might carry proviſions for 19 days on their backs, &c.

626 Into general Burgoyne's conduct.

Though no ſtreſs could be laid upon ſuch extravagant aſſertions proceeding undoubtedly from ignorance, yet they fully anſwered the purpoſe of miniſtry at this time, *viz.* procraſtination, and preventing the diſagreeable truths abovementioned from ſtriking the minds of the public too forcibly. The event of this inquiry, however, encouraged general Burgoyne to inſiſt for an examination of his conduct; which indeed had been ſo unmercifully cenſured, that even the miniſters began to think he had ſuffered too much, and that he ought to be allowed to vindicate himſelf. He was accordingly permitted to bring witneſſes in his own behalf; and from the moſt reſpectable evidence it appeared that he had acted the part, as occaſion required, both of a general and ſoldier; that the attachment of his army to him was ſo great, that no dangers or difficulties could ſhake it; and that, even when all their patience and courage were found to be ineffectual, they were ſtill ready to obey his commands, and die with arms in their hands. A great number of other paticulars relating to his expedition were alſo cleared up entirely to the honour of the general, and ſeveral charges againſt him were totally refuted. It appeared, however, that the Americans, far from being the contemptible enemy they had been called, were intrepid and reſolute. On the whole, it was remarked by a great number of the moſt judicious people in the nation, that the ſpirit of defamation, which for ſome time had been ſo prevalent, muſt at laſt produce the moſt fatal effects; by depriving the nation of its beſt officers, through the averſion that would be produced in them, both in the ſea and land departments, to enter into a ſervice where they were certain of being calumniated.

627 Acceſſion of Spain to the confederacy againſt Britain.

After the reſignation of admiral Keppel, the command of the Channel fleet was beſtowed, though not without violent debates, on Sir Charles Hardy, a brave and experienced officer, but now advanced in years, and who had retired from the ſervice with a deſign of never returning to it, being at that time governor of Greenwich hoſpital. The choice of an admiral to command this fleet was now of greater importance on account of the acceſſion of Spain to the general confederacy which took place this year*. The quarrel, like that with France, was formally intimated by the Spaniſh miniſter on the 17th of June 1779; and like that alſo was attended with new but ineffectual propoſals of an accommodation with America, and removal of the miniſtry. The imminent danger, however, to which the nation was now expoſed, required a vigorous exertion, and various projects for its internal defence were laid before the parliament. The principal of theſe were the raiſing of volunteer companies to be added to the regiments of militia belonging to the counties where they were raiſed, and the augmenting the number of militia. The latter was judged unadviſable, on account of the neceſſity there would be to ſend a great number of regular forces out of the kingdom, which would require new ſupplies of recruits; and the increaſe of the militia might prove detrimental to the recruiting ſervice. The ſpirit and magnanimity diſplayed on this occaſion, however, did the higheſt honour to the national character, and fully juſtified the opinion generally entertained of its opulence and valour. All parts of the kingdom ſeemed actuated by a laudable zeal to concur in every meaſure neceſſary for its defence; large ſums were ſubſcribed by people of rank and affluence; and companies were raiſed, and regiments formed, with ſuch alacrity as quickly baniſhed all apprehenſions for the ſafety of the kingdom.

628 Schemes for internal defence of the nation.

629 Vigorous efforts of the people on this occaſion.

630 Britiſh ſettlements in Africa reduced.

On the other hand, the French now thinking themſelves ſecure of victory by the acceſſion of the whole ſtrengh of Spain to their cauſe, began to extend their plans of conqueſt. A ſquadron was fitted out under the command of the marquis de Vadreuil, deſtined to reinforce the fleet commanded by d'Eſtaing. But before its proceeding thither, an attack was made on the Britiſh ſettlements on the rivers Senegal and Gambia in Africa. Theſe were eaſily conquered; and on this occaſion the French quitted their own iſland of Goree, which was very ſoon after taken poſſeſſion of by Sir Edward Hughes in his way to the Eaſt-Indies. Theſe unimportant and diſtant conqueſts, however, being inſufficent to produce any great eclat; it was reſolved to ſtrike a blow nearer home, by the conqueſt of Jerſey and Guernſey. An attempt was accordingly made but with ſo little ſucceſs, that not a ſingle man could be diſembarked on the iſland they intended to conquer. The enterprize, however, proved indirectly of great ſervice to the cauſe of America. A fleet of 400 merchantmen and tranſports were at that time on the point of ſailing for New-York, under the conduct of admiral Arbuthnot; but that officer, being informed of the attack on Jerſey, thought it his duty to come to the aſſiſtance of the iſland rather than proceed on his voyage. This delay was followed by another, occaſioned by bad weather; ſo that the fleet, which was laden with warlike ſtores and neceſſaries, did not arrive till the end of Auguſt, and ſeveral important enterprizes projected by Sir Henry Clinton were of courſe laid aſide.

631 Unſucceſsful attempt on Jerſey.

632 French ſquadron of frigates deſtroyed by Sir James Wallace.

The French in the mean time, determined to make a ſecond attempt on Jerſey; but their ſquadron, being attacked by another under Sir James Wallace, was driven a ſhore in a ſmall bay on the coaſt of Normandy, under cover of a battery. Thither they were purſued by the Britiſh commander, who ſilenced the battery, took a large frigate of 34 guns, with two rich prizes, and burned two other frigates and ſeveral other veſſels.

633 Invaſion of Great Britain projected.

Thus diſappointed in their attempt on Jerſey, a project was formed of invading Great Britain itſelf; and the preparations for it, whether ſerious or not, were ſo formidable, that they very juſtly excited a conſiderable alarm in that country. Not only were the beſt troops in the French ſervice marched down to the coaſt of the Britiſh channel, but tranſports were provided in great numbers, and many general officers promoted; the commanders alſo who were to have the charge of this important expedition were named by government. A junction was formed betwixt the French and Spaniſh fleets, in ſpite of the endeavours uſed on the part of the Britiſh to prevent it; and then the allies made their appearance in the Britiſh ſeas with upwards of 60 ſhips of the line, beſides a vaſt number of frigates and other armed veſſels.

634 Formidable appearance of the combined fleets.

635 They take only a ſingle ſhip.

All this formidable apparatus, however, ended in nothing more than the taking of a ſingle ſhip, the Ardent of 64 guns. They had paſſed the Britiſh fleet under Sir Charles Hardy in the mouth of the channel without obſerving him. Sailing then along the coaſt of England, they came in ſight of Plymouth, where they took the Ardent, as has been already mentioned; after which they returned, without making the leaſt attempt to land any where. The Britiſh admiral made good his entrance, without oppoſition, into the channel, on their quitting it, which a ſtrong eaſterly wind obliged them to do. He endeavoured to entice them up the channel in purſuit of him; but the

* See *Spain*.

the great ſickneſs and mortality on borad their ſhips, as they gave out, obliged them to retire, in order to repair their ſhips, and recruit the health of their people. Thus ended the firſt, and indeed the greateſt, exploit performed by the combined fleets in the Britiſh ſeas. An annual parade of a ſimilar kind was afterwards kept up, which was as formally oppoſed on the part of the Britiſh; but not the leaſt act of hoſtility was ever committed by either of the channel fleets againſt each other.

Though this ill ſucceſs, or rather puſillanimity, manifeſt in the conduct of the combined fleets, was ſuch that the French themſelves were aſhamed of it, the appearance of them in the channel furniſhed oppoſition with abundance of matter for declamation.

636
American war generally diſagreeable.

All ranks of men, indeed, now began to be wearied of the American war; and even thoſe who had formerly been the moſt ſanguine in defence of coercive meaſures, now began to be convinced of their inutility. The calamitous effects produced by the continuation of theſe meaſures, indeed, had by this time rendered the far greater part of the people exceedingly averſe to them; and the almoſt univerſal wiſh was, that the oppreſſive burden of the Amercian war ſhould be caſt off, and the whole national ſtrength exerted againſt thoſe whom, on account of frequent conteſts with them, it had been accuſtomary to call natural enemies. For this purpoſe the national ſpirit continued to be exerted with unabated vigour. Large ſums were ſubſcribed in the ſeveral counties, and employed in raiſing volunteers, and forming them into independent companies; aſſociations were alſo formed in the towns, where the inhabitants beſtowed a conſiderable portion of their time in training themſelves to the uſe of arms. The Eaſt-India company now forgot their quarrel with miniſtry, and not only preſented government with a ſum ſufficient for levying 6000 ſeamen, but at its own coſt added three 74 gun ſhips to the navy. Adminiſtration were not yet, however, weary of the plans they had laid down, and which they ſeemed inclined to proſecute, and indeed did proſecute, as long as the nation would ſupport them. The virulence of oppoſition, therefore, ſtill continued; and what was worſe, every part of the kingdom ſeemed to imbibe their ſentiments.

637
Miniſtry become obnoxious to the people at large.

Among other charges now brought againſt them was that of miſapplying the national force. An hundred thouſand men were employed for the internal defence of the kingdom; which being much more than ſufficient for the purpoſe, ought therefore to have been diſtributed into places where it might have acted to advantage. The army of Great Britain, it was ſaid, now amounted to 300,000 men; the navy to 300 ſail, including frigates and armed veſſels; twenty millions had been expended on the ſervice of the year 1779: and yet, with all this force and treaſure, the utmoſt boaſt that miniſters could make was, that the enemy had been hitherto kept at bay, and not allowed to invade Great Britain. Nor were the charges leſs heavy in other reſpects. Veteran officers had been paſſed by to make room for thoſe of inferior merit. The diſcontents and miſerable ſtate of Ireland,†, the loſſes of the Weſt-India iſlands, &c. were all put to the account of miniſters; and it was ſaid that the univerſal cry of the nation was for their diſmiſſion. Their incapacity was now viſible to every body; and it was a matter of univerſal ſurpriſe how they durſt retain their places in oppoſition to the general deſire of the nation.

To all this miniſtry replied in a reſolute and determined manner, denying or refuting every circumſtance; and at laſt, after violent debates, gained their point of an addreſs without any amendment propoſing their removal, in the upper houſe by 82 to 41, and in the lower by 253 to 134. The enormous expences already incurred, however, and hereafter to be incurred, for the carrying on of the war, occaſioned ſuch a general alarm, that it was no longer poſſible to refuſe compliance with ſome ſcheme of œconomy, or at leaſt giving it a patient hearing.

638
Various ſchemes of economy rejected.

The duke of Richmond propoſed that the crown ſhould ſet the example, and moved for an addreſs to this purpoſe, but the motion was loſt by 77 to 36. The earl of Shelburne next undertook the diſcuſſion of the ſubject; and having, in a moſt elaborate ſpeech, compared the expences of former times with the preſent, and ſhown the immenſe diſparity, he proceeded to ſhow the reaſons. These were, that miniſters formerly employed fewer perſons, and obliged them to be content with ſmaller profits. One contractor ſupplied all the troops in America during the laſt war, and his agreement was to furniſh a ration of proviſions at ſixpence; but ſo different was the management now, that the ration of proviſions, inſtead of ſixpence, coſt two ſhillings. One perſon only had enjoyed contracts to the amount of 1,300,000l. 3,700,000l. had paſſed through the hands of another contractor to be tranſmitted to America: but no voucher had been given for the expenditure of this immenſe ſum; the accounts being contained in a few lines, accounting for 20,000l. in one line, 30,000l. in another, &c. Thus, he ſaid, the miniſtry acquired a moſt unbounded and unconſtitutional influence; and having the dangerous power of expending the national treaſure without any check, corruption and venality every where abounded. He moved, therefore, that the expenditure of thoſe vaſt ſums annually ſunk in extraordinaries ſhould be brought under ſome controul; and that to extend the public expences beyond the ſums granted by parliament, was an invaſion of its peculiar and excluſive rights.

Though this motion of the earl of Shelburne's, and ſome others of a ſimilar tendency, were rejected on ſolid principles, according to the miniſtry, the minds of the people were far from being conciliated to their views.

639
General opinion of unconſtitutional miniſterial influence.

Inſtead of this, the opinion began to be ſo general, that miniſters exerciſed an unconſtitutional influence over the repreſentatives, and that ſuch influence was very much augmented within theſe few years, it was now ſuppoſed by numbers of people, that nothing ſhort of a change in the conſtitution of parliament could remedy the evil complained of.

640
Produces a number of petitions to the houſe of commons.

To this purpoſe a petition was framed in the city of York, on the 30th of December 1779, where a number of the moſt reſpectable people in the county had aſſembled, and delegated 61 gentlemen as a committee to manage the correſpondence neceſſary for carrying on the deſign, and forming an aſſociation to ſupport and promote it. In the preſent petition it was ſet forth, that, in conſequence of the war in which the nation was involved, the public debt was greatly augmented, taxes increaſed, and trade and manufacters much affected.

† See *Ireland*.

fected. The profuſion attending the war was complained of; and parliament was requeſted, previous to the raiſing of any new taxes, to inquire into, and correct the abuſe of expenditure in the public money; to reduce exorbitant emoluments, aboliſh ſinecure places and unmerited penſions, and apply the produce to the exigencies of the ſtate. This petition was followed by others of a ſimilar kind from 27 of the principal counties, and moſt of the large towns in England. The moſt ſevere and opprobrious language was uſed in the county-meetings with regard to the miniſtry and parliament. The latter were repreſented as void of all principle, ready to ſacrifice both conſcience and reputation to the will of thoſe in power; and, in ſhort, bound by no ties but thoſe of the moſt ſordid intereſt; ready on all occaſions to enrich themſelves by the ſpoils of their country; and perſons to whom the honour or intereſt of the kingdom were matters of no conſideration. The court, on the other hand, was looked upon as the receptacle of every one who harboured ill deſigns againſt the people of Britain, and where no body ſtood any chance of advancing himſelf but by adulation and extreme ſervility.

The emiſſaries of America and the other enemies of Great Britain were ſaid to have been active in fomenting theſe diſcords, which at this period aroſe to an height unknown for a century paſt. The miniſtry, however, continued firm and undaunted. Previous to the taking any of the petitions into conſideration, they inſiſted on going through the buſineſs of the ſupply, by determining the ways and means; nor did either the number of Engliſh petitions, or an additional one from the iſland of Jamaica, ſetting forth the extreme danger that iſland was in, make them alter their reſolution in the leaſt.

641
Mr Burke's plan of parliamentary independence and œconomy.

At laſt, in the beginning of February 1780, a plan was brought forward by Mr Burke, for ſecuring the independency of parliament, and introducing œconomy into the various departments of government. This plan, among other things, propoſed the abolition of the offices of treaſurer, comptroller, and cofferer of the houſehold; treaſurer of the chamber, maſter of the houſehold, the board of green cloth, with ſeveral other places under the ſteward of the houſehold; the great and removing wardrobe, the jewel-office, the robes, board of works, and the civil branch of the board of ordinance. Other reformations were alſo propoſed; but though the temper of the times obliged the miniſter to admit the bills, and even to pretend an approbation of the plan, he meant nothing leſs than not to admit it in its full extent, or indeed in any part, if it could poſſibly be prevented. When the plan, therefore, which he had approved in general, came to be particularly conſidered, he was found to be determined againſt every part of it. The general temper of the people, without doors, however, ſeemed now to have affected many of the members of parliament, and made them deſert their old ſtandard. An œconomical plan propoſed in the houſe of lords by the earl of Shelburne was rejected only by a majority of 101 to 55. This was the ſtrongeſt oppoſition that had appeared in that houſe for many years; but in the lower houſe matters ſtill went worſe. The firſt propoſition in Mr Buke's plan was to aboliſh the office of ſecretary of ſtate for the colonies; and the utmoſt efforts of adminiſtration could preſerve this office only by a majority of 208 to 201. The board of trade was aboliſhed by 207 to 198: but this was the only defeat ſuſtained by miniſtry at preſent; all the reſt of the plan being rejected excepting only one clauſe, by which it was determined that the offices of lieutenant and enſign, &c. belonging to the yeomen of the guards, ſhould not any longer be ſold, but given to officers in the army and navy on half pay, and of 15 years ſtanding in their reſpective lines of ſervice.

642
Remarkable defeat of the miniſtry on the 6th of April 1780.

This ill ſucceſs was very mortifying to Mr Burke, who had expected to ſave more than a million annually to the nation. Adminiſtration, however, had ſtill a greater defeat to meet with than what they had experienced in the abolition of the board of trade. The 6th of April was the day appointed for taking into conſideration the numerous petitions, from half the kingdom of England, already mentioned. They were introduced by Mr Dunning; who, in a very elaborate ſpeech, ſet forth the many attempts that had been made to introduce reformation and œconomy into the plans of government. Theſe had been defeated by miniſterial artifice, or overthrown by mere dint of numbers: he concluded, therefore, and moved as a reſolution of the houſe, That the influence of the crown had increaſed, was increaſing, and ought to be diminiſhed. This motion being carried after a long and violent debate, he next moved, that the houſe of commons was as competent to examine into and correct abuſes in the expenditure of the civil liſt as in any other branch of the public revenue. To this another was added by Mr Thomas Pitt, that it was the duty of the houſe to provide an immediate and effectual redreſs of the abuſes complained of in the petitions. The miniſtry now requeſted that nothing farther might be done that night: but ſuch was the temper of the houſe, that both theſe motions were carried without a diviſion; after which they were read a firſt and ſecond time, and agreed to without a diviſion.

643
They again get a majority in their favour.

Miniſtry had never received ſuch a complete defeat, nor ever been treated with ſo much aſperity of language. The news of the proceedings of this day were received by the people at large with as much joy as if the moſt complete victory over a foreign enemy had been announced. Oppoſition, however, though maſters of the field at preſent, did not imagine they had obtained any permanent victory, and therefore reſolved to make the moſt of the advantages they had gained. It was moved by Mr Dunning at the next meeting, that to aſcertain the independence of parliament, and remove all ſuſpicions of its being under undue influence, there ſhould, every ſeſſion, ſeven days after the meeting of parliament, be laid before that houſe an account of all the ſums iſſued out of the civil liſt, or any other branch of the revenue, ſince the laſt receſs, in favour of any of its members. This paſſed with little difficulty; but when he moved that the treaſurers of the chamber and houſehold, the cofferer, comptroller, and maſter of the houſehold, with the clerks of the green cloth, and their deputies, ſhould be excluded from having ſeats in the houſe, a warm debate enſued; and the motion was carried only by 215 againſt 213. This was the laſt triumph of the popular party; their next motion, for the excluſion of revenue officers, being thrown out by 224 againſt 195. A laſt effort was made by Mr Dunning's propoſal of an addreſs

dreſs to the throne againſt proroguing or diſſolving the parliament, until meaſures had been taken to prevent the improper influence complained of in the petitions. On this occaſion the debates were long and violent; but the motion was loſt by 254 againſt 203. Miniſtry would gladly have ſcreened their friends from the vengeance of oppoſition; alleging the lateneſs of the hour, it being then paſt midnight. The ſpeaker of the houſe, however, perceiving Mr Fox about to riſe, inſiſted that the houſe ſhould remain ſitting; and thus the deſerters from the popular party were condemned to hear their conduct ſet forth in ſuch terms as perhaps were never applied on any other occaſion to members of the Britiſh ſenate.

644
Dreadful diſturbances on account of the popiſh bill.

This laſt victory of adminiſtration confirmed the diſſatisfaction and ill opinion which the people had conceived of the majority of their repreſentatives. It was in the height of that ill temper which the conduct of parliament had created in the multitude, that thoſe diſcontents broke out which were ſo near involving the kingdom in univerſal deſolation. The hardſhips under which individuals profeſſing the Roman Catholic perſuaſion had laboured for many years in England, had lately awakened the conſideration of the liberal minded. The inutility and impropriety of perſecuting people from whom no danger was apprehended, and who were not ſuſpected of diſaffection to the civil conſtitution of the country, induced ſeveral perſons of rank and influence to undertake the procuring them relief.

The calamities of the times had afforded the Engliſh Roman Catholics a very proper occaſion to manifeſt their attachment to government. They preſented a moſt loyal and dutiful addreſs to the king, containing the ſtrongeſt aſſurances of affection and fidelity to his perſon and the civil government of the country.

“ Our excluſion (ſaid they) from many of the benefits of that conſtitution, has not diminiſhed our reverence for it. We behold with ſatisfaction the felicity of our fellow ſubjects; and we partake of the general proſperity which reſults from an inſtitution ſo full of wiſdom. We have patiently ſubmitted to ſuch reſtrictions and diſcouragements as the legiſlature thought expedient. We have thankfully received ſuch relaxations of the rigour of the laws, as the mildneſs of an enlightened age, and the benignity of the Britiſh government have gradually produced; and we ſubmiſſively wait, without preſuming to ſuggeſt either time or meaſure, for ſuch other indulgence as thoſe happy cauſes cannot fail in their own ſeaſon to effect.

“ We beg leave to aſſure your majeſty, that our diſſent from the legal eſtabliſhment in matters of religion is purely conſcientious; that we hold no opinions adverſe to your majeſty's government, or repugnant to the duties of good citizens; and we truſt that this has been ſhown more deciſively by our irreproachable conduct for many years paſt, under circumſtances of public diſcountenance and diſpleaſure, than it can be manifeſted by any declaration whatever.

“ In a time of public danger, when your majeſty's ſubjects can have but one intereſt, and ought to have but one wiſh and one ſentiment, we think it our duty to aſſure your majeſty of our unreſerved affection to your government, of our unalterable attachment to the cauſe and welfare of this our common country, and our utter deteſtation of the deſigns and views of any foreign power againſt the dignity of your crown, and the ſafety and tranquillity of your ſubjects.

“ The delicacy of our ſituation is ſuch, that we do not preſume to point out the particular means by which we may be allowed to teſtify our zeal to your majeſty, and our wiſhes to ſerve our country; but we entreat leave faithfully to aſſure your majeſty, that we ſhall be perfectly ready, on every occaſion, to give ſuch proofs of our fidelity, and the purity of our intentions, as your majeſty's wiſdom, and the ſenſe of the nation ſhall at any time deem expedient.”

This addreſs was preſented to the king on the firſt day of May 1778, and was ſigned by the duke of Norfolk, the earls of Surrey and Shrewſbury, the lords Stourton, Petre, Arundel, Dormer, Teynham, Clifford, and Linton; and by 163 commoners of rank and fortune.

The only obſtacle that ſtood in the way of their wiſhes was, the difficulty of overcoming the prejudices of the lower claſſes, who would probably diſapprove and condemn the indulgence ſhown to the people of a perſuaſion, which they had been taught to look upon with horror and deteſtation. But notwithſtanding the prepoſſeſſions of the vulgar, it was determined by ſeveral individuals of generous and liberal ſentiments, to eſpouſe their cauſe as far as it could be done conſiſtently with the principles of the conſtitution and the general temper of the times. Their being patroniſed by ſome of the principal leaders in oppoſition, was a circumſtance greatly in their favour; as it ſhowed that thoſe who profeſſed to be the moſt ſtrenuous friends to the freedom and conſtitution of their country, did not imagine they would be endangered by treating the Roman Catholics with more lenity than they had hitherto experienced.

About the middle of May, Sir George Saville made a motion for the repeal of ſome penalties enacted againſt them. He grounded his motion on the neceſſity of vindicating the honour and aſſerting the true principles of the Proteſtant religion, of which the peculiar merit was to admit of no perſecution. It ill became the profeſſors of ſuch a religion to be guilty of that intolerance with which they reproached others. The ſtatutes he meant to repeal were ſuch as gave occaſion to deeds that debaſed and were a diſgrace to human nature, by inciting relations to diveſt themſelves of the feelings of humanity, and by encouraging the rapacity of informers.

He repreſented the addreſs above quoted as a full proof of the loyal diſpoſition of the Roman Catholics, and as an unfeigned teſtimony of the ſoundneſs of their political principles. In order, however, to ſilence the objections of thoſe who might ſuſpect them of duplicity, a teſt was propoſed of ſo binding and ſolemn a nature, that no man could be ſuppoſed to imagine that any authority could annul its efficacy.

The pains and penalties of the ſtatutes to be repealed were laid before the houſe by Mr Dunning. By theſe ſtatutes it was made felony in a foreign clergyman of the Roman communion, and high treaſon in one that was a native of the kingdom, to teach the doctrines or perform divine worſhip according to the rites of that church; the eſtates of perſons educated abroad in that perſuaſion were forfeited to the next Proteſtant heir; a ſon or any other neareſt relation, being a Proteſtant, was empowered to take poſſeſſion of his own father's, or neareſt of kin's eſtate, during their lives; a Roman Catholic was diſabled from acquiring any legal property by purchaſe.

The mildneſs of the Britiſh government did not indeed countenance the practice of the ſeverities enacted by theſe ſtatutes: but ſtill the proſpect of gain ſubjected every man of the Roman perſuaſion to the ill uſage of informers; as on their evidence the magiſtrates were bound, however unwilling, to carry theſe cruel laws into execution.

In conſequence of theſe repreſentations, the motion made in favour of the Roman Catholics was received without one diſſenting voice; and a bill in purſuance to its intent was brought in and paſſed both houſes. The teſt or oath by which they were bound, was conceived in the ſtrongeſt and moſt expreſſive terms. They were enjoined to ſwear allegiance to the king's perſon and family, and to abjure eſpecially the pretenſions to the crown aſſumed by the perſon called *Charles III.* They were to declare their diſbelief and deteſtation of the following poſitions: That it is lawful to put individuals to death on pretence of their being heretics; that no faith is to be kept with heretics; that princes excommunicated by the pope and council, or by the ſee of Rome, or any other authority, may be depoſed or murdered by their ſubjects or by any others; that the pope of Rome, or any other foreign prelate or ſovereign, is intitled to any temporal or civil juriſdiction or pre-eminence, either directly or indirectly, in this kingdom. They were ſolemnly to profeſs, that they made the aforeſaid declarations with the utmoſt ſincerity, and in the ſtricteſt and plaineſt meaning of the words and language of the teſt, without harbouring any ſecret perſuaſion that any diſpenſation from Rome, or any other authority, could acquit or abſolve them from the obligations contracted by this oath, or declare it null and void.

The indulgence ſhown to the Roman Catholics in England, encouraged thoſe of the ſame perſuaſion in Scotland to hope for a ſimilar relief. Several gentlemen of that nation of great rank and character, and who were members of parliament, expreſſed their warmeſt wiſhes that it ſhould be extended to their country; and declared their intention to bring in a bill for that purpoſe the following ſeſſion. The deſign was approved by the general aſſembly of the church of Scotland; who rejected, by a majority of no leſs than 100, a remonſtrance that had been propoſed againſt it. In conſequence of theſe flattering appearances, a petition was prepared for parliament on behalf of the Roman Catholics in Scotland. But theſe expectations were ſoon damped. A pamphlet was publiſhed againſt the doctrine and profeſſors of the popiſh religion, which repreſented them as the common foes to mankind and the diſturbers of all ſtates; and this being circulated among all claſſes, raiſed a number of enemies to the intended petition.

The oppoſition was at firſt chiefly conducted by ſome perſons at Edinburgh, who aſſumed the title of Committee for the Proteſtant Intereſt; and under that denomination carried on a correſpondence with all thoſe who coincided with their opinions, and who formed a very large proportion of the common people in Scotland. As the committee at Edinburgh, from its reſidence in the capital of the kingdom, was deemed to conſiſt of perſons of the firſt importance, it directed in a manner the motions of all the others.

The perſons who made up this committee, however, acted from no mean or mercenary views: they aimed only at the preſervation of the proteſtant religion, and the liberties of their country; both which they conceived were in danger, from the indulgence of government to individuals of the Roman Catholic perſuaſion.

Actuated by theſe ideas, they exerted themſelves with ſo much activity, that the principal gentlemen of the Catholic perſuaſion thought it requiſite for their ſafety to convey an intimation to the Britiſh miniſtry, that they were deſirous to drop the application they had propoſed to make for an indulgence ſimilar to that which had been granted to their fellow-ſubjects in England of the ſame communion.

They publiſhed alſo in the newſpapers the repreſentation they had made to miniſtry; hoping thereby to convince the public, that they were ſincerely deſirous to remove any cauſe of diſſatisfaction on their own account, and to ſubmit to any inconveniency ſooner than occaſion diſturbance. But matters were now gone too far to be conciliated by any means.

On the 2d day of February 1779, the populace met according to appointment, in order to carry into execution the various projects they had in contemplation. They began by an attack upon a houſe inhabited by a Roman Catholic Biſhop, with others of his perſuaſion, and which contained a place of worſhip. They committed it to the flames. They deſtroyed in the ſame manner another houſe that had alſo a chapel; after which they proceeded to vent their reſentment on ſeveral individuals of that perſuaſion by burning their effects.

The next objects of their vengeance were thoſe who had patronized the Roman Catholics. They beſet the houſes of Dr Robertſon and Mr Croſby; but, on hearing of the intentions of the rioters, the friends of both came to their aſſiſtance in ſuch numbers, and ſo well prepared to repel the fury of the populace, that they did not dare to exerciſe the violence they had premeditated.

This diſappointment, which was accompanied by further precautions againſt their malevolent deſigns, put an end to the attempts of the mob at Edinburgh. But the ſpirit of diſſatisfaction at the indulgence intended to the Roman Catholics ſtill remained in full force. Miniſtry was held out as harbouring a ſecret determination to undermine the Proteſtant religion, and to introduce popery; and loaded in conſequence with the moſt outrageous invectives.

By degrees the ſame ungovernable ſpirit was communicated to part of the Engliſh nation. The cry againſt popery became daily more loud among the inferior claſſes; and that inveteracy which had ſubſided during ſo many years, began to revive in as powerful a degree, as if the nation were actually under the impending terrors of perſecution. To this were added the ſecret fears of others; who ſtill imagined it was not inconſiſtent with good policy to diſcourage a religion, from the profeſſors of which ſo much danger had accrued to the conſtitution of the country in former times. Theſe, tho' averſe to all acts of violence, thought it neceſſary to keep alive the antipathy to it, and by no means to ſhow the leaſt willingneſs to grant any further indulgence than it had hitherto experienced.

From this motive they were of opinion, that a ſuſpenſion of the laws enacted againſt it, though tacit and unauthoriſed, was ſufficient to remove all complaints of harſhneſs and oppreſſion on the part of the Roman Catholics; and they looked upon the penal ſtatutes as a requiſite bar to confine them within the bounds of ſubmiſſion and fear of offending.

Thus a ſociety was formed in London, which took the title of the Proteſtant Aſſociation, of which lord George Gordon, who had rendered himſelf conſpicuous in Scotland by his oppoſition to the repeal, was elected preſident: and it now prepared to act in a deciſive manner againſt the reſolutions of the legiſlature.

On the 29th of May 1780, the aſſociators held a meeting in order to ſettle in what manner they ſhould preſent a petition to the houſe of commons againſt the repeal of the penal ſtatutes. A long ſpeech was made on this occaſion by their preſident, who repreſented the Roman perſuaſion as gaining ground rapidly in the country; that the only method of ſtopping its progreſs, was to go up with a ſpirited remonſtance to their repreſentatives, and to tell them in plain and reſolute terms, that they were determined to preſerve their religious freedom with their lives, &c.

This harangue being received with the loudeſt applauſe, he moved that the whole body of the aſſociation ſhould meet on the 2d day of June in St George's Fields, at ten in the morning, to accompany him to the houſe of commons on the delivery of the petition. This being unanimouſly aſſented to, he informed them, that if he found himſelf attended by fewer than 20,000, he would not preſent the petition. He then directed they ſhould form themſelves into four diviſions; the firſt, ſecond, and third, to conſiſt of thoſe who belonged to the City, Weſtminſter, and Southwark; the fourth of the Scotch reſidents in London. They were, by way of diſtinction, to wear blue cockades in their hats.

Three days previous to the preſentation of the petition, he gave notice of it to the houſe, and acquainted it with the manner in which it was to be preſented; but this was received with as much indifference and unconcern as all his former intimations.

On the 2d day of June, according to appointment, about 50 or 60,000 men aſſembled in St George's Fields. They drew up in four ſeparate diviſions, as had been agreed, and proceeded to the parliament houſe, with lord George Gordon at their head. An immenſe roll of parchment was carried before them, containing the names of thoſe who had ſigned the petition.

On their way to the houſe, they behaved with great peaceableneſs and decency; but as ſoon as they were arrived, great diſturbances took place. The rioters began by compelling all the members of both houſes they met with, to put blue cockades in their hats, and call out, "No Popery." They forced ſome to take an oath that they would vote for the repeal of the popery act, as they ſtyled it. They treated others with great indignity, poſting themſelves in all the avenues to both houſes; the doors of which they twice endeavoured to break open.

Their rage was chiefly directed againſt the members of the houſe of lords; ſeveral of whom narrowly eſcaped with their lives.

During theſe diſturbances, lord George Gordon moved for leave to bring up the petition. This was readily granted; but when he propoſed it ſhould be taken into immediate conſideration, it was ſtrenuouſly oppoſed by almoſt the whole houſe. Enraged at this oppoſition, he came out ſeveral times to the people during the debates, acquainting them how averſe the houſe appeared to grant their petition, and naming particularly thoſe who had ſpoken againſt it.

Several members of the houſe expoſtulated with him in the warmeſt terms on the unjuſtifiableneſs of his conduct; and one of his relations, colonel Gordon, threatened to run him through the moment any of the rioters ſhould force their entrance into the houſe. It was ſome hours before the houſe could carry on its deliberations with any regularity, which was not done till the members were relieved by the arrival of a party of the guards. Order being reſtored, the buſineſs of the petition was reſumed; when lord George Gordon told them it had been ſigned by near 120,000 Britiſh Proteſtant ſubjects. He therefore inſiſted that the petition ſhould be conſidered without delay. But notwithſtanding the dangers with which they were menaced, and the proof which the mover of the petition had given that no means ſhould be left unemployed to compel them to grant it, the commons continued immoveable in their determination. Of 200 members, then preſent in the houſe, ſix only voted for it.

In the mean time the mob had diſperſed itſelf into various pars of the metropolis, where they demoliſhed two Romiſh chapels belonging to foreign miniſters: and openly vented the moſt terrible menaces againſt all people of that perſuaſion.

On the 4th of June they aſſembled in great numbers in the eaſtern parts of London; and attacked the chapels and houſes of the Roman Catholics in that quarter, ſtripping them of their contents, which they threw into the ſtreet, and committed to the flames.

They renewed their outrages on the following day, deſtroying ſeveral Roman chapels, and demoliſhing the houſe of Sir George Saville, in reſentment of his having brought into parliament the bill in favour of the Roman Catholics.

Next day both houſes met as uſual; but finding that no buſineſs could be done, they adjourned to the 19th.

During this day and the following, which were the 6th and 7th of June, the rioters were abſolute maſters of the metropolis and its environs.

Some of thoſe who had been concerned in the demolition of the chapels belonging to foreign miniſters, having been ſeized and ſent to Newgate, the mob collected before that priſon, and demanded their immediate releaſe. On being refuſed, they proceeded to throw firebands and all manner of combuſtibles into the keeper's houſe, which unhappily communicated the fire to the whole building; ſo that this immenſe pile was ſoon in flames. In this ſcene of confuſion, the priſoners were all releaſed. They amounted to about 300; among them ſeveral were under ſentence of death. They ſet fire, in the ſame manner, to the King's-bench and Fleet priſons, and to a number of houſes belonging to the Roman Catholics. The terror occaſioned by theſe incendiaries was ſuch, that moſt people hung out of their windows pieces of blue ſilk, which was the colour aſſumed by the rioters; and chalked on their doors and ſhutters the words, "No Popery," by way of ſignifying they were friendly to the cauſe.

The night of the 7th of June concluded theſe horrors. No leſs than 36 different conflagrations were counted at the ſame time. The bank had been threatened, and was twice aſſailed; but happily was too well guarded for their attempts. In the evening, large bodies of troops arrived from all parts, and came in time to put a ſtop to the progreſs of the rioters. They fell upon them every where, and multitudes were ſlain and wounded, beſides the numbers that periſhed thro' intoxication. It was not until the afternoon of the 8th, that people began to recover from their conſternation. During great part of the day, the diſorders of the preceding night had created ſo terrible an alarm, that the ſhops were almoſt univerſally ſhut up over all London. The melancholy effects of miſguided zeal were not, however, confined ſolely to London. The outrageous diſpoſition of the populace was preparing to act the like horrid ſcenes in other parts of England. The mob roſe in Hull, Briſtol, and Bath; but through the timely interpoſition of the magiſtracy, theſe places were ſaved from their fury.

On the ſubſiding of this violent and unexpected commotion, it was thought proper to ſecure lord George Gordon. He was arreſted, and committed cloſe priſoner to the Tower, after having undergone a long examination before the principal lords of the council.

On the 19th of June, both houſes met again according to adjournment. A ſpeech was made on this occaſion from the throne, acquainting them with the meaſures that had been taken in conſequence of the diſturbances, and aſſuring them of the utmoſt readineſs to concur in whatever could contribute to the ſafety and maintenance of the laws and liberties of the people. The ſpeech was highly approved; but the conduct of adminiſtration was ſeverely cenſured, and charged with unpardonable neglect for not calling forth the civil power, and employing the military in due time to obviate the miſchiefs that had been committed. Miniſtry excuſed itſelf, from the want of ſufficient ſtrength to anſwer all the demands of aſſiſtance that were made during the riots, and the abſolute impoſſibility of ſuppreſſing them till the arrival of troops from the country. The various petitions were now taken into conſideration that had been preſented for the repeal of the act which had occaſioned the riots; but the houſe continued in the ſame mind. Nevertheleſs it was thought proper to yield ſomewhat to the prejudices of the people, by paſſing a bill for preventing perſons of the Popiſh perſuaſion from teaching or educating the children of Proteſtants; but this was afterwards thrown out by the lords.

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Miniſterial power confirmed by the riots.

Nothing could have happened more opportunely for the preſent miniſtry than the riots juſt now related; for ſuch were the alarm and terror occaſioned by them, that the ardour which had appeared for promoting popular meetings and aſſociations, and for oppoſing the meaſures of government, was in a great degree ſuppreſſed. The county meetings were repreſented as having a tendency like the Proteſtant Aſſociation, to bring on inſurrections and rebellions. Many began to conſider all popular meetings as extremely dangerous; and among the commercial and monied people, there was not an inconſiderabe number, who were ſo panic-ſtruck by the late riots, that all attention to the principles of the conſtitution was over-ruled by their extreme anxiety about the preſervation of their property. Had it not been for theſe events, though the miniſter was again at the head of a majority in parliament, it is probable that the ſpirit of oppoſition which prevailed in the different counties would have compelled adminiſtration to make ſome conceſſions to the people. But theſe tranſactions extremely ſtrengthened the hands of adminiſtration, and rendered the exertions of the popular leaders leſs formidable. The popular party were alſo ſomewhat weakened, by the diſſenſions which took place among them in the county meetings, and aſſemblies of that kind, relative to annual parliaments and other political regulations which were propoſed to be adopted.

In the ſuppreſſion of theſe riots, however, the interference of the military without the command of the civil magiſtrate became a matter of ſuſpicion to the people at large. In the houſe of lords the duke of Richmond expreſſed an expectation that ſome of his majeſty's miniſters would riſe, and give their lordſhips aſſurances, that the meaſures taken in order to ſuppreſs the riots, which were defenſible only upon the ground of neceſſity, would be ſo ſtated; and that what was illegally done, on the ground of neceſſity, would be cured by an act of indemnity.

Various other obſervations were thrown out relative to the king's prerogative and military law: upon which lord Mansfield obſerved, that neither the king's prerogative nor military law had any thing to do with the conduct of government in their endeavours to quell the late outrages. All men, of all ranks, deſcriptions, and denominations, were bound by their oath of allegiance, to interpoſe for the prevention of acts of high treaſon, or felony, wherever any attempts to perpetrate ſuch crimes were made in their preſence; and were criminal, if they did not do it. In the whole of theſe proceedings, therefore, the military had not acted in their technical capacity as military, but had merely exerciſed their duty as civil men, which they, in common with other civil men, had both a right and an obligation to exerciſe. When a body of men were convened, without proceeding to the actual perpetration of treaſonable or felonious acts, then, by a clauſe in the riot-act, the preſence of the civil magiſtrate was neceſſary, before the military could interpoſe at all; and for this reaſon, that as no acts of felony were committed, they could have no plea in the civil character for meddling at all. But by the ſtatute-law of the country, it became felonious in any combination of men to perſevere in that combination, after the riot-act had been read by a juſtice of the peace; and this being done, then, and not till then, they had a conſtitutional reaſon for their interpoſition; namely, the privilege and duty of hindering the commiſſion of felony, whenever they had it in their power. This being, therefore, the plain voice of the law, his lordſhip did not ſee how any prerogative of the king had been exerciſed, nor how military law had been eſtabliſhed. Nothing had been done out of the regular courſe of the law, and no power had been aſſumed by the ſoldiery, which they did not poſſeſs as civil individuals, and not in their technical capacity as members of the military.

This doctrine was far from being agreeable to the nation in general, and was very freely cenſured both in news-papers and pamphlets. It was admitted, that if ſoldiers came accidentally, as individuals, to any place where felonies were committing, they might interfere, as well as others of the king's ſubjects, in the prevention of them. But this was a different caſe from that of bodies of armed troops being ſent under officers commiſſioned by the king, and with orders to act againſt riotous and diſorderly perſons without any authority from the civil magiſtrate. It was maintained, that the conſtitution of England knew no ſuch character as a mercenary ſoldier, at the ſole will of the executive power. Soldiers were held to their duty by laws which affected no other part of the community: and no ſoldier, as ſuch, conld be employed in the ſervice of the conſtitution, without a particular act of parliament in his favour. The idea that a military man was convertible into a ſoldier, or a citizen, as royalty might move its ſceptre, was a novel idea, and only made for the preſent occaſion. Mercenary armies were underſtood to conſiſt of men, who had either detached themſelves or been forced from civil ſocieties. Laws were made on thoſe ſuppoſitions, regarding their liberties and lives, ſuch as no members of civil ſociety could ſubmit to. Soldiers were only tolerated by annual bills, and under repeated pretences; and the very idea of blending them with the common ſubjects of the ſtate, and giving perſons of their deſcription a right of judging on its moſt important occurrences, would have filled our anceſtors with horror. The laws tolerated an army for certain periods, and under certain reſtrictions; but there was no law which admitted the interference of the military in any of the operations of civil government.

It was acknowledged, that the late atrocious riots had rendered an extraordinary exertion of power abſolutely neceſſary: but it was at the ſame time contended, that the interpoſition of the army in thoſe outrages, without any authority from the civil magiſtrate, was an act of prerogative unconſtitutional and illegal, though perfectly ſeaſonable and beneficial. The public ſafety and benefit might ſometimes excuſe exertions of power, which would be injurious and tyrannical on ordinary occaſions: but the utmoſt care ſhould be taken, that ſuch extraordinary exertions ſhould not be eſtabliſhed as precedents which might operate very fatally to the conſtitution. An act of indemnity to the miniſtry, therefore, on account of the neceſſity of the caſe, ſhould be immediately paſſed. But if a large ſtanding army was kept up, and the king was underſtood to be inveſted with a power of ordering the troops to act diſcretionally, whenever he ſhould judge proper, without any authority from the civil magiſtrate, the people could have no poſſible ſecurity for their liberties. In vain might be their appeals to the courts of juſtice: for the efficacy of appeals of that kind, in ſuch caſes, would depend on the pleaſure of the prince.

Many were filled with ſimilar apprehenſions, and alarmed at the dangerous precedent which the late exertions of the military afforded, however neceſſary they might be from the very ſingular circumſtances of the caſe. Among others, Sir George Saville, in an addreſs to his conſtituents ſome time afterwards, declared, that he conſidered them as "fully, effectually, and abſolutely under the diſcretion and power of a military force, which was to act without waiting for the authority of the civil magiſtrates."

A letter written by lord Amherſt to lieutenant-colonel Twiſleton, who commanded the troops employed in London for the ſuppreſſion of the riots, and which was underſtood to be an order for diſarming the citizens, was much canvaſſed in both houſes of parliament. The letter, however, was denied to have ſuch a meaning, and was ſaid to be levelled only at diſorderly perſons who were found in arms. It excited, nevertheleſs, no inconſiderable alarm; and was an inducement, added to the conſideration of the late riots, to lead a great number of citizens to provide themſelves with arms, and to join in plans of military aſſociation, that they might be enabled to protect themſelves and the city from violence and outrage, without any future interpoſition of the military.

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Various engagements at ſea, &c.

We muſt now proceed to a detail of the operations of the war, which, notwithſtanding the powerful confederacy againſt Great Britain, ſeemed rather to be in her favour than otherwiſe. The Spaniards had begun their military operations by the ſiege of Gibraltar, but with very little ſucceſs *; and the cloſe of the year 1779, and beginning of 1780, were attended with ſome conſiderable naval advantages to Great Britain. On the 18th of December 1779, the fleet under the command of Sir Hyde Parker in the Weſt-Indies captured nine ſail of French merchant ſhips, which, with ſeveral others, were under the convoy of ſome ſhips of war. Two days after he detached rear admiral Rowley in purſuit of three large French ſhips, of which he had received intelligence, and which were ſuppoſed to be part of Monſ. la Mothe Picquet's ſquadron returning from Grenada. His ſucceſs there has been already mentioned; and about the ſame time ſeveral other veſſels were taken by the ſame ſquadron commanded by Sir Hyde Parker.

On the 8th of January 1780, Sir George Brydges Rodney, who had been intruſted with the command of a fleet, one object of the deſtination of which was the relief of Gibraltar, fell in with 22 ſail of Spaniſh ſhips, and in a few hours the whole fleet was taken.

In little more than a week after, the ſame fortunate admiral met with ſtill more ſignal ſucceſs. On the 16th of the month he engaged, near Cape St Vincent, a Spaniſh fleet, conſiſting of 11 ſhips of the line and two frigates, under Don Juan de Langara. The Spaniards made a gallant defence; but four of their largeſt ſhips were taken, and carried into Gibraltar. Theſe were, the Phœnix of 80 guns and 700 men, on board which was the admiral, Don Juan de Langara; the Monarca, of 70 guns and 600 men, Don Antonio Oyarvide commander; the Princeſſa, of 70 guns and 600 men, Don Manual de Leon commander; and the Diligente, of 70 guns and 600 men, Don Antonio Abornoz commander. Two other 70 guns ſhips were alſo taken: but one of them was driven on ſhore on the breakers and loſt, and the other

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* See *Gibraltar.*

other was likewiſe driven on ſhore, but afterwards recovered. Four ſhips of the line eſcaped, and the two frigates: but two of the former were much damaged in the action; in the courſe of which one Spaniſh ſhip, the San Domingo, of 70 guns and 600 men, was blown up. The five men of war taken were remarkably fine ſhips; and were afterwards completely refitted, manned, and put into the Engliſh line of battle. The Spaniſh admiral and his officers applied to Sir George Rodney to obtain the liberty of returning to Spain upon their parole of honour: but this he declined for ſome time, becauſe he was informed that a great number of Britiſh ſeamen were then priſoners in Spain, who ought to have been releaſed. However, afterwards receiving aſſurances that theſe ſhould be immediately ſet at liberty, he releaſed the Spaniſh admiral and officers upon their parole; and the priſoners in general were treated with ſuch generoſity and humanity, as appeared to make a great impreſſion upon the court of Madrid and the Spaniſh nation. When admiral Rodney had ſupplied the garriſon at Gibraltar with proviſions, ammunition, and money, he proceeded on his voyage to the Weſt-Indies; having ſent home part of his fleet, with his Spaniſh prizes, under the command of rear-admiral Digby; who took a French man of war on his return, the Prothée, of 64 guns and 700 men.

On the 20th of March there was an action in the Weſt-Indies, between ſome French and Engliſh men of war, the former under the command of Monſ. de la Mothe Picquet, and the latter, being part of Sir Peter Parker's ſquadron, under that of commodore Cornwallis. The engagement was maintained on both ſides with great ſpirit; but the French at length gave up the conteſt, and made the beſt of their way for Cape François.

Admiral Rodney having arrived in the Weſt-Indies, and taken upon him the command of his majeſty's ſhips at the Leeward iſlands, an action happened between him and the French fleet under the command of count de Guichen, on the 17th of April. The Britiſh ſquadron conſiſted of 20 ſhips of the line, beſides frigates; and the French fleet of 23 ſhips of the line, and ſeveral frigates. The action began a little before one, and continued till about a quarter after four in the afternoon. Admiral Rodney was on board the Sandwich, a 90 gun ſhip, which beat three of the French ſhips out of their line of battle, and entirely broke it. But ſuch was at length the crippled condition of the Sandwich, and of ſeveral other ſhips, that it was impoſſible to purſue the French that night without the greateſt diſadvantage. The victory was, indeed, claimed on both ſides; but no ſhip was taken on either: and the French retired to Guadaloupe. Admiral Rodney's ſhip, the Sandwich, had ſuffered ſo much, that for 24 hours ſhe was with difficulty kept above water. Of the Britiſh there were killed in this engagement 120, and 353 were wounded.

On the 15th of May, another action happened between the ſame commanders. It did not commence till near ſeven in the evening, only a few ſhips having engaged, which were ſoon ſeparated; and the whole ended in nothing deciſive. Of the Britiſh 21 were killed, and 100 wounded. The fleet met again on the 19th of the ſame month, when another action enſued; but this alſo terminated without any material advantage on either ſide. In the laſt engagement 47 of the Britiſh were killed and 193 wounded. According to the French accounts, the total of their loſs, in theſe three actions, amounted to 158 killed, and 820 wounded.

It was a very unfavourable circumſtance for Great Britain, that the French ſhould have ſo formidable a fleet in the Weſt-Indies: and this great force of the enemy was augmented in June, by being joined with a Spaniſh ſquadron near the iſland of Dominica. The French and Spaniſh fleets, when united, amounted to 36 ſail of the line. They did not, however, attack any of the Britiſh iſlands, or even reconnoitre the fleet under the command of Sir George Brydges Rodney, which then lay at anchor in Gros Iſlet bay. Such, indeed, were the vigilance and good conduct of that admiral, and ſo ſenſible were the inhabitants of theſe iſlands of his ſervices, that the houſes of aſſembly of St Chriſtopher's and Nevis preſented addreſſes to him, teſtifying their gratitude for the ſecurity they enjoyed in conſequence of his ſpirited and ſeaſonable exertions.

In the month of June, admiral Geary, who commanded the grand fleet, took twelve valuable merchant ſhips bound from Port au Prince to Bourdeaux and other ports of France: But in the month of July a very important and unexpected capture was made by the Spaniards, which could not but excite much alarm in Great Britain. On the 8th of Auguſt, captain Moutray, who had under his command the Ramilies of 74 guns and two frigates, with the trade bound for the Eaſt and Weſt-Indies under convoy, had the miſfortune to fall in with the combined fleets of France and Spain, which had ſailed from Cadiz the preceding day. The Ramilies and the two frigates eſcaped: but the reſt were ſo completely ſurrounded, that five Eaſt Indiamen were taken, and 50 merchant ſhips bound for the Weſt-Indies. Their cargoes were extremely valuable: it was one of the moſt complete naval captures ever made; and was a heavy ſtroke to the commerce of Great Britain. The Spaniards on this occaſion behaved to their priſoners with great attention and humanity; and appeared diſpoſed to make an adequate return for the generous treatment which their countrymen had experienced from admiral Rodney. This loſs, however, great as it was, was ſcarce ſufficient to compenſate the capture of Fort Omoa from the Spaniards, where upwards of three millions of dollars were gained by the victors, and, among other valuable commodities, 25 quintals of quickſilver, without which the Spaniards could not extract the precious metals from their ores; the loſs of which conſequently rendered their mines uſeleſs.

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Account of the armed neutrality.

But while the Britiſh were making the moſt vigorous efforts, and even in the main getting the better of the powers who oppoſed them fairly in the field, enemies were raiſed up throughout all Europe, who, by reaſon of their acting indirectly, could neither be oppoſed no reſiſted. The power which moſt openly manifeſted its hoſtile intentions was Holland; but beſides this, a moſt formidable confederacy, under the title of the *armed neutrality*, was formed, evidently with a deſign to cruſh the power of Great Britain. Of this confederacy the empreſs of Ruſſia declared herſelf the head; and her plan was intimated on the

26th of February 1780, in a declaration addreſſed to the courts of London, Verſailles, and Madrid. In this piece it was obſerved, that though from the conduct of her imperial majeſty it might have been hoped that her ſubjects would have been allowed peaceably to enjoy the fruits of their induſtry, and of the advantages belonging to all neutral nations, experience had proved the contrary: her imperial majeſty's ſubjects had been often moleſted in their navigation, and retarded in their operations, by the ſhips and privateers of the belligerent powers. Her imperial majeſty therefore declared, that ſhe found herſelf under the neceſſity of removing thoſe vexations which were offered to the commerce of Ruſſia, as well as to the liberty of commerce in general, by all the means compatible with her dignity and the welfare of her ſubjects: but before ſhe came to any ſerious meaſures, and in order to prevent all new miſunderſtandings, ſhe thought it juſt and equitable to expoſe to the eyes of all Europe the principles which ſhe had adopted for her conduct, and which were contained in the following propoſitions:

1. That neutral ſhips ſhould enjoy a free navigation, even from port to port, and on the coaſts of the belligerent powers.

2. That all effects belonging to the ſubjects of the belligerent powers ſhould be looked upon as free on board ſuch neutral ſhips, excepting only ſuch goods as were ſtipulated contraband.

3. Her imperial majeſty, for the proper underſtanding of this, refers to the articles 10. and 11. of her treaty of commerce with Great-Britain, extending her obligations to all the other belligerent powers.

In the treaty made between Great-Britain and Ruſſia in 1734, it is ſaid, "The ſubjects of either party may freely paſs, repaſs, and trade in all countries which now are or hereafter ſhall be at enmity with the other of the ſaid parties, places actually blocked up or beſieged only excepted, provided they do not carry any warlike ſtores or ammunition to the enemy: as for all other effects, their ſhips, paſſengers, and goods, ſhall be free and unmoleſted. Cannons, mortars, or other warlike utenſils, in any quantity beyond what may be neceſſary for the ſhip's proviſion, and may properly appertain to and be judged neceſſary for every man of the ſhip's crew, or for each paſſenger, ſhall be deemed ammunition of war; and if any ſuch be found, they may ſeize and confiſcate the ſame according to law: but neither the veſſel, paſſengers, or the reſt of the goods, ſhall be detained for that reaſon, or hindered from purſuing their voyage." The ſame enumeration of the goods, ſtipulated as contraband, was given in the treaty concluded between Great-Britain and Ruſſia in 1766.

4. That in order to determine what characterizes a port blocked up, that denomination ſhould not be granted but to ſuch places before which there were actually a number of enemy's ſhips ſtationed near enough ſo as to make its entry dangerous.

5. That theſe principles ſhould ſerve as rules in the judicial proceedings and ſentences upon the legality of prizes.

Her imperial majeſty declared, that ſhe was firmly reſolved to maintain theſe principles; and that in order to protect the honour of her flag, and the ſecurity of the commerce and navigation of her ſubjects, ſhe had given orders to fit out a conſiderable part of her naval forces. She added, that this meaſure would have no influence on the ſtrict and rigorous neutrality which ſhe was reſolved to obſerve, ſo long as ſhe ſhould not be provoked and forced to depart from her principles of moderation and impartiality. It was only in that extremity that her fleet would be ordered to act wherever her honour, intereſt, and neceſſity ſhould require. This declaration was alſo communicated to the States-general by prince Gallitzin, envoy extraordinary from the empreſs of Ruſſia; and ſhe invited them to make a common cauſe with her, ſo far as ſuch an union might ſerve to protect commerce and navigation. Similar communications and invitations were alſo made to the courts of Copenhagen, of Stockholm, and of Liſbon, in order, it was ſaid, that, by the united care of all the neutral maritime powers, the navigation of all the neutral trading nations might be eſtabliſhed and legalized, and a ſyſtem adopted founded upon juſtice, and which, by its real advantage, might ſerve for rules at future ages.

The memorial of the empreſs of Ruſſia, though very unfavourable to the views of Great-Britain, received a civil anſwer from that court: but by other powers it was received, as it might naturally be expected, with much more cordiality. In the anſwer of the king of France it was ſaid, that "what her imperial majeſty claimed from the belligerent powers was nothing elſe than the rules preſcribed to the French navy; the execution whereof was maintained with an exactneſs known and applauded by all Europe." He expreſſed his approbation of the principles and views of her imperial majeſty; and declared, that from the meaſures ſhe had now adopted, "ſolid advantages would undoubtedly reſult, not only to her ſubjects, but alſo to all nations." The kings of Sweden and Denmark alſo formally acceded to the armed neutrality propoſed by the empreſs of Ruſſia, and declared their perfect approbation of her ſentiments. The States-general did the ſame: but on account of that ſlowneſs of deliberation which prevails in the councils of the republic, it was not till towards the cloſe of the year that their concurrence was notified to the court of Ruſſia. It was reſolved by the powers engaged in this armed neutrality to make a common cauſe of it at ſea againſt any of the belligerent powers who ſhould violate, with reſpect to neutral nations, the principles which had been laid down in the memorial of the empreſs of Ruſſia.

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Origin of the war with the Dutch.

But though the Britiſh miniſtry could not openly engage in a war with all the other powers of Europe, they determined to take ſevere vengeance on the Dutch, whoſe ingratitude and perfidy now became a general ſubject of ſpeculation. It has already been obſerved, that, ever ſince the commencement of hoſtilities with the Americans, the Dutch had ſhown much partiality towards them. This continued to be the caſe, even beyond what the natural avidity of a mercantile people could be ſuppoſed to produce: Frequent memorials and remonſtrances had of conſequence paſſed between the two nations, and the breach gradually grew wider and wider, until at laſt matters came to an extremity, by a diſcovery that the town of Amſterdam was about to enter into a commercial treaty with America. This happened in the beginning of September 1780, by the capture of Mr Laurens, lately preſident of the American Congreſs, and who had been empowered by that body to conclude a treaty with Holland. Mr Laurens himſelf was inſtantly committed priſoner to the tower of London, and a ſpirited remonſtrance was made to the ſtates of Holland, requiring a formal diſavowal of the tranſaction. To this, however, no other anſwer could be obtained, than that they would take the matter into conſideration according to the forms and uſages of the country; and that a reply would be given as ſoon as the nature of their government would admit.

Such an equivocal anſwer could not by any means be ſatisfactory; and therefore the moſt vigorous meaſures were reſolved on. On the 25th of January 1781, it was announced to the houſe, that his majeſty had been obliged to direct letters of marque and repriſal to be iſſued againſt the States-general and their ſubjects. For the cauſes and motives of his conduct in this reſpect, he referred to a public manifeſto againſt that republic, which he had ordered to be laid before the houſe. The charges againſt the republic, however, were briefly ſummed up by lord North in his ſpeech on the occaſion. The ſtates, he ſaid, in open violation of treaties, had not only refuſed to give Great-Britain that aſſiſtance which thoſe treaties intitled her to claim when attacked by the houſe of Bourbon, but had alſo, in direct violation of the law of nations, contributed as far as they could to furniſh France with warlike ſtores, and had alſo at length thought proper to countenance the magiſtracy of Amſterdam in the inſult which they had offered to this country, by entering into a treaty with the rebellious colonies of Great-Britain, as free and independent ſtates. By the treaty of 1678, it was ſtipulated, that, in caſe Great-Britain was attacked by the houſe of Bourbon, ſhe had a right to take her choice of either calling upon the States-general to become parties in the war, and to attack the houſe of Bourbon within two months, or of requiring an aid of 6000 troops, and 20 ſhips of war, which the States were to furniſh immediately after the claim was made. But though this country had always preſerved her faith with Holland, yet that republic had refuſed to fulfil the terms of this treaty.

His lordſhip farther obſerved, that the States-general had ſuffered Paul Jones, a Scotchman, and a pirate, acting without legal authority from any acknowledged government, to bring Britiſh ſhips into their ports, and to refit there (A). A rebel privateer had alſo been ſaluted at the Dutch iſland of St Euſtatius, after ſhe had been ſuffered to capture two Britiſh ſhips within cannon-ſhot of their forts and caſtles. A memorial was preſented at the Hague in June 1779, on the breaking out of the war with Spain, to claim the aid Britain was entitled to require by the treaty of 1678; but of this not the leaſt notice was taken on the part of the States. Two other notices had ſince been delivered, each of which met with the ſame reception. The Britiſh miniſtry had done all in their power to bring the States to a true ſenſe of their intereſt; and when the neceſſity of the caſe compelled them to ſeize on Dutch ſhips carrying ſtores to France, they had paid the full value for the cargoes, and returned the ſhips; ſo that neither the private merchant, the private adventurer, nor the States, had ſuffered. France only had felt the inconvenience, by her being deprived of that aſſiſtance which ſhe would have received from thoſe cargoes.

With reſpect to an obſervation that had been made, that the treaty laid before the houſe, between the Dutch and the Americans, was nothing more than a contemplative project, his lordſhip remarked, that it was actually ſigned and ſealed; the names of Van Berkel the penſionary of Amſterdam, and Monſ. de Neuville, a merchant and burgeſs of that city, being ſubſcribed to it on the part of the magiſtracy of Amſterdam, and the name of John Lee, as commiſſioner or agent for the Congreſs of America. The States-general had alſo refuſed to pay the leaſt attention to the requiſition in his majeſty's memorial, delivered by Sir Joſeph Yorke, that proper notice ſhould be taken of Van Berkel and his aſſociates; ſo far as ſuch a refuſal could be implied by a contemptuous ſilence. As to the principal magiſtrates of Amſterdam, they were ſo far from diſavowing the fact, or attempting to palliate it, that they gloried in the whole tranſaction; and expreſsly declared even to the States-general, that what they had done, was what their indiſpenſable duty required.

His lordſhip added, that he lamented the neceſſity of a war with Holland; but it appeared to him to be an unavoidable meaſure. He confeſſed the ſituation of Britain to be truly alarming; but when he conſidered the powerful ſtand that had already been made againſt the moſt alarming confederacy that had ever been formed againſt Great-Britain, the little ſucceſs that the enemies of that country had met with in all their

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(A) This man, who had been formerly a ſervant in lord Selkirk's houſe, had landed in 1778 and plundered it of the plate, but without doing any farther miſchief. The action, however, was very diſagreeable to his own party; and, at the deſire of Dr Franklin, the plate was afterwards reſtored. After this exploit, he attempted to ſet fire to the town of Whitehaven, but without ſucceſs. In 1779, he made a deſcent on the coaſt of Ireland, but without committing any act of hoſtility. His people indeed carried off ſome ſheep and oxen, but their captain paid liberally for what they had taken. In the month of September 1779 he appeared in the Frith of Forth with ſeveral prizes. They advanced up the Frith above the iſland of Inchkeith, ſo as to be nearly oppoſite to Leith. His deſign was ſuppoſed to have been to burn the ſhipping there; but he was prevented from attempting this by a ſtrong weſt wind; and ſuch meaſures were alſo taken for the defence of the harbour, by erecting batteries and otherwiſe, that he would probably have miſcarried had any attempt been made. On leaving the coaſt of Scotland, he fell in with the Serapis and Scarborough, both of which he took after a moſt deſperate engagement; by which all the veſſels were reduced almoſt to wrecks. Theſe were carried into a Dutch harbour; and it was this tranſaction to which lord North now alluded. He was called a *pirate*, on account of his not being at that time properly furniſhed with a commiſſion either from France or America, though this was denied by the oppoſite party.

their various attempts againſt it, and the ſpirit and reſources of the nation, the public proſpects appeared to him much leſs gloomy than ſome gentlemen thought proper to repreſent them. The difficulties were certainly great; but he truſted that they were by no means inſuperable. He was neither deſirous of concealing their magnitude, nor afraid to meet them, great as they muſt be acknowledged; becauſe he was convinced, that when the force of the country was fully exerted, it was equal to the conteſt; and that the only means of obtaining an honourable and a juſt peace, was to ſhow themſelves capable of carrying on the war with ſpirit and with vigour.

649 Capture of St Euſtatius.

Before this national reſolution, however, could poſſibly have been communicated officially to the naval commanders in the Weſt-Indies, the Dutch were actually attacked. The defenceleſs iſland of St Euſtatius was, on the 3d of February 1781, ſummoned by admiral Rodney and general Vaughan to ſurrender to the arms of Great Britain, and only one hour given to conſider of it. The immenſe property on the iſland was confiſcated, and a ſale inſtituted, with ſuch circumſtances of apparent rapacity, as not only became the ſubject of a diſcuſſion in parliament, but drew upon the nation, whether juſtly or not we pretend not to determine, the ill will of all Europe*.

950 Deſperate engagement with admiral Zoutman.

The Dutch nation ſeem not in the preſent caſe to have behaved with any degree of prudence. Notwithſtanding their provoking conduct towards Britain, they had made no preparations for war in caſe of being attacked. Notwithſtanding this inactivity, however, it ſtill appeared that they retained their ancient valour, and were in fact the moſt formidable naval enemies Britain had to contend with. By the month of Auguſt 1781, they had equipped a conſiderable ſquadron, the command of which was given to rear-admiral Zoutman. On the 5th of that month, this ſquadron fell in with the Britiſh fleet commanded by admiral Hyde Parker. The force commanded by the Dutch admiral conſiſted, according to their own account, of one ſhip of 74, one of 68, one of 64, three of 54, and one of 44, beſides frigates; but the Engliſh account repreſents the Dutch fleet as conſiſting of eight two-decked ſhips. No gun was fired on either ſide till they were within the diſtance of half muſket ſhot. The action began about eight in the morning, and continued with an unceaſing fire for three hours and forty minutes. Both ſides fought with equal ardour, and little advantage was gained on either. When the heat of the action was over, both ſquadrons lay-to a conſiderable time near each other, when the Dutch ſhips of war with their convoy bore away for the Texel; and the Engliſh ſhips were all too much diſabled to follow them. A Dutch 74 gun ſhip ſunk ſoon after the action. On board the Britiſh fleet 104 were killed and 339 wounded; and the loſs of the Dutch was probably greater. Admiral Zoutman, in the account of the engagement tranſmitted by him to the Stadtholder, ſaid, that his men "fought like lions;" and it was ſaid by the Britiſh admiral, in the account ſent by him to the admiralty, that, "his majeſty's officers and men behaved with great bravery, nor did the enemy ſhow leſs gallantry." The admiral of the Dutch fleet was promoted, honorary rewards were given to the principal officers, and two months pay to the men, for their behaviour in this action. When admiral Parker's fleet arrived at the Nore, his majeſty, in order to teſtify his ſenſe of his merit, went on board his ſhip, with the avowed deſign, as it is ſaid, of conferring on him the honour of knighthood; but this the admiral thought proper to decline; and it was generally ſuppoſed, that this veteran officer was much diſguſted, that more ſhips had not been ſent to him, for which he had applied, and which he conceived might have been ſpared, and whereby he might have been enabled to obtain a complete victory.

651 Vaſt efforts of Britain.

652 Diſaſtrous events of the year 1781.

653 Tobago taken.

Thus the war was ſtill carried on in various parts of the globe in ſuch a manner as ſeemed to evince the impoſſibility of cruſhing the power of Great Britain by any force whatever. In Europe the utmoſt efforts of France and Spain were able to produce nothing more than the annual parade of a mighty fleet in the channel. This was anſwered by the appearance of a Britiſh fleet ſo formidable that the allies never durſt attack them. The ſtates of Holland had drawn out their force; and this too was oppoſed by one, which, if inſufficient to conquer, was at leaſt able to prevent their effecting any thing detrimental to Britain. In the Eaſt-Indies the united powers of the French and Indians had been conquered, and the Dutch ſettlements had ſuffered ſeverely*. In the year 1781, however, the Britiſh naval power in the Weſt-Indies ſeemed to ſink, and ſome events took place which threatened a total ruin of the empire in theſe parts. This was owing to the vaſt ſuperiority of the combined fleets of France and Spain, by whom that of Britain was now ſo far outnumbered, that they could not atchieve any thing of conſequence. An ineffectual attempt on the iſland of St Vincents* was made by admiral Rodney; and an indeciſive engagement took place, April 28th 1781, between admiral Hood and the count de Graſſe; the event of which, however, if not advantageous, was certainly honourable to Britain, as the French had a ſuperiority of ſix ſhips of the line. The damage done to the Britiſh ſhips having obliged them to retire to Barbadoes to refit, the French took that opportunity to make a deſcent on the iſland of Tobago†. The governor, Mr Ferguſon, made a gallant reſiſtance; but was at laſt obliged to ſurrender, as no proſpect of ſuccours appeared. On his return to England he complained loudly that the iſland had been unneceſſarily loſt. Admiral Rodney had ſent rear-admiral Drake with ſix ſail of the line, three frigates, and ſome troops to the aſſiſtance of the iſland; but they were ſent too late, and the iſland had capitulated before any relief was afforded it. In a letter of admiral Rodney, which was publiſhed in the gazette, ſome ſurpriſe was expreſſed, that the place had ſurrendered ſo ſoon: upon which governor Ferguſon publiſhed an account of the ſiege, ſigned with his name, in all the London papers, in which he recriminated on the admiral. The governor's narrative was ſo perſpicuous, ſo apparently ſatisfactory, and his charge againſt the admiral ſo ſtrong, that it was thought incumbent on the latter to vindicate his conduct; but no anſwer to the governor's accuſation ever appeared.

654 Diſcontents in the Weſt-India iſlands.

Beſides the inconveniences which the Britiſh Weſt-India iſlands ſuffered in conſequence of the war, it was alſo a misfortune to ſome of them that they were involved in domeſtic diſputes, occaſioned by their diſſatisfac-

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* See St *Euſtatius*.

* See *Indoſtan*.

* See *St. Vincents*.

† See *Tobago*.

tion at the conduct of their governors. This was particularly the caſe with Jamaica and Barbadoes, in both which iſlands there were frequent conteſts about this time between the houſes of aſſembly and the governors. But the remonſtances of the inhabitants on this ſubject did not meet with much attention from thoſe who had it in their power to afford them relief: for it ſeemed, indeed, to be a kind of maxim with the Britiſh adminiſtration at this period, to pay little regard to any complaints from the ſubjects of the empire, reſpecting any abuſe of authority, from whatever quarter they might come, Ireland only excepted; and, with reſpect to that kingdom, they were induced to relax a little from the high tone they were accuſtomed to aſſume, by the powerful and energetic arguments of the Iriſh volunteers. See IRELAND.

The great and deciſive ſtroke, however, which happened this year, was the capture of lord Cornwallis, with the diviſion of the army under his command. Other events, indeed, were ſufficiently mortifying. The province of Weſt Florida had been reduced by the Spaniards; Minorca was beſieged by them with an apparent impoſſibility of holding out; the iſland of St Euſtatius was ſurpriſed by the French; and in ſhort every circumſtance ſeemed to proclaim the neceſſity of putting an end to a war ſo calamitous and deſtructive.

655 Miniſtry ſtill perſiſt in their military ſchemes.

All the diſaſters that had yet happened, however, were not ſufficient to induce the miniſtry to abandon their favourite ſcheme of war with the colonies. The parliament met on the 27th of November 1781. It has already been obſerved, that in the year 1780 the miniſtry had received ſuch a ſignal defeat as ſeemed to prognoſticate the ruin of their power. They had indeed afterwards acquired a majority, and the extreme terror produced by the riots had contributed not a little to the eſtabliſhment of their authority. The remembrance of what had paſſed, however, moſt probably induced them to a diſſolution of parliament; while the ſucceſſes at Charleſtown and other parts of America, once more gave them a decided majority in both houſes.

656 King's ſpeech Nov. 1781.

But the diſaſters of the year 1781 involved them in the utmoſt difficulty and diſtreſs. In the ſpeech from the throne, his majeſty obſerved, that the war was ſtill unhappily prolonged by that reſtleſs ambition which firſt excited the enemies of his crown and people to commence it, and which ſtill continued to diſappoint his earneſt deſire and diligent exertions to reſtore the public tranquillity. But he ſhould not anſwer the truſt committed to the ſovereign of a free people, nor make a ſuitable return to his ſubjects for their zealous and affectionate attachment to him, if he conſented to ſacrifice, either to his own deſire of peace, or to their temporary eaſe and relief, thoſe eſſential rights and permanent intereſts, upon the maintenance and preſervation of which the future ſtrength and ſecurity of Great Britain muſt depend. The events of war he ſaid, had been very unfortunate to his arms in Virginia, having ended in the loſs of his forces in that province. No endeavours, he added, had been wanting on his part to extinguiſh that ſpirit of rebellion which his enemies had found means to foment and maintain in the colonies, and to reſtore to his deluded ſubjects in America that happy and proſperous condition which they had formerly derived from a due obedience to the laws: but the late misfortune in that quarter called loudly for the firm concurrence and aſſiſtance of parliament, in order to fruſtrate the deſigns of their enemies, which were equally prejudicial to the real intereſts of America, and to thoſe of Great Britain. At the cloſe of the ſpeech, his majeſty obſerved, that among the many ill conſequences which attended the continuation of the preſent war, he ſincerely regretted the additional burdens which it muſt unavoidably bring upon his faithful ſubjects: but he ſtill declared his perfect conviction of the juſtice of his cauſe; and that he had no doubt, but that, by the concurrence and ſupport of his parliament, by the valour of his fleets and armies, and by a vigorous, animated, and united exertion of the faculties and reſources of his people, he ſhould be enabled to reſtore the bleſſing of a ſafe and honourable peace to all his dominions.

A motion for an addreſs of thanks, couched in the uſual ſtyle, was made in the houſe of commons. It was urged, that a durable and advantageous peace could reſult only from the firm, vigorous, and unremitting proſecution of the war. The preſent was not the time to relinquiſh hope, but to reſolve upon exertion. By deſpair we ſhould invite calamity to overwhelm us; and it would ill become a great and valiant people, whoſe reſources were yet powerful and numerous, to ſubmit where they ſhould reſiſt; to look with indifference upon their political importance; and to tarniſh, by indolent puſillanimity, the national and dear-bought glories both of remote and recent æras, inſtead of oppoſing, with augmented force, a combination whoſe inveterate efforts to throw out of the ſcale of Europe the whole political exiſtence of Great Britain, were ſtrengthened by the late victory over lord Cornwallis in Virginia. But if a general ſpirit of unanimity, ſo requiſite at one of the moſt alarming and important periods in the Britiſh annals, were to ariſe within the walls of parliament, and thence to diffuſe itſelf throughout the body of the people, the gloom that hovered round us would rapidly diſperſe, and great ſucceſſes would conduct the nation back to all its priſtine ſplendor and felicity.

This was vehemently oppoſed by Mr Fox and Mr Burke. The latter remarked, that if there could be a greater misfortune than had already been undergone by this kingdom in the preſent diſgraceful conteſt, it was hearing men riſe up in the great aſſembly of the nation to vindicate ſuch meaſures. If the miniſtry and the parliament were not to be taught by experience; if neither calamities could make them feel, nor the voice of God make them wiſe; what had this fallen and undone country to hope for? If any thing could tend to deject the people of England, to make them deſpair of their ſituation, and reſign themſelves to their fate, it muſt be to receive information that their miniſters, after all that had been ſuffered, were yet determined to go on with the American war. A battle might be loſt, an enterprize might miſcarry, an iſland might be captured, an army might be loſt in the beſt of cauſes, and even under a ſyſtem of vigour and foreſight; becauſe the battle, after all the wiſdom and bravery of man, was in the hands of Heaven: and if either or all theſe calamities had happened in a good cauſe, and under the auſpices of a vigilant adminiſtration, a brave people would not deſpair. But it was not ſo in the preſent caſe. Amidſt all their ſufferings and their misfortunes, they ſaw nothing ſo diſtreſſing as the weakneſs or wickedneſs of their miniſters. They ſeemed ſtill determined to go on, without plan, and without foreſight, in this war of calamities; for every thing that happened in it was a calamity. He conſidered them all alike, victories and defeats; towns taken, and towns evacuated; new generals appointed, and old generals recalled; "they were all alike calamities in his eyes, for they all ſpurred us on to this fatal buſineſs. Victories gave us hopes, defeats made us deſperate, and both inſtigated us to go on. They were, therefore, both calamities; and the king's ſpeech was the greateſt calamity of all; for the king's ſpeech ſhowed us the diſpoſition of the miniſters: and this diſpoſition was not to retreat an inch; but to go on, to plunge us deeper, to make our ſituation more diſgraceful and more unhappy."

In the courſe of the debate, it was contended on the part of adminiſtration, and particularly by lord North, that by the addreſs, as originally propoſed, the houſe did not pledge themſelves to any continuance of the American war: but this was ſtrongly denied by the gentlemen in oppoſition. However, the point was at laſt decided in favour of miniſtry by a majority of 216 to 129; and the addreſs was then carried as originally propoſed.

In the houſe of peers, a motion for an addreſs ſimilar to that of the houſe of commons, was made by lord Southampton, and ſeconded by lord Walſingham. It was vigorouſly oppoſed by the earl of Shelburne; who obſerved, that ſeven years had now elapſed ſince blood was firſt drawn in America; and from that period to the preſent, the affairs of Great Britain had been continually growing worſe. "A long progreſs in the war had left us in a ſituation in which there were no advantages to conſole; but dangers and calamities, had ariſen, which were unknown to us at the commencement of hoſtilities. Of nearly 87,000 men ſent to America, how few had returned! What treaſures had been in vain expended! What enormous debts accumulated! The moſt liberal national ſupplies had been followed by nothing but calamities; and the whole proceedings of the miniſtry manifeſted a want of ſyſtem and of intelligence." Among other inſtances of miſmanagement, his lordſhip remarked, that, "inſtead of blocking up the French fleets within their own harbours, or immediately intercepting them on their putting out to ſea, we had ſuffered them to ſail far upon their expeditions to our diſtant ſettlements; and when they had acquired this great advantage, we ſlowly followed their powerful armaments with inconſiderable ſquadrons, and ſcarcely ever reached the place of deſtination till the enterprizes of the enemy were totally accompliſhed." His lordſhip alſo declared it to be his opinion, that the capture of earl Cornwallis was owing to the preceding capture of St Euſtatius. As to the farther proſecution of the war with the leaſt proſpect of ſucceſs, it was totally impoſſible: the nation was too much exhauſted both of men and money: recruits were not to be procured for the army; and as to the navy, if they had the beſt firſt lord of the admiralty, and the ableſt board that ever ſat, it was impoſſible to provide for all the diſtant ſervices of ſo extenſive a war. The reaſon was obvious. The fine navy that belonged to Great Britain at the concluſion of the laſt war had been ſuffered to rot and moulder away; while France and Spain had recruited and repaired their marine during the whole period of the peace.

Among other ſtrictures on miniſterial conduct, it was obſerved by the duke of Richmond, that at preſent ſcarcely a ſeventh part of the people were repreſented, while all the remainder had no concern whatever, either virtually or individually, in the management of their own affairs; which, their lordſhips well knew, the conſtitution of this country, as originally framed, gave them a right to have. He appealed to the houſe, whether many of their lordſhips did not name the members for ſeveral boroughs, and whether the repreſentatives were not choſen only by the management of two or three burgeſſes. Were this point reformed, his grace declared, that he ſhould ſtill expect to ſee the country capable of regaining ſome portion of its former greatneſs. He had alſo made ſome obſervations on the interior cabinet, which had, he ſaid, been the ruin of the country. To prove its miſchievous tendency, he inſtanced the declaration of the late earl of Chatham, who confeſſed to the houſe, that "he was duped and deceived, and that he had not been ten days in the cabinet, before he felt the ground rotten under his feet." His grace likewiſe ſaid, that though it was the middle of a war, he made no ſcruple to recommend it moſt ſtrenuouſly to government, immediately to ſet about curtailing the numbers of the army, and that as much as poſſible. He recommended that arms ſhould be put into the hands of the people, for the purpoſes of domeſtic defence; and he did not doubt but that in this caſe, they would act with greater power and ſucceſs, than even the moſt numerous military forces. He alſo adviſed withdrawing the troops from America, augmenting the navy as much as poſſible, and ſending ſuch ſuccours to the Weſt-India Iſlands as might enable them effectually to reſiſt any attempts from the enemy.

Lord Stormont defended the addreſs as originally propoſed; and obſerved, that the language of the ſpeech from the throne was proper to be held by any prince worthy of the crown, in a moment like the preſent; and the long eſtabliſhed cuſtom rendered ſuch an addreſs as had been moved the fit anſwer to it. The preſervation of America, as a dependent part of the Britiſh empire, was too important to be relinquiſhed; and the preſent criſis, ſo far from juſtifying deſpair, called for redoubled ardour, and for immediate exertion.

The lord-chancellor ſaid, that the preſent ſpeech from the throne, like all others at the commencement of a ſeſſion, was no more than a brief ſtate of the nation, delivered in the ancient ſtyle of compoſition, and conformably to eſtabliſhed uſage, from almoſt the firſt exiſtence of a parliament; and as to the addreſs, its language not being ſpecifically binding, their lordſhips might vote in favour of it, without pledging themſelves to ſupport any future miniſterial meaſure whatever. The houſe at length divided, when lord Shelburne's amendment was rejected by a majority of 75 to 31. A ſhort proteſt againſt the addreſs was entered by the duke of Richmond, the marquis of Rockingham, and earl Fitzwilliam; in which they declared, that they diſſented, "for reaſons too often urged in vain for the laſt ſeven years againſt the ruinous proſecution of the unjuſt war carrying on by his majeſty's miniſters againſt the people of North America, and too fatally confirmed by repeated experience, and the late diſgraceful loſs of a ſecond army, to ſtand in need of repetition."

657 Motions againſt the American war by Sir James Lowther.

Though miniſters thus ſucceeded in carrying the addreſſes in the uſual form, they did not meet with the like ſucceſs in their main plan of carrying on the war. After the debate on the number of ſeamen, which was fixed at 100,000 for the enſuing year, Sir James Lowther moved as a reſolution of the houſe, "That the war carried on with America had been ineffectual for the purpoſes for which it was undertaken; and that all farther attempts to reduce that continent by force of arms would be in vain, and muſt be injurious to this country by weakening her powers to reſiſt her ancient and confederated enemies." This was ſupported by a number of arguments interlarded with the moſt ſevere reflections on miniſterial conduct. In the courſe of this debate it was obſerved, and indeed with evident truth, "that every ſtate of conſequence in Europe withheld its ſuccours, and left us to contend alone againſt a multitude of enemies; ſo that we ſhould ſearch in vain for an ally from one corner of the univerſe to the other. As to the American war, in which the miniſtry ſo madly perſiſted, it was not like a war between two rival, or two neighbouring ſtates, about a barrier or a boundary; a conteſt which, however it ended, could not detract much from the importance or weight of either. It was a war in which the concluſion of every campaign was againſt us; in which we weakened no enemy by our efforts; in which we had ſuffered every thing without gaining any thing. The American war had been a war of deluſion from the beginning to the end. Every promiſe had been broken, every aſſertion had been falſified, every object had been completely given up. The miniſtry had ſaid one thing one day; and the next day they had come down again, and with grave faces ſaid what was directly contrary. But it was time to put an end to theſe deluſions; not the leaſt proſpect of ſucceſs in the war now remained; the period was therefore come, when it was indiſpenſably neceſſary that the parliament ſhould interfere, in order to avert that ruin with which this unhappy country was ſo immediately threatened."

658 Different plan of war propoſed by Lord North

The motion was oppoſed by lord North; who ſaid, that if it was agreed to by the houſe, it muſt put an end to the American war in every ſhape, and even cripple the hands of government in other reſpects. It would point out to the enemies of this country what were to be the mode and operations of the war; and thus inform the enemy in what manner they might beſt point their operations againſt the country during the next campaign. Great Britain muſt not retain any poſt in the colonies; for that would be conſidered as one mode of attempting to reduce the Americans to obedience by force. But was it not manifeſt, that there might be a neceſſity of retaining certain poſts in America, for the convenience even of carrying on the war againſt France and Spain?

With reſpect to the American war in general, his lordſhip acknowledged, that it had been extremely unfortunate; but he affirmed, that the misfortunes and calamities which had attended it, though of a moſt ſerious and fatal nature, were matters rather to be deplored and lamented as the events of war, in themſelves perpetually uncertain, than to be aſcribed to any criminalty in miniſters. He had always conſidered the American war as a war of the moſt cruel neceſſity; but at the ſame time as a war commenced for the ſupport of the juſt rights of the crown and of the parliament of Great Britain. He would alſo venture to declare, that as the war was unfortunate to all his fellow-ſubjects, ſo it was particularly diſtreſſing to himſelf. He had always conſidered it as the heavieſt calamity of his life; and if, at any time, a ſacrifice, not only of the emoluments of his ſituation, but even of the whole of his private fortune, could have purchaſed for his country a ſafe and honourable peace, he would have made that ſacrifice with the utmoſt cheerfulneſs, and thought the opportunity of offering it the greateſt bleſſing which could poſſibly have befallen him. His lordſhip added, that though he totally diſapproved of the motion, yet he was willing to declare it to be his opinion, that it would not be wiſe nor right to go on with the American war as we had hitherto done; that is, to ſend armies to traverſe from the ſouth to the north of the provinces in their interior parts, as had been done in a late caſe, and which had failed of producing the intended and the deſired effect.

659 Oppoſed by general Burgoyne.

This new method of carrying on the war was as much diſapproved of as the other; nor indeed did it ſeem to be generally believed that any material alteration was to take place in the miniſterial ſyſtem. General Burgoyne obſerved, that declaring a deſign of maintaining poſts in America, of the nature of New-York, was declaring a deſign of offenſive war; and that ſuch a maintenance of poſts would prove an improvident and a prepoſterous war. The great, if not the only purpoſe of keeping places of arms upon an enemy's coaſt, and eſpecially upon a continent, muſt be for offenſive war. During the glorious adminiſtration of the earl of Chatham, a place of arms was intended to be eſtabliſhed at St Malo's; and it was afterwards eſtabliſhed at Belleiſle upon a more extenſive view than that of a mere inlet into the country. It made a powerful diverſion, and drew a great military force from Germany, to protect the whole range of coaſt from Bayonne to Dunkirk, which was threatened by an embarkation from that place of arms. But the circumſtance which rendered that menace againſt the French coaſt either practicable or formidable was, our dominion of the ſea. At that reſplendent æra, our naval flag rode in the very bays of France as ſecurely as if anchored at Spithead; and a few frigates would have convoyed an army of 20,000 men to any one point of the French or Spaniſh coaſt. This then could be produced as a juſt precedent for a place of arms. But what other precedents exiſted? The command of a ſtrait, by which it was poſſible either to give an inlet for commerce, or to divide the ports of an enemy. Of ſuch a nature was Calais, which, together with Dover, kept ſeparate as often as we thought proper the great ocean and the German ſea. Such alſo was Gibraltar; a place of arms that gave a virtual ſuperiority to the navy of England, though with an inferior number of ſhips, as ſeparating the ports of the houſe of Bourbon in the ocean from their ports in the Mediterranean, and preventing the junction of their fleets. But New-York, as a place of arms, could anſwer no poſſible purpoſe but to feed an impracticable war, and multiply that ſyſtem of contracts, loans, and influence, which, after having operated to the loſs of every dependence of the country, was ready to give the final blow to the laſt remains of property and liberty in the country itſelf.

660 His recants his original principles concerning America.

The general added, that he had not hitherto touched upon the principle of the American war. The impracticability of it was a ſufficient juſtification for ſupporting the preſent motion. But he was now convinced that the principle of the American war was wrong, though he had not been of that opinion when he formerly engaged in the ſervice in America. He had been brought to this conviction, by obſerving the uniform conduct and behaviour of the people of America. "Paſſion, prejudice, and intereſt, might operate ſuddenly and partially; but when we ſaw one principle pervading the whole continent, the Americans reſolutely encountering difficulty and death for a courſe of years, it muſt be a ſtrong vanity and preſumption in our own minds, which could only lead us to imagine that they were not in the right. It was reaſon, and the finger of God alone, that implanted the ſame ſentiment in three millions of people. He would aſſert the truth of the fact againſt all which either art or contrivance could produce to the contrary. He was likewiſe now convinced, upon comparing the conduct of the miniſtry, as time had developed their ſyſtem, that the American war formed only a part of a general deſign levelled againſt the conſtitution of Britain and the general rights of mankind."

After ſome farther debate, Sir James Lowther's motion was rejected by a majority of 220 to 179. This, however, was a majority in which the miniſtry had little reaſon to exult; as it was ſufficiently apparent, from the numbers who voted againſt adminiſtration, that the uninfluenced ſenſe of that houſe was clearly and deciſively againſt any farther proſecution of the American war.

661 Debate on the army eſtimate.

Other arguments to the ſame purpoſe with thoſe of general Burgoyne, juſt mentioned, were uſed in the debate on the army eſtimates. On the 14th of December, the ſecretary at war informed the houſe, that the whole force of the army, including the militia of the kingdom, required for the ſervice of the year 1782, would amount to 186,220 men, and for this force the parliament had to provide. The ſum required for theſe troops for pay, cloathing, and other articles, amounted to four millions two hundred and twenty thouſand pounds. This military force exceeded that of the laſt year by 4074 men; and the expence was conſequently greater by 29,067l. 15s. The increaſe was occaſioned by the greater number of troops already ſent, or then going, to the Eaſt-Indies. But the expence of thoſe troops was to be reimburſed by the Eaſt-India company.

After ſome farther ſtatements relative to the military force of the kingdom and its expence had been made by the ſecretary at war, colonel Barre roſe, and with great vehemence declared, that the eſtimates of the army which were laid before that houſe were ſcandalous and evaſive. There was a much greater number of non-effective men than were ſtated in the eſtimates. In fact, they amounted to a fifth part of the army. The houſe ſhould alſo recollect, that the eſtimates lying on the table did not compoſe the whole of the expences of the army; for extraordinaries of ſeveral millions were yet to come. Neither were the men under the ſeveral deſcriptions given by the ſecretary at war the whole number of military force employed. Other troops were employed ſolely at the diſcretion of the miniſter, and paid irregularly and unconſtitutionally, without the aſſent or knowledge of the legiſlature; particularly the provincial corps in America, amounting to nine thouſand men in actual ſervice, the ſtatement of which force, though it had been called for from year to year, was never brought into the eſtimates.

With reſpect to the army eſtimates, the colonel proceeded to obſerve, that in many inſtances they were filled with ſuch abandoned impoſitions, that there appeared an actual deſign to treat inquiries from the parliament with ſovereign contempt. Several regiments, of which the number of men did not amount to one hundred, were ſet down at eight hundred; and others not having more than fifty were mentioned in the eſtimates as conſiſting of five, ſix, or ſeven hundred men. Indeed, too large a part of the armies, for which that houſe had been perſuaded to give their votes, exiſted only upon paper. Amongſt other regiments, the royal Engliſh fuſileers had not even a fourth of their complement. The royal Scoth fuſileers were in a worſe predicament. Their number fell ſhort of even one hundred men. The 60th regiment was ſtated as amounting to 3500 men, when the fact was, that it did not conſiſt of 1500; and many others might be enumerated in the ſame ſituation. The ſtatement of the eſtimates relative to garriſons, particularly thoſe of Gibraltar and Minorca, were equally deluſive and overcharged.

Lord George Germaine ſaid, that the reaſon why the provincial corps had not been included in the eſtimates was, that ſome ſhare of the public money might be ſpared, by avoiding to vote an eſtabliſhment for theſe troops. They were raiſed and paid in a manner by much the moſt œconomical for the nation. They were ſolely under the management of the commander in chief; and an officer, called the *inſpector-general of the provincial corps*, regularly took care to muſter them from time to time; nor was a ſingle man paid for, if not in actual employ. His lordſhip alſo informed the houſe, that the miniſtry were unanimouſly of opinion, that, conſidering the preſent ſituation of affairs, and the misfortunes of the war, it would not be right to continue any longer the plan on which it had hitherto been conducted; and therefore that a freſh army would not be ſent to ſupply the place of that captured at York-town under earl Cornwallis.

Sir George Saville expreſſed the ſtrongeſt diſapprobation of any farther proſecution of the American war, or of raiſing any more troops for that purpoſe. He adverted to the intimation which had been given by the miniſtry, that a change was to be made in the mode of conducting the American war. This, he ſaid, was in fact telling the houſe, that they were determined to proſecute the war with all the feeble efforts of which they were yet capable. Every unprejudiced and ſenſible obſerver muſt perceive, that ſo extraordinary a conduct reſembled, if it did not indicate, the violence of inſanity. General Conway declared, that he entirely diſapproved of a continuance of the American war in any form, as he wiſhed that it might totally ceaſe. He eagerly deſired the recal of the fleets and armies, and was anxious for an entire and immediate prevention of thoſe calamities which had almoſt completed the deſtruction of the empire. He conſidered an avowal of the independence of America as a ſevere misfortune, and a debaſing ſtroke againſt Great Britain; but of the two evils he would chooſe the leaſt, and he would ſubmit to the independence of America. In ſhort, he would almoſt yield to any circumſtance whatſoever, rather than perſiſt a day longer in the proſecution of ſo pernicious a war. Ideas had been ſtarted relative to a war of poſts, among which New-York had been particularly mentioned. But on what military authority did the miniſtry preſume to think that New-York was tenible? What garriſon would be able to maintain it? The diverſity of military opinions given on this ſubject ſerved rather to alarm than to convince. To ſecure New-York, the poſſeſſion of Long Iſland, which is a hundred miles in length, is abſolutely neceſſary; and it was well known that Sir Henry Clinton, with all his troops, did not conſider himſelf as ſecure. Notwithſtanding theſe and other arguments, however, the queſtion was carried in favour of miniſtry by a conſiderable majority, and the ſupplies were voted accordingly.

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Debate on admitting Lord George Germaine to ſit in the houſe of Peers.

Beſides the grand queſtion for and againſt the continuance of the American war, ſeveral other matters of ſmaller moment were agitated this ſeſſion; particularly the affair of St Euſtatius * as already mentioned, an inquiry into the ſtate of the navy, and into the cauſes of the bad ſucceſs in the American war. All theſe queſtions were carried in favour of miniſtry, though not without a ſtrength of oppoſition they had never experienced before. A motion for cenſuring lord Sandwich was loſt only by 236 to 217; and ſo general did the deſire of a change of adminiſtration now appear, that it excited no ſmall degree of ſurprize that the preſent miniſters ſhould ſtill retain their places. Nothing could ſet in a more ſtriking point of view the deteſtation in which they were held, than the extreme averſion ſhown at admitting lord George Germaine to the dignity of peerage. On this occaſion, the Minden buſineſs was not only ripped up, but after his actual inveſtiture, and when he had taken his ſeat in the houſe, under the title of lord viſcount Sackville, a ſecond debate enſued relative to the diſhonour the peers had ſuſtained by his admiſſion into their houſe. It was moved by the marquis of Caermarthen, that "it was reprehenſible in any miniſter, and highly derogatory to the honour of that houſe, to adviſe the crown to exerciſe its indiſputable right of creating a peer, in favour of a perſon labouring under the heavy cenſure of a court marſhal," which was particularly ſtated in the motion, and alſo the public orders given out on the occaſion by the late king. The marquis urged, that the houſe of peers being a court of honour, it behoved them moſt carefully to preſerve that honour uncontaminated, and to endeavour to mark out, as forcibly as poſſible, the diſapprobation which they felt at receiving into their aſſembly, as a brother peer, a perſon ſtigmatized in the orderly books of every regiment in the ſervice. The earl of Abingdon obſerved, that he could not help conceiving, that, although there was not a right of election, there was and muſt be a right of excluſion veſted in that houſe, when the admiſſion of any peer happened to be againſt the ſenſe of their lordſhips. His judgment of this aroſe not only from the idea, that that houſe was poſſeſſed of original rights, as independent of the crown as of the people; but from the circumſtance of their being the hereditary counſellors of the crown, againſt the ſenſe of whom, he held, the crown could not of right exert itſelf. His lordſhip declared, that he conſidered the admiſſion of lord George Germaine to a peerage, to be no leſs an inſufferable indignity to that houſe, than an outrageous inſult to the people at large. It was an indignity to that houſe, becauſe it was connecting them with one whom every ſoldier was forbidden to aſſociate with. It was an inſult to the people; for what had the perſon raiſed to the peerage done, to merit honours ſuperior to his fellow-citizens? He had only one claim to any kind of promotion; and that was, that he had undone his country, by executing the plan of that accurſed, inviſible, though efficient cabinet, from whom, as he had received his orders, ſo he had obtained his reward.

Lord Sackville declared, that he neither knew by whoſe advice he had been raiſed to this dignity, nor thought, that, in a point of this nature, the recommendation of any miniſter was in the leaſt needful. To beſtow honours was the peculiar and univerſally admitted prerogative of the crown, provided that the parties advanced to them were competent to receive them. This he inſiſted was the caſe at preſent. The ſentence of the court-martial was ſtated as the ground of the objection againſt his elevation to the peerage; but even ſuch a ſentence did not amount to any legal diſability whatſoever. Twenty-three years had elapſed ſince the court-martial which ſat upon him had pronounced that ſentence; and he ſhould naturally ſuppoſe, that ſuch of their lordſhips, and of the public in general, as were at all acquainted with the peculiarly hard and unfair circumſtances which accompanied his trial, had been long accuſtomed to behold this buſineſs in its proper point of view. Aſſailed by an exceſs of acrimony, at leaſt equal to any that a Britiſh officer could have experienced from enemies at once implacable and unjuſt, he was condemned unheard, and puniſhed previouſly to his trial. In theſe circumſtances, it was well known, that he had challenged his accuſers to come forward; that he provoked inquiry; and that he inſiſted upon a trial. He was aſſured at the time, that if the determination of the court-martial ſhould even prove capital, it would be carried into execution: but no intimations of this kind could diſſuade him from inſiſting that a trial ſhould take place; and he flattered himſelf, that the candour and equity of their lordſhips would lead them to conclude, that ſuch behaviour, under ſuch circumſtances, could only reſult from a conſciouſneſs of innocence. To the ſentence of it he had ſubmitted; and, as the reſult of ſuch ſubmiſſion, he thought that he had then acquitted himſelf to his country and to the public. At the preſent moment, it was extremely ſingular, that although neither the charge, nor the defence, nor the evidence, nor in ſhort any one part of the proceedings on the trial, was before their lordſhips, they were called upon to put the ſentence a ſecond time in force againſt him. He truſted, however, that their lordſhips

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* See Euſtatius.

would call to mind the occurrences which had taken place, with reſpect to himſelf, ſubſequent to that period. In 1765, not more than four years after the trial, he was appointed to an office in adminiſtration. Previouſly to his acceptance of the propoſitions then made to him that he ſhould bear a part in adminiſtration, it was agreed for him to become a member of the council-board. There he accordingly took his ſeat; and thenceforward conſidered ſuch a circumſtance as virtually a repeal of the ſentence of the court-martial. A reviſion of the proceedings of the court-martial was now unattainable; for during the ſpace of 23 years, the period of time which had elapſed ſince the trial, every member who had ſat upon it, except one, had been dead and buried. An attempt to inveſtigate the motives which actuated the ſeveral members of the court was equally impracticable. He hoped, therefore, their lordſhips would be of opinion, that he was fully competent to receive the title which his ſovereign had been graciouſly pleaſed to beſtow upon him; and that it was neither expedient, neceſſary, nor becoming for that houſe, to fly in the face of the crown, or to oppoſe its indiſputable prerogative, becauſe it had advanced an old and faithful ſervant to the dignity of a ſeat among their lordſhips.

The duke of Richmond obſerved, that, from the reign of Edward the III. to the time of Henry VII. it was expreſsly ſtated, in every new patent of the creation of a peer, that ſuch creation was made *with the conſent of parliament;* nor did a ſingle inſtance occur, during the whole of this period, of any title being granted without the particular acquieſcence of the houſe of lords. After the reign of Henry VII. the crown carried with a conſiderably leſs reſtraining hand this exerciſe of the prerogative; and during the latter æras, it has been generally regarded as an inconteſtable and eſtabliſhed right. It appeared, however, that the ancient principles of the Britiſh conſtitution had ſet boundaries to reſtrain this exerciſe of the perogative; and that formerly a legal diſability was not the only circumſtance which might amount to a diſqualification for the peerage. Some inſinuations had been thrown out, reſpecting the deciſion of the court-martial, which were far from being well grounded. When the court-martial took place, for the purpoſe of determining the criminalty or the innocence of the noble viſcount, the times were not, as had been repreſented, remarkable for the predominance of clamour or of faction. He obſerved, that their lordſhips were not ignorant, that the noble viſcount reſted a conſiderable part of the vindication of his behaviour at the battle of Minden, upon the ſuppoſed exiſtence of a ſtriking variation in the orders delivered from prince Ferdinand to the commander of the cavalry. It was underſtood that the firſt order was, that *the cavalry* ſhould advance; and the ſecond, that *the Britiſh cavalry* ſhould advance. Yet, even under the ſuppoſed contradictory orders, it was evident that the noble lord ſhould advance; and certainly, the diſtance being ſhort he enjoyed a ſufficient ſpace of time for obedience to his inſtructions. Lord Southampton, who delivered one of the meſſages, was now preſent in the houſe; and it ſhould ſeem, that he had no choice, on this occaſion, but to acknowledge either that he did not properly deliver ſuch orders to the noble viſcount, or that the latter, having properly received them, neglected to obey them. But whatever difficulties might have ariſen, during the endeavours to determine exactly how much time had actually been loſt, in conſequence of the non-compliance of the noble viſcount with the orders which he received, his grace ſaid, that he could with much facility have ſolved, what all the witneſſes examined as to this point were not able poſitively to determine. If, as he was ſummoned to appear upon the trial, his depoſition had been called for, he could have proved, becauſe he held all the while his watch within his hand, and ſeldom ceaſed to look at it, that the time loſt when the noble viſcount delayed to advance under pretence, that, receiving ſuch contradictory orders, it was impoſſible for him to diſcover whether he ought to advance with the *whole* cavalry, or only with the Britiſh cavalry, was *one hour and a half.* It was, therefore, extremely evident, that the noble lord had it in his power to have brought up the cavalry from the diſtance of a mile and a quarter; in conſequence of which, by joining in the battle, they might have rendered the victory more brilliant and deciſive. But, before the arrival of this cavalry, the engagement was concluded. Such was the teſtimony, his grace ſaid, which, having had the honour to ſerve, at the battle of Minden, under prince Ferdenand of Brunſwick, he muſt have borne, if, being ſummoned, the members of the court-martial had thought proper to have examined him on the trial. Under ſuch circumſtances, the noble viſcount could have little reaſon to complain of the ſentence of the court-martial, of the orders which followed, or of the loſs of his commiſſion.

The motion was powerfully ſupported by other arguments, both by the duke of Richmond himſelf and other peers; but, however, was rejected by a majority of 93 againſt 28. A proteſt was entered, ſigned by nine peers, in which the ſentence and the public orders were particularly ſtated; and in which they declared that they "could not look upon the raiſing to the peerage a perſon ſo circumſtanced, in any other light than as a meaſure fatal to the intereſts as well as to the glory of the crown, and to the dignity of that houſe; inſulting to the memory of the late ſovereign, and likewiſe to every ſurviving branch of the illuſtrious houſe of Brunſwick; repugnant to every principle of military diſcipline, and directly contrary to the maintenance of the honour of that houſe, and to that honour which has for ages been the glorious characteriſtic of the Britiſh nation, and which as far as could depend on them, they found themſelves called upon, not more by duty than inclination, to tranſmit pure and unſullied to poſterity."

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Proteſt againſt receiving him.

The ruinous tendency of the American war was now ſo ſtrikingly apparent, that it became neceſſary for thoſe who had a juſt ſenſe of the dangerous ſituation of their country, who wiſhed well to its intereſts, or even to prevent its deſtruction, to exert their moſt vigorous efforts to put an end to ſo fatal a conteſt. Accordingly on the 22d of February, a motion was made by general Conway, "That an humble addreſs ſhould be preſented, earneſtly imploring his majeſty, that, taking into his royal conſideration the many and great calamities which had attended the preſent unfortunate war, and the heavy burdens thereby brought on his loyal and affectionate people, he would be graciouſly

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Motion for an addreſs againſt the American war rejected.

ciouſly pleaſed to liſten to the humble prayer and advice of his faithful commons, that the war on the continent of North America might no longer be purſued for the impracticable purpoſe of reducing that country to obedience by force; and expreſſing their hope that the earneſt deſire and diligent exertion to reſtore the public tranquillity, of which they had received his majeſty's moſt gracious aſſurances, might, by a happy reconciliation with the revolted colonies, be forwarded and made effectual; to which great end, his majeſty's faithful commons would be ready moſt cheerfully to give their utmoſt aſſiſtance." In the ſpeech by which he introduced this motion, the general ſet forth the enormities with which the Britiſh arms had ſo frequently been ſtigmatized by oppoſition, and the exceſſive animoſity of the Americans. "Not a ſingle friend to the Britiſh government (he ſaid) could be diſcovered amongſt the inhabitants of North America, from one end of the country to the other. We had, indeed, at preſent no object to contend for: for if it could be admitted for a moment, even for the ſake of argument, that it were poſſible we might conquer at the laſt, what benefits would repay the ſtruggle for the victory? We ſhould then only gain a deſart, a country depopulated by the war, which our deſpotiſm and barbarity, our avarice and ambition, our antipathy for freedom, and our paſſion for injuſtice, had kindled in her boſom. But all expectations of this kind were in the higheſt degree vain and abſurd; though he had received intelligence (very lately) from a perſon lately arrived from America, in whoſe veracity, experience, and diſcernment, he could implicitly confide, that the people of that country, although in arms againſt us, were ſtill anxious for the accompliſhment of peace. He was alſo aſſured, that certain individuals, at no conſiderable diſtance, were empowered, on the part of the Congreſs, to treat with the miniſters of Great Britain for the attainment of ſo eſſential an object. Theſe circumſtances were not unknown to government: and a noble lord, who had lately retired from the office of ſecretary of ſtate for the American department, had been particularly applied to on this intereſting occaſion. What reaſon could the miniſters aſſign why they had neglected to improve this ſingular advantage, and ſeemed to ſpurn at all ideas of negociation? Could it be poſſible, that a ſeries of ignominious miſcarriages and defeats had not yet operated as a cure for the inhuman and deſtructive love of war? Such was the ſituation of the nation, that it behoved the miniſters to negociate for peace almoſt on any terms. But as they had hitherto done nothing of this kind, it was indiſpenſably neceſſary that the parliament ſhould interfere, and put an immediate end to a war ſo calamitous, ſo fatal and deſtructive." The motion was ſeconded by lord John Cavendiſh, who remarked, that the American war had been a war of malice and reſentment, without either dignity in its conduct, probability in its object, or juſtice in its origin. It was, however, vigorouſly oppoſed by adminiſtration, who had ſtill ſufficient ſtrength to gain their point, though only by a ſingle vote, the motion being rejected by 194 to 193.

The increaſing ſtrength of oppoſition now ſhowed that the downfal of miniſtry was at hand. The deciſion of the laſt queſtion was conſidered as a victory gained by the former; and Mr Fox inſtantly gave notice that the ſubject would be reſumed in a few days, under another form. 665 Second motion for the addreſs. It was accordingly revived on the 27th of February; on which day a petition from the city of London was preſented to the houſe, ſoliciting the houſe to interpoſe in ſuch a manner as ſhould prevent any farther proſecution of the American war; after which general Conway moved, that it ſhould be reſolved, "That it was the opinion of that houſe, that the farther proſecution of offenſive war on the continent of North-America, for the purpoſe of reducing the revolted colonies to obedience by force, would be the means of weakening the efforts of this country againſt her European enemies, and tend, under the preſent circumſtances, dangerouſly to increaſe the mutual enmity ſo fatal to the intereſts both of Great Britain and America; and, by preventing a happy reconciliation with that country, to fruſtrate the earneſt deſire graciouſly expreſſed by his majeſty to reſtore the bleſſings of public tranquillity."

In the ſpeech by which he introduced this motion, the general took notice of ſome objections that had been made to his former motion, under the idea that it was unconſtitutional that in houſe to interfere with its advice in thoſe things which eſpecially and indiſputably belonged to the executive power. 666 Parliament has a right to adviſe the king. It appeared, however, from the journals, that from the days of Edward III. down to the preſent reign, parliament had at all times given advice to the crown in matters relating to war and peace. In the reign of Richard II. it was frequently done; and alſo in that of Henry IV. One remarkable inſtance of this was in the reign of Henry VII. when that prince conſulted his parliament reſpecting the propriety of ſupporting the duke of Britanny againſt France, and alſo of declaring war againſt the latter; and he told his parliament, that it was for no other purpoſe than to hear their advice on theſe heads that he called them together. In the reign of James I. the parliament interfered repeatedly with their advice reſpecting the Palatinate, the match with Spain, and a declaration of war againſt that power. In the time of Charles I. there were ſimilar interferences; and in the reign of his ſon Charles II. the parliament made repeated remonſtrances, but particularly in 1674 and 1675, on the ſubject of the alliance with France, which they urged ought to be renounced, and at the ſame time recommended a ſtrict union with the United Provinces. To ſome of theſe remonſtrances, indeed, anſwers were returned not very ſatisfactory; and the parliament were informed, that they were exceeding the line of their duty, and encroaching upon the prerogative of the crown. But ſo little did the commons of thoſe days reliſh theſe anſwers, that they addreſſed the king to know who it was that had adviſed his majeſty to return ſuch anſwers to their loyal and conſtitutional remonſtrances. In the reign of king William, repeated inſtances were to be found in the journals of advice given by parliament relative to the Iriſh war and the war on the continent. The like occured frequently in the reign of queen Anne: that princeſs, in an addreſs from the parliament, was adviſed not to make peace with France until Spain ſhould be ſecured to Auſtria: and alſo, not to conſent to peace until Dunkirk ſhould be demoliſhed. In ſhort, it was manifeſt from the whole hiſtory of Engliſh parliaments, that it was ever conſidered as conſtitutional for parliament to interfere, whenever it thought proper, in all matters ſo important as thoſe of peace and war. The general urged other arguments in ſupport of his motion, which was ſeconded by lord Althorpe; and petitions from the mayor, burgeſſes, and commonalty of the city of Briſtol, and from the merchants, tradeſmen, and inhabitants of that city againſt the American war, were read. In order to evade coming to any immediate determination on the queſtion, a propoſition was made by Mr Wallace, the attorney-general, that a truce ſhould be entered into with America; and that a bill ſhould be prepared to enable his majeſty's miniſters to treat on this ground: and under the pretence of allowing time for this meaſure, he moved "that the preſent debate

667 Motion for the addreſs carried.

ſhould be adjourned for a fortnight." The houſe divided upon this motion, when there appeared for it 215, and againſt it 234; ſo that there was a majority of 19 againſt the miniſtry. The original motion of general Conway was then put and carried without a diviſion. The general immediately followed up his firſt motion with another for an addreſs to the king, in which the American war was ſpoken of preciſely in the ſame terms made uſe of in the motion, and in which his majeſty was ſolicited to put a ſtop to any

668 Addreſs preſented, with his majeſty's anſwer.

farther proſecution of offenſive war againſt the colonies. This motion was agreed to; and it was alſo reſolved, that the addreſs ſhould be preſented to his majeſty by the whole houſe. The addreſs was accordingly preſented on the firſt of March; when his majeſty returned an anſwer, in which he declared, that there were no objects nearer to his heart than the eaſe, happineſs, and proſperity of his people; that the houſe of commons might be aſſured, that, in purſuance of their advice, he ſhould take ſuch meaſures as ſhould appear to him to be moſt conducive to the reſtoration of harmony between Great-Britain and her revolted colonies, ſo eſſential to the proſperity of both; and that his efforts ſhould be directed, in the moſt effectual manner, againſt our European enemies, until ſuch a peace could be obtained as ſhall conſiſt with the intereſts and permanent welfare of his kingdoms. But though the proceedings of the houſe of commons, in addreſſing his majeſty againſt any farther proſecution of the American war, gave general ſatisfaction, the royal anſwer, however, was not thought ſufficiently explicit.

669 Second addreſs.

It was therefore obſerved by general Conway, in the houſe of commons, on the 4th of March, that he hoped he ſhould be ſupported by the houſe in his deſire of ſecuring the nation againſt the poſſibility of a doubt that the American war was not now completely concluded. Something, perhaps, might yet be wanting, by which miniſters might be ſo expreſsly bound, that, however deſirous of evaſion, they would not have it in their power to evade the injunction of that houſe. He therefore moved, "That an humble addreſs ſhould be preſented to his majeſty, to return his majeſty the thanks of that houſe for his gracious anſwer to their laſt addreſs: that houſe being convinced, that nothing could, in the preſent circumſtances of this country, ſo eſſentially promote thoſe great objects of his majeſty's paternal care for his people as the meaſures which his faithful commons had moſt humbly but earneſtly recommended to his majeſty." This motion was unanimouſly agreed to; after which the general made a ſecond motion, that it ſhould be reſolved by that houſe, "That, after the ſolemn declaration of the opinion of that houſe, in their humble addreſs preſented to his majeſty on Friday laſt, and his majeſty's aſſurance of his gracious intention, that houſe would conſider as enemies to his majeſty and this country, all thoſe who ſhould endeavour to fruſtrate his majeſty's paternal care for the eaſe and happineſs of his people, by adviſing, or by any means attempting the farther proſecution of offenſive war on the continent of North-America, for the purpoſe of reducing the revolted colonies to obedience by force."

670 Reſolutions concerning the capture of Cornwallis rejected.

After ſome debate, the motion was agreed to without a diviſion; and on the 6th of the month, after a number of papers had been read in the houſe of peers relative to the ſurrender of earl Cornwallis and the army under his command, the two following motions were made by the duke of Chandos. Firſt, "That it was the opinion of that houſe, that the immediate cauſe of the capture of the army under earl Cornwallis in Virginia, appeared to have been the want of a ſufficient naval force to cover and protect the ſame." Secondly, "That the not covering and protecting the army under earl Cornwallis, in a proper manner, was highly blameable in thoſe who adviſed and planned the expedition." After ſome debate, the motions were rejected, upon a diviſion, by a majority of 72 to 37.

671 Reſolutions againſt miniſtry propoſed.

Thus the miniſtry ſtill kept their ground, and with the moſt aſtoniſhing reſolution combated the powers of oppoſition, which were daily increaſing. On the 8th of March ſeveral reſolutions were moved by lord John Cavendiſh; one of which was, that "the chief cauſe of all the national misfortunes was the want of foreſight and ability in his majeſty's miniſters." Another reſpected the immenſe ſum expended on the war, which was not denied to be leſs than 100 millions. The expenditure of this ſum became an object of ſevere ſcrutiny; but ſtill all inquiry was fruſtrated. Mr Burke affirmed, that all public documents relative to the finances, exhibited the miſmanagement, profuſion, and enormities of an unprincipled adminiſtration; as an inſtance of which he adduced the preſents given to the Indians for their ſervices during the laſt year, amounting to no leſs than 100,000l. Several other particulars were pointed out; but the motions were loſt by 226 to 216.

The unpopularity of lord North was now farther augmented by his propoſal of ſome new taxes, particularly on ſoap, the carriage of goods, and places of entertainment.

672 Another motion againſt the miniſtry.

Oppoſition therefore ſtill determined to force him to reſign; which indeed it ſeemed improbable that he would voluntarily do. On the 15th of March it was moved by Sir John Rous, that "the nation could have no farther confidence in the miniſters who had the conduct of public affairs." The debate was remarkable for an argument, in the affair of America, perfectly original, and unprecedented in all that had been ſaid or written on the ſubject. Sir James Marriot informed the houſe, that though it had been frequently pretended, that the inhabitants of the colonies were not repreſented in the Britiſh parliament, yet the fact was otherwiſe; for they were actually repreſented. The firſt colonization, by national and ſovereign authority, he remarked, was the eſtabliſhment of the colony of Virginia. The grants and charters made of thoſe lands, and of all the ſubſequent colonies, were of one tenor, and expreſſed in the following terms: "To have and to hold of the king or queen's majeſty, as part and parcel of the manor of Eaſt Greenwich, within the county of Kent. *reddendum*, a certain rent at our caſtle of Eaſt Greenwich, &c." So that the inhabitants of America were, in fact, by the nature of their tenure, repreſented in parliament by the knights of the ſhire for the county of Kent. This curious legal diſcovery, that the Americans colonies were part and parcel of the manor of Eaſt Greenwich, though delivered by the learned judge with all proper gravity and ſolemnity, yet excited ſo much merriment in the houſe, that it was with great difficulty for ſome time, that the ſpeaker could preſerve any kind of order.

673 Lord North's defence of his own conduct.

Lord North endeavoured to vindicate his own adminiſtration. He affirmed, that it could not be declared with truth, by that houſe, that the national calamities originated from the meaſures of the preſent adminiſtration. The repeal of the American ſtamp-act, and the paſſing of the declaratory law, took place before his entrance into office. As a private member of parliament, he gave his vote in favour of both; but, as a miniſter, he was not reſponſible for either. When he accepted his poſt, the times were ſcarcely leſs violent than the preſent. He approached the helm when others had deſerted it; and, ſtanding there, he had uſed his utmoſt efforts to aſſiſt his country. That the American war was juſt and requiſite, and proſecuted for the purpoſe of ſupporting and maintaining the rights of the Britiſh legiſlature, was a poſition, for the truth of which he would ever contend, whilſt he enjoyed the power of arguing at all upon the ſubject. As to peace, he not only wiſhed moſt earneſtly for it, but alſo for the formation of ſuch a miniſtry as might at once prove welcome to the country, and with unanimous cordiality co-operate for the welfare and the honour of the ſtate. It was not an attachment to the honours and emoluments of office which had kept him ſo long in place; and he ſhould diſdain to throw impediments in the way of any honourable and ſalutary coalition of parties, though for the adjuſtment of an adminiſtration from which he might perceive himſelf excluded. The houſe at length divided on the queſtion, when there appeared for it 227, and againſt it 236; ſo that there was a majority of nine in favour of adminiſtration.

574 The miniſters at laſt quit their places.

Notwithſtanding this ſeemingly favourable determination, it was ſo well known that the miniſtry could not ſtand their ground, that, four days after, a ſimilar motion to that made by Sir John Rous was to have been made by the earl of Surrey; but when his lordſhip was about to riſe for that purpoſe, lord North addreſſed himſelf to the ſpeaker, and endeavoured to gain the attention of the houſe. This occaſioned ſome altercation, it being contended by many members, that the earl of Surrey ought to be heard firſt. But lord North being at lenth ſuffered to proceed, he obſerved, that as he underſtood the motion to be made by the noble earl was ſimilar to that made a few days before, and the object of which was the removal of the miniſters, he had ſuch information to communicate to the houſe, as muſt, he conceived, render any ſuch motion now unneceſſary. He could with authority aſſure the houſe, that his majeſty had come to a full determination to change his miniſters. Indeed, thoſe perſons who had for ſome time conducted the public affairs were no longer his majeſty's miniſters. They were not now to be conſidered as men holding the reins of government, and tranſacting meaſures of ſtate, but merely remaining to do their official duty, till other miniſters were appointed to take their places. The ſooner thoſe new miniſters were appointed, his lordſhip declared, that, in his opinion, the better it would be for the public buſineſs, and the general intereſts of the nation. He returned thanks to the houſe for the many inſtances of favour and indulgence which he had received from them during the courſe of his adminiſtration; and he declared, that he conſidered himſelf as reſponſible, in all ſenſes of the word, for every circumſtance of his miniſterial conduct, and that he ſhould be ready to anſwer to his country whenever he ſhould be called upon for that purpoſe.

The earl of Surrey informed the houſe, that the motion which he intended to have made was deſigned to declare to the nation, and to all Europe, that the miniſtry were not diſmiſſed becauſe they wanted to avoid the fatigues of office, but becauſe the parliament had totally withdrawn from them their good opinion and their confidence, and were determined no longer to permit the perpetration of thoſe violent abuſes of their truſt, to which, with impunity, and to the diſgrace and detriment of the ſtate, they had for ſuch a length of time proceeded. His lordſhip, however, agreed, in conſequence of the declaration of lord North, to wave his intended motion; and, after ſome farther debate, the houſe adjourned.

675 Military operations in 1782.

Thus an end was put to an adminiſtration which had for ſo long been obnoxious to a great part of the nation, and whoſe removal contributed very much to allay thoſe dangerous ferments by which every part of the Britiſh dominions had been ſo long agitated. Peace now became as much the object of miniſtry as war had been formerly. Before we proceed to any account of the negociations for that deſirable event, however, it will be neceſſary to take notice of thoſe military events which diſpoſed the other belligerent powers to an accommodation. The bad ſucceſs of Britain in America has been already taken notice of. The diſaſter of Cornwallis had produced a ſincere deſire of being at peace with America: but that could not be accompliſhed without making peace with France alſo; and that power was haughty and elated with ſucceſs. Minorca had now fallen into the hands of the Spaniards; and though it is certain that the capture of a few miſerable invalids, attended with ſuch extreme difficulty as the Spaniards experienced†, ought rather to have intimidated them than otherwiſe, they now projected the moſt important conqueſts. Nothing leſs than the entire reduction of the Britiſh Weſt-India iſlands became the object of the allies; and indeed there was too much reaſon to ſuppoſe that this object was within their reach. In the beginning of the year 1782, the iſlands of Nevis and St Chriſtopher were obliged to ſurrender to M. de Graſſe the French admiral, and the marquis de Bouille, who had already ſignalized himſelf by ſeveral exploits*. Jamaica was marked out as the next victim; but an end of all theſe aſpiring hopes was faſt approaching. The advantages

† See *Minorca*.

* See *Nevis and St Chriſtophers*.

676
De Graſſe entirely defeated and taken priſoner by admiral Rodney.

hitherto gained by the French in their naval engagements with the Britiſh fleet, had proceeded from their keeping at a great diſtance during the time of action, and from their good fortune and dexterity in gaining the wind. At laſt, the French admiral, de Graſſe, probably prompted by his natural courage, determined, after an indeciſive action on the 9th of April 1782, to ſtand a cloſe engagement with his formidable antagoniſt admiral Rodney. This, with him, appears to have been a matter of choice, as he interfered to prevent the loſs of a diſabled ſhip, by parting with which he might have avoided the diſaſter that followed. This memorable engagement took place off the iſland of Dominica, three days after the former. The Britiſh fleet conſiſted of 37 ſhips of the line, and the French of 34. The engagement commenced at ſeven o'clock in the morning, and continued with unremitting fury till half paſt ſix in the evening. It is ſaid, that no other ſignal was made by the admiral but the general one for action, and that for cloſe fight. Sir George Rodney was on board the Formidable, a ſhip of ninety guns; and the count de Graſſe was on board the Ville de Paris, a ſhip of 110 guns, which was a preſent to the French king from the city of Paris. In the courſe of the action, the Formidable fired nearly 80 broad-ſides; and for three hours the admiral's ſhip was involved in ſo thick a cloud of ſmoke, that it was almoſt inviſible to the officers and men of the reſt of the fleet. The van diviſion of the Britiſh fleet was commanded by Sir Samuel Hood, and the rear diviſion by rear-admiral Drake; and both theſe officers greatly diſtinguiſhed themſelves in this important action. But the deciſive turn on this memorable day was given by a bold manœuvre of the Formidable, which broke the French line, and threw them into confuſion. The firſt French ſhip that ſtruck was the Cæſar, a 74 gun ſhip, the captain of which fought nobly, and fell in the action. It is ſaid, that, when ſhe ſtruck, ſhe had not a foot of canvas without a ſhot-hole. Unfortunately, ſoon after ſhe was taken poſſeſſion of, ſhe took fire by accident, and blew up, when about 200 Frenchmen periſhed in her, together with an Engliſh lieutenant and ten Engliſh ſeamen. But le Glorieux and le Hector, both 74 gun ſhips, were alſo taken by the Britiſh fleet; together with l'Ardent of 64 guns; and a French 74 gun ſhip was alſo ſunk in the engagement. It was a very cloſe and hard-fought action on both ſides, but the French fleet was at length totally defeated. It was almoſt dark when the Ville de Paris ſtruck, on board which the count de Graſſe had fought very gallantly. Five thouſand five hundred troops were on board the French fleet, and the havock among theſe was very great, as well as among the French ſeamen. The Britiſh had 230 killed and 759 wounded. Captain Blair, who commanded the Anſon, and ſeveral other officers, were killed in the action; and lord Robert Manners, who commanded the Reſolution, died of his wounds on his return home. On the 19th of the ſame month, a ſquadron which was detached from the main-fleet, under the command of Sir Samuel Hood, captured the Cato and the Jaſon, two French men of war of 64 guns each, and alſo l'Aimable of 32 guns, and the Ceres of 18. About the ſame time alſo the fleet under admiral Barrington took from the French, off Uſhant, le Pegaſe of 74 guns, l'Actionnaire of 64, and ten ſail of veſſels under their convoy.

It was univerſally allowed, that in this engagement the French, notwithſtanding their defeat, behaved with the greateſt valour. De Graſſe himſelf did not ſurrender till 400 of his people were killed, and only himſelf and two others remained without a wound. The captain of the Cæſar, after his enſign-ſtaff was ſhot away, and the ſhip almoſt battered to pieces, cauſed his coulours to be nailed to the maſt, and thus continued fighting till he was killed. The veſſel, when taken was a mere wreck. Other French officers behaved in the ſame manner. The valour of the Britiſh requires no encomium; it was evident from their ſucceſs.

This victory was a very fortunate circumſtance both for the intereſt and reputation of the Britiſh admiral. Before this event, the new miniſtry had appointed admiral Pigot to ſuperſede him in the command in the Weſt-Indies; and it was underſtood, that they meant to ſet on foot a rigid inquiry into the tranſactions at St Euſtatius. But the ſplendor of his victory put an end to all thoughts of that kind: he received the thanks of both houſes of parliament for his ſervices; and was created an Engliſh peer, by the title of baron Rodney, of Rodney-Stoke, in the county of Somerſet. Sir Samuel Hood was alſo created baron Hood of Catherington, in the kingdom of Ireland; and rear-admiral Drake, and captain Affleck, were created baronets of Great Britain. Some attempts were alſo made, in the houſe of commons, to procure a vote of cenſure againſt the new miniſtry, for having recalled lord Rodney; but the motions made for this purpoſe were rejected by the majority.

The count de Graſſe, after his defeat, was received on board the Barfleur man of war, and afterwards landed on the iſland of Jamaica, where he was treated with great reſpect. After continuing there ſome time, he was conveyed to England, and accommodated with a ſuite of apartments at the Royal Hotel in Pall-mall. His ſword, which he had delivered up, according to the uſual cuſtom, to admiral Rodney, was returned to him by the king. This etiquette enabled him to appear at court, where he was received by their majeſties and the royal family in a manner ſuitable to his rank. From the time of his arrival in London to his departure, which was on the 12th of Auguſt 1782, he was viſited by many perſons of the firſt faſhion and diſtinction, and was much employed in paying viſits to the great officers of ſtate, and ſome of the principal nobility of the kingdom, by whom he was entertained in a very ſumptuous and hoſpitable ſtyle. He received, indeed, every mark of civility which the Britiſh nation could beſtow: and was treated with much reſpect even by the common people, from the opinion that was generally entertained of his valour and merit.

Though the deſigns of the French againſt Jamaica were now effectually fruſtrated, the victory was not followed by thoſe beneficial conſequences which by many were expected. None of the Britiſh iſlands which had been taken by the French in the Weſt-Indies were afterwards re-captured; though it was hoped that this would have been the reſult of the naval ſuperiority in thoſe ſeas. It was alſo an unfortunate circumſtance, that ſome of thoſe ſhips which were taken by admiral Rodney were afterwards loſt at ſea; particularly the Ville de Paris, Glorieux, and Hector. A Britiſh man of war, the Centaur, of 74 guns, was alſo ſunk in lat. 48 deg. 33 min. and long. 43 deg. 20 min. on the 24th of September 1782, in conſequence of the diſabled ſtate to which it was reduced by ſome very violent ſtorms. Before the ſhip ſunk, the officers and crew had ſuſtained great hardſhips: moſt of them at laſt went down with the ſhip; but the lives of captain Inglefield the commander, and ten other officers and ſeamen, were preſerved by their getting on board a pinnace. But even this was leaky; and when they went into it they were nearly in the middle of the Weſtern ocean, without compaſs, quadrant, great coat or cloak; all very thinly clothed, in a gale of wind, and with ſcarcely any proviſions. After undergoing extreme hardſhips and fatigues for 16 days, they at length reached the iſland of Fayall, one of the Azores. They were ſo much reduced by want of food and inceſſant labour, that, after they had landed, ſome of the ſtouteſt men belonging to the Centaur were obliged to be ſupported through the ſtreets of Fayall. The Jamaica homeward bound fleet were alſo diſperſed this year by a hurricane off the banks of Newfoundland, when the Ramillies of 74 guns and ſeveral merchantmen foundered.

The Britiſh navy alſo ſuſtained, about this time, a conſiderable loſs at home, by the Royal George, of 100 guns, being overſet and ſunk at Portſmouth. This melancholy accident, which happened on the 29th of Auguſt, was occaſioned by a partial heel being given to the ſhip, with a view to cleanſe and ſweeten her; but the guns on one ſide being removed to the other, or at leaſt the greater part of them, and her lower deck ports being not laſhed in, and the ſhip thwarting on the tide with a ſquall from the north-weſt, it filled with water, and ſhe ſunk in the ſpace of about three minutes. Admiral Kempenfelt, a very brave and meritorious officer, other officers, upwards of 400 ſeamen and 200 women, beſides many children, periſhed in her.

Thus the proſecution of the war ſeemed to be attended with endleſs diſaſters and difficulties to all parties. The ſignal defeat abovementioned not only ſecured the iſland of Jamaica effectually from the attempts of the French, but prevented them from entertaining any other project than that of diſtreſſing the commerce of individuals. 677 Hudſon's bay and the Bahama iſlands reduced. In the beginning of May an expedition was undertaken to the remote and inhoſpitable regions of Hudſon's Bay; and though no force exiſted in that place capable of making any reſiſtance, a 74 gun ſhip and two 36 gun frigates were employed on the ſervice. All the people in that part of the world either fled or ſurrendered at the firſt ſummons. The loſs of the Hudſon's bay company, on this occaſion, amounted to 500,000l. but the humanity of the French commander was conſpicuous in leaving a ſufficient quantity of proviſions and ſtores of all kinds for the uſe of the Britiſh who had fled at his approach.

Another expedition was undertaken by the Spaniards to the Bahama iſlands, where a like eaſy conqueſt was obtained. The iſland of Providence was defended only by 360 men, who being attacked by 5000, could make no reſiſtance. A very honourable capitulation was granted by the victors, who likewiſe treated the garriſon with great kindneſs afterwards. Some ſettlements on the Moſqueto ſhore were alſo taken by the Spaniards: but the Bay-men, aſſiſted by their negroes, bravely retook ſome of them; and having formed a little army with the Indians in thoſe parts, headed by colonel Deſpard, they attacked and carried the poſts on the Black River, making priſoners of about 800 Spaniſh troops. 678 Spaniſh armament deſtroyed before Gibraltar. The great diſaſter which befel this power, however, was their failure before Gibraltar, which happened in the month of September 1782, with ſuch circumſtances of horror and deſtruction, as evinced the abſurdity of perſiſting in the enterpriſe. Thus all parties were taught that it was high time to put an end to their conteſts. The affair of Cornwallis had ſhown that it was impoſſible for Britain to conquer America: the defeat of de Graſſe had rendered the reduction of the Britiſh poſſeſſions in the Weſt-Indies impracticable by the French; the final repulſe before Gibraltar, and its relief afterwards by the Britiſh fleet†, put an end to that favorite enterpriſe, in which almoſt the whole ſtrength of Spain was employed; while the engagement of the Dutch with admiral Parker ſhowed them that nothing could be gained by a naval war with Britain.

679 Change of miniſtry in Britain.

We have already taken notice, as fully as the limits of this article would admit, of the events which led to the removal of lord North and the other miniſters, who for ſo long time had directed public meaſures in Britain. On this occaſion it was ſaid, that his majeſty expreſſed a conſiderable agitation of mind at being in a manner compelled to make ſuch an entire change in his councils; for the members in oppoſition would form no coalition with any of the old miniſtry, the lord chancellor only excepted. On the 27th and 30th of March 1782, the marquis of Rockingham was appointed firſt lord of the treaſury; lord John Cavendiſh chancellor of the exchequer; the earl of Shelburne and Mr Fox principal ſecretaries of ſtate; lord Camden preſident of the council; the duke of Richmond maſter of the ordnance; the duke of Grafton lord privy-ſeal; admiral Keppel firſt lord of the admiralty; general Conway commander in chief of all the forces in Great Britain; Mr Thomas Townſhend ſecretary at war; Mr Burke paymaſter of the forces; and colonel Barre treaſurer of the navy. Other offices and honours were likewiſe conferred on different members of the oppoſition; and ſome were raiſed to the peerage, particularly admiral Keppel; Sir Fletcher Norton, and Mr Dunning.

680 Negociations for peace.

The firſt buſineſs in which the new miniſtry engaged, was the taking ſuch meaſures as were proper to effectuate a general peace. No time was loſt in the purſuit of this great object, or in taking the neceſſary ſteps for its attainment. Accordingly, the empreſs of Ruſſia having offered her mediation, in order to reſtore peace between Great Britain and Holland, Mr ſecretary Fox, within two days after his entrance into office, wrote a letter to Monſ. Simolin, the Ruſſian miniſter in London, informing him, that his majeſty was ready to enter into a negociation for the purpoſe of ſetting on foot a treaty of peace, on the terms and conditions of that which was agreed to in 1674 between his majeſty and the republic of Holland; and that, in

† See *Gibraltar*.

order to facilitate ſuch a treaty, he was willing to give immediate orders for a ſuſpenſion of hoſtilities, if the ſtates-general were diſpoſed to agree to that meaſure.

But the ſtates of Holland did not appear inclined to a ſeparate peace; nor perhaps would it have been agreeable to the principles of ſound policy, if they had agreed to any propoſitions of this kind. However, immediately after the change of miniſtry, negociations for a general peace were commenced at Paris. Mr Grenville was inveſted with full powers to treat with all the parties at war; and was alſo directed to propoſe the independency of the 13 United Provinces of America, in the firſt inſtance, inſtead of making it a condition of a general treaty. Admiral Digby and general Carleton were alſo directed to acquaint the American Congreſs with the pacific views of the Britiſh court, and with the offer that was made to acknowledge the independency of the United States.

681
Death of the marquis of Rockingham occaſions new changes in the miniſtry.

682
Strange ſpeech of lord Shelburne on American independence.

But before this work of pacification had made any conſiderable progreſs, the new miniſtry ſuſtained an irreparable loſs by the death of the marquis of Rockingham in July 1782. Even before this event, conſiderable apprehenſions were entertained of their want of union; but the death of the nobleman juſt mentioned occaſioned an abſolute diſſolution. The earl of Shelburne, who ſucceeded him as firſt lord of the treaſury, proved ſo diſagreeable to ſome of his colleagues, that Mr Fox, lord John Cavendiſh, Mr Burke, Mr Frederick Montague, and two or three others, inſtantly reſigned their places. Others, however, though little attached to the earl, kept their places; and his lordſhip found means to attach to his intereſt Mr William Pitt, ſon to the late earl of Chatham. Though then in an early ſtage of life, that gentleman had diſtinguiſhed himſelf greatly in parliament, and was now prevailed on to accept the office of chancellor. The ſeceding members of the cabinet were at great pains to explain their motives to the houſe for taking this ſtep. Theſe were in general a ſuſpicion that matters would be managed differently from the plan they had propoſed while in office, and particularly that American independence would not be allowed: but this was poſitively denied at the time; and with truth, as appeared by the event. There appeared indeed a duplicity in the conduct of the earl of Shelburne not eaſily to be accounted for. Even after it had been intimated by general Carleton and admiral Digby, that the independence of the United Provinces ſhould be granted by his majeſty in the firſt inſtance, inſtead of making it a condition of a proviſional treaty, his lordſhip expreſſed himſelf to the following purpoſe: "He had formerly been, and ſtill was of opinion, that whenever the independence of America was acknowledged by the Britiſh parliament, the ſun of England's glory was ſet for ever. This had been the opinion of lord Chatham and other able ſtateſmen; nevertheleſs, as the majority of the cabinet were of a contrary opinion, he acquieſced in the meaſure, though his ideas were different. He did not wiſh to ſee England's ſun ſet for ever, but looked for a ſpark to be left which might light us up a new day. He wiſhed to God that he had been deputed to Congreſs, that he might plead the cauſe of America as well as Britain. He was convinced that the liberties of the former were gone as ſoon as the independence of the States was allowed: and he concluded his ſpeech with obſerving, that he was not afraid of his expreſſions being repeated in America; there being great numbers there who were of the ſame opinion with him, and perceived ruin and independence linked together."

683
Gives occaſion to the Americans to rail againſt Britain.

684
Articles of the proviſional treaty with America.

If his lordſhip really was of opinion that his oratorial powers were able to perſuade the Americans out of a ſyſtem for which they had fought ſo deſperately for a number of years, it is much to be feared he overrated them. No obſtruction, however, aroſe to the general pacification. As early as November 30th 1782, the articles of a proviſional treaty were ſettled between Britain and America*. By theſe it was ſtipulated, that the people of the United States ſhould continue to enjoy, without moleſtation, the right to take fiſh of every kind on the grand bank, and on all the other banks of Newfoundland: and that they ſhould likewiſe exerciſe and continue the ſame privilege in the gulph of St Lawrence, and at every other place in the ſea, where the inhabitants uſed heretofore to fiſh. The inhabitants of the United States were likewiſe to have the liberty to take fiſh of every kind on ſuch part of the coaſt of Newfoundland as Britiſh ſeamen ſhall reſort to; but not to cure or dry them on that iſland. They were alſo to poſſeſs the privilege of fiſhing on the coaſts, bays, and creeks of all the other dominions of his Britannic majeſty in America; and the American fiſhermen were permitted to cure and dry fiſh in any of the unſettled bays, harbours, and creeks of Nova-Scotia, Magdalen iſlands, and Labrador. But it was agreed, that, after ſuch places ſhould be ſettled, this right could not be legally put in practice without the conſent of the inhabitants and proprietors of the ground. It was accorded, that creditors upon either ſide ſhould meet with no impediment in the proſecution of their claims. It was contracted that the Congreſs ſhould earneſtly rcommend it to the legiſlatures of the reſpective ſtates, to provide for the reſtitution of all eſtates and properties which had been confiſcated, belonging to real Britiſh ſubjects, and of the eſtates and properties of perſons reſident in diſtricts in the poſſeſſion of his majeſty's arms, and who had not borne arms againſt the United States. It was reſolved, that perſons of any other deſcription ſhould have free liberty to go to any part whatſoever of any of the thirteen United States, and remain in it for twelve months unmoleſted in their endeavours to recover ſuch of their eſtates, rights, and properties as might not have been confiſcated; and it was concerted that the congreſs ſhould earneſtly recommend to the ſeveral ſtates a reviſion of all acts or laws regarding the premiſes, ſo as to render them perfectly conſiſtent, not only with juſtice and equity, but with that ſpirit of conciliation which, on the return of the bleſſings of peace, ſhould univerſally prevail. It was underſtood that no future confiſcations ſhould be made, nor proſecutions commenced againſt any perſon, or body of men, on account of the part which he or they had taken in the preſent war; and that thoſe who might be in confinement on ſuch a charge, at the time of the ratification of the treaty in America, ſhould be immediately ſet at liberty. It was concluded that there ſhould be a firm and perpetual peace between his Britannic majeſty and the United States; that all hoſtilities by ſea and land ſhould immediately ceaſe; and that priſoners on both ſides ſhould be ſet at liberty. It was determined that his Britannic majeſty ſhould expeditiouſly, and without committing deſtruction of any ſort, withdraw all his armies, garriſons, and fleets, from every port, place, and harbour of the United States. The navigation of the river Miſſiſippi, from its ſource to the ocean was to remain for ever free and open to the ſubjects of Great Britain and the citizens of the United States. In fine, it was agreed in the event, that if any place or territory belonging to Great Britain, or to the United States, ſhould be conquered by the arms of either before the arrival of the proviſional articles in America, it ſhould be reſtored without compenſation or difficulty.

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* See *America*, n°389.

685 Preliminary articles with France.

In the treaty between Great Britain and France, it was agreed that Newfoundland ſhould remain with England, as before the commencement of the war; and, to prevent diſputes about boundaries, it was accorded that the French fiſhery ſhould begin from Cape St John on the eaſtern ſide, and going round by the north, ſhould have for its boundary Cape Ray on the weſtern ſide. The Iſlands of St Pierre and Miquelon, which had been taken in September 1778, were ceded in full right to France. The French were to continue to fiſh in the gulph of St Laurence, conformably to the fifth article of the treaty of Paris. The king of Great Britain was to reſtore to France the iſland of St Lucia, and to cede and guaranty to her that of Tobago. The king of France was to ſurrender to Great Britain the iſlands of Grenada and the Grenadines, St Vincent, Dominica, St Chriſtopher's, Nevis, and Montſerrat. The river of Senegal and its dependencies, with the forts of St Louis, Podor, Galam, Arguin, and Portendic, were to be given to France; and the iſland of Goree was to be reſtored to it. Fort James and the river Gambia were guarantied to his Britannic majeſty; and the gum trade was to remain in the ſame condition as before the commencement of hoſtilities. The king of Great Britain was to reſtore to his moſt Chriſtian majeſty all the eſtabliſhments which belonged to him at the breaking out of the war on the coaſt of Orixa and Bengal, with the liberty to ſurround Chandernagor with a ditch for draining the waters; and became engaged to ſecure to the ſubjects of France in that part of India, and on the coaſts of Orixa, Coromandel and Malabar, a ſafe, free, and independent trade, either as private traders, or under the direction of a company. Pondicherry, as well as Karical, was to be rendered back to France; and his Britannic majeſty was to give as a dependency round Pondicherry the two diſtricts of Valanour and Bahour; and as a dependency round Karical, the four contiguous Magans. The French were again to enter into the poſſeſſion of Mahe, and of the Comptoir at Surat. The allies of France and Great Britain were to be invited to accede to the preſent pacification; and the term of four months was to be allowed them, for the purpoſe of making their deciſion. In the event of their averſion from peace, no aſſiſtance on either ſide was to be given to them. Great Britain renounced every claim with reſpect to Dunkirk. Commiſſioners were to be appointed reſpectively by the two nations to enquire into the ſtate of their commerce, and to concert new arrangements of trade on the footing of mutual convenience. All conqueſts on either ſide, in any part of the world whatſoever, not mentioned nor alluded to in the preſent treaty, were to be reſtored without difficulty, and without requiring compenſation. It was determined that the king of Great Britain ſhould order the evacuation of the iſlands of St Pierre and Miquelon, three months after the ratification of the preliminary treaty; and that, if poſſible, before the expiration of the ſame period, he ſhould relinquiſh all connection with St Lucia in the Weſt-Indies, and Goree in Africa. It was ſtipulated in like manner, that his Britannic majeſty ſhould, at the end of three months after the ratification of the treaty, or ſooner enter into the poſſeſſion of the iſlands of Grenada and the Grenadines, St Vincent, Dominica, St Chriſtopher's, Nevis, and Montſerrat. France was to be put into poſſeſſion of the towns and comptoirs which were to be reſtored to her in the Eaſt-Indies, and of the territories which were to ſerve as dependencies round Pondicherry and round Karical, ſix months after the ratification of the definitive treaty; and the termination of the ſame term ſhe was to reſtore the towns and diſtricts which her armies might have taken from the Engliſh or their allies in that quarter of the globe. The priſoners upon each ſide were reciprocally to be ſurrendered, and without ranſom, upon the ratification of the treaty, and on paying the debts they might have contracted during their captivity. Each crown was reſpectively to reimburſe the ſums which had been advanced for the maintenance of their priſoners by the country where they had been detained, according to atteſted and authentic vouchers. With a view to prevent every diſpute and complaint on account of prizes which might be made at ſea after the ſigning of the preliminary articles, it was mutually ſettled and underſtood that the veſſels and effects which might be taken in the Channel, and in the North ſeas, after the ſpace of twelve days, to be computed from the ratification of the preſent preliminary articles, were to be reſtored upon each ſide; that the term ſhould be one month from the Channel and the North ſeas, as far as the Canary iſlands incluſively, whether in the ocean or the Mediterranean: two months from the Canary iſlands as far as the equinoctial line or equator; and laſtly, five months without exception in all other parts of the world.

Theſe preliminary articles of peace were concluded at Verſailles on the 20th of January 1783, between Mr Alleyne Fitzherbert, miniſter plenipotentiary on the part of his Britannic majeſty, and Charles Gravier, comte de Vergennes, the miniſter plenipotentiary on the part of the king of France.

686 With Spain

At the ſame time the preliminary articles of peace between Great Britain and Spain were alſo concluded at Verſailles between Mr Fitzherbert and the comte d'Aranda, the miniſter, plenipotentiary for the Spaniſh monarch. It was agreed that a ſincere friendſhip ſhould be re-eſtabliſhed between his Britannic majeſty and his Catholic majeſty, their kingdoms, ſtates, and ſubjects by ſea and land in all parts of the world. His Catholic majeſty was to keep the iſland of Minorca; and was to retain Weſt-Florida. Eaſt-Florida was to be ceded to him by the king of Great Britain. Eighteen months from the date of the ratification of the definitive treaty were to be allowed to the ſubjects of the latter who had ſettled in the iſland of Minorca and in the two Floridas, to ſell their eſtates, to recover their debts, and to tranſport

port their perſons and effects, without being reſtrained upon account of their religion, or on any other pretence whatſoever, except that of debts, and proſecution for crimes. His Britannic majeſty was, at the ſame time, to have the power to cauſe all the effects that might belong to him in Eaſt Florida, whether artillery or others, to be carried away. The liberty of cutting logwood in a diſtrict of which the boundaries were to be aſcertained, without moleſtation or diſturbance of any kind whatſoever, was permitted to Great Britain. The king of Spain was to reſtore the iſlands of Providence, and the Bahamas, without exception, in the condition in which they were when they were conquered by his arms. All other conqueſts of territories and countries upon either ſide, not included in the preſent articles, were to be mutually reſtored without difficulty or compenſation. The epoch for the reſtitutions to be made, and for the evacuations to take place, the regulations for the releaſe of priſoners, and for the ceſſation of captures, were exactly the ſame as thoſe which have already been related, as ſtipulated in the preliminary articles with France.

687 The peace vehemently condemned.

No ſooner were theſe articles ratified and laid before parliament, than the moſt vehement declamations againſt miniſtry took place. Never had the adminiſtration of lord North himſelf been arraigned with more aſperity of language. The miniſtry defended themſelves with great reſolution; but found it impoſſible to avoid the cenſure of parliament. An addreſs without any amendment was indeed carried in the houſe of lords by 72 to 59; but in the lower houſe it was loſt by 224 to 208. On the 21ſt of February, ſome reſolutions were moved in the houſe of commons by lord George Cavendiſh, of which the moſt remarkable were, that the conceſſions made by Britain were greater than its adverſaries had a right to expect; and that the houſe would take the caſe of the American loyaliſts into conſideration. The laſt motion indeed his lordſhip conſented to wave; but all the reſt were carried againſt miniſtry by 207 to 190. Theſe proceedings, however, could make no alteration with regard to the treaty, which had already been ratified by all the contending powers, the Dutch only excepted. The terms offered them were a renewal of the treaty of 1674; which, though the moſt advantageous they could poſſibly expect, were poſitively refuſed at that time. Afterwards they made an offer to accept the terms they had formerly refuſed; but the compliment was then returned by a refuſal on the part of Britain. When the preliminary articles were ſettled with the courts of France and Spain, a ſuſpenſion of arms took place with Holland alſo; but though the definitive arrangements with the other powers were finally concluded by the month of September, it was not till then that the preliminary articles were ſettled with Holland. The terms were a general reſtitution of all places taken on both ſides during the war, excepting only the ſettlement of Negapatnam in the Eaſt-Indies, which was to remain in the hands of Britain, unleſs an equivalent was given on the part of Holland. The navigation of the eaſtern ſeas was to remain free and unmoleſted to all the Britiſh ſhipping. The other articles concerned only the exchange of priſoners, and ſuch other matters as are common to all treaties.

688 Peace concluded with the Dutch.

689 Event of the war more favourable to Britain than to her enemies.

Thus an end was put to the moſt dangerous war in which Britain was ever engaged; and in which, notwithſtanding the powerful combination againſt her, ſhe ſtill remained in a ſtate of ſuperiority to all her enemies. At that time, and ever ſince, it has appeared how much the politicians were miſtaken who imagined that the proſperity of Britain depended in a great meaſure on her colonies: Though for a number of years ſhe had not only been deprived of theſe colonies, but oppoſed by them with all their force; though attacked at the ſame time by three of the greateſt powers in Europe, and looked upon with an invidious eye by all the reſt, the damages done to her enemies ſtill greatly exceeded thoſe ſhe had received. Their trade by ſea was almoſt ruined; and on comparing the loſs of ſhips on both ſides, the balance in favour of Britain was 28 ſhips of the line and 37 frigates, carrying in all near 2000 guns. Notwithſtanding this, however, the ſtate of the nation appears to have been really ſuch, that a much longer continuance of the war would have been impracticable. In the debates, which were kept up with the greateſt violence on account of the peace, Mr Pitt ſet forth the ſituation of Britain with great energy and ſtrength of argument. "It was in vain (he ſaid) to boaſt of the ſtrength of our navy; we had not more than 100 ſail of the line: but the fleet of France and Spain amounted nearly to 140 ſhips of the line. A deſtination of 72 ſhips of the line was to have acted againſt Jamaica. Admiral Pigot had only 46 ſail to ſupport it; and it was a favourite maxim of many members of the houſe, that defenſive war muſt terminate in certain ruin. It was not poſſible that admiral Pigot could have acted offenſively againſt the iſlands of the enemy; for lord Rodney, when fluſhed with victory, did not dare to attack them. Would admiral Pigot have recovered by arms what the miniſters had regained by negociation? With a ſuperior fleet againſt him, and in its ſight, is it to be conceived that he could have retaken Grenada, Dominica, St Chriſtopher's, Nevis, and Montſerrat? On the contrary, is it not more than probable that the campaign in the Weſt-Indies muſt have terminated in the loſs of Jamaica?

690 Mr Pitt's account of the ſtate of the nation at the concluſion of the peace.

"In the eaſt, it was true that the ſervices of Sir Edward Hughes had been highly extolled; but he could only be commended for a merely defenſive reſiſtance. Victory ſeemed to be out of the queſtion; and he had not been able to prevent the diſembarkation of a powerful European armament which had joined itſelf to Hyder Ally, and threatened the deſolation of the Carnatic†. At home and in our own ſeas the fleets of the enemy would have been nearly double to ours. We might have ſeized the intervals of their cruize, and paraded the channel for a few weeks; but that parade would have only ſerved to diſgrace us. It was yet the only atchievement in our power; for to have hazarded an engagement would have been equivalent to a ſurrender of the kingdom.

"Neither, in his opinion, was the ſtate of our army to be conſidered as formidable. New levies could not be raiſed in a depopulated country. We might ſend upon an offenſive ſcheme five or ſix thouſand men: and what expectation could be excited by a force of this kind? To have withdrawn troops from America was a critical game. There were no tranſports in which they might be embarked ; and if it had been poſſible to embark them, in what miraculous manner were they to be protected againſt the fleets of the enemy ?

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† See *Indoſtan*.

"As to our finances, they were melancholy. Let the immenſe extent of our debts be weighed ; let our reſources be conſidered ; and let us then aſk, what would have been the conſequence of the protraction of the war ? It would have endangered the bankruptcy of public faith ; and this bankruptcy, it is obvious, if it had come upon us, might have diſſolved all the ties of government, and have operated to the general ruin.

"To accept the peace on the terms already related, or to continue the war, was the only alternative in the power of miniſters. Such was the *ultimatum* of France. At the ſame time, however, it ought to be remembered, that the peace obtained was better than could have been expected from the lowneſs of our condition. We had acknowledged the American independence ; but what was that but an empty form ? We had ceded Florida ; but had we not obtained the iſlands of Providence and the Bahamas ? We had granted an extent of fiſhery on the coaſt of Newfoundland ; but had we not eſtabliſhed an excluſive right to the moſt valuable banks ? We had reſtored St Lucia, and given up Tobago ; but had we not regained Grenada, Dominica, St Chriſtopher's, Nevis, and Montſerrat ? And had we not reſcued Jamaica from inevitable danger. In Africa we had given Goree ; but Goree was the grave of our countrymen ; and we had ſecured fort James and the river Gambia, the beſt and the moſt healthy ſettlement. In Europe we had relinquiſhed Minorca ; but Minorca is not tenible in war, and in peace it muſt be ſupported at a ruinous expence. We had permitted the reparation of the port of Dunkirk : but Dunkirk could only be an object when ſhips of a far inferior draught to the preſent were in uſe ; the change in the operations of naval war had taken away its importace. In the Eaſt-Indies ceſſion had been made ; but let it be remarked that theſe ceſſions are inconſiderable in themſelves, and could not be protected by us in the event of hoſtilities. In fine, it was objected, that we had abandoned the unhappy loyaliſts to their implacable enemies. What is this but to impute to congreſs by anticipation a violence which common decency forbids us to expect ? But let it be conſidered, that the principle of aſſiſting theſe unfortunate men would not have juſtified miniſters to have continued the war. And let it be conſidered, that a continuation of the war would not have procured them any certain indemnity. The accumulation of our diſtreſſes muſt have added to theirs. A year or two hence, harder terms of peace might have been forced upon our acceptance. Their fate then muſt have been deſperate indeed ! But as matters were now ſituated, there were hopes of mercy and reconciliation."

691
A general diſtruſt and ſuſpicion of treachery prevailed during the war.

Having thus given as full an account as our limits would allow of the great national events to the concluſion of the peace in 1783, we ſhall now give a detail of ſome others, which though of ſufficient importance to deſerve notice, could not without interrupting the narrative. It has repeatedly been obſerved, that thro' the violence of parties, a general temper of diſtruſt and ſuſpicion took place throughout the nation, inſomuch that the moſt improbable ſtories with reſpect to individuals began to gain credit, of which an inſtance was given in the caſe of Mr Sayre. From certain circumſtances, however, it appeared, that there undoubtedly were perſons in the kingdom who wiſhed if poſſible to deſtroy the national ſtrength in ſuch a manner as to render it impoſſible for Britain to make head againſt the attempts of her enemies. On the 8th of December 1776, a fire broke out in the rope-houſe of the dock-yard at Portſmouth, which totally conſumed it, but without doing any very material damage.

692
Heightened by a fire at Portſmouth.

For ſome time the affair paſſed as an accident ; but in clearing away the rubbiſh, a tin-box was found with a wooden bottom, containing matches which had been lighted, and underneath was a veſſel with ſpirit of wine : however, the fire not having been properly ſupplied with air, had extinguiſhed of itſelf before it touched the ſpirit of wine. Had it catched fire, all the ſtores in the ſtorehouſe, ſufficient to rig out 50 ſail of men of war, would have been deſtroyed.

693
And at Briſtol.

In the beginning of the year 1777, a fire happened at Briſtol, which conſumed ſix or ſeven warehouſes ; and by the finding of machines ſimilar to thoſe already mentioned, it was evident that the fire had not been accidental. The terror of the public was now greatly increaſed, and the moſt violent accuſations againſt each other were thrown out by the miniſterial and popular parties.

694
The incendiary diſcovered.

On this point, however, they ſoon came to a right underſtanding by the diſcovery of the author of all this miſchief. This was one James Aitken, *alias* John the Painter, a native of Edinburgh. Having been from his early years accuſtomed to a vagrant life, to which indeed his profeſſion naturally led him, he had gone through many different adventures. He had enliſted as a ſoldier, deſerted, and when pinched by want made no ſcruple of betaking himſelf to the highway or committing thefts. Having traverſed a great part of America, he there imbibed the prejudices againſt Britain to ſuch a degree; that he at laſt took the extraordinary reſolution of ſingly overturning the whole power of the nation. This he was to accompliſh by ſetting on fire the dockyards at Portſmouth and Plymouth, and afterwards the principal trading towns of the nation. With this view, he inſpected with the utmoſt care thoſe docks and other places on which his attempts were to be made, in order to learn with what care they were guarded. This he found in general as negligent as he could wiſh ; and indeed had he not been ſome way or other very deficient in the conſtruction of his machines, he muſt certainly have done a great deal of miſchief : for as his attempts were always diſcovered by finding his machines, it was apparent that he had met with abundance of opportunities.

For ſome time the affair at Portſmouth paſſed as has already been mentioned, for an accident. It was ſoon recollected, however, that a perſon had been ſeen loitering about the rope-houſe, and had even been locked up one night in it; that he had worked as a painter, and taken frequent opportunities of getting into that houſe, &c.

695
He is apprehended, tried, and executed.

Theſe circumſtances exciting a ſuſpicion that he was the incendiary, he was traced to different places, and at laſt found in a priſon ; to which he had been committed for a burglary. On his examination, however, he behaved with ſuch aſſurance and apparent conſciouſneſs of innocence, as almoſt diſconcerted thoſe who were authoriſed. At laſt he was deceived into a confeſſion by another painter, who was likewiſe an American, and pretended to compaſſionate his caſe. Thus evidence was procured againſt him, but he ſtill maintained his character to the very laſt; rejecting and invalidating the teſtimony of his falſe friend, on account of his baſeneſs and treachery. He received his ſentence with great fortitude; but at length not only confeſſed his guilt, but left ſome directions for preventing the dock-yards and magazines from being expoſed to the like danger in time to come.

696 Intelligence treacherouſly conveyed from Britain to the French court.

Thus it appeared that the whole of this alarm of treaſon and American incendiaries was owing to the political enthuſiaſm of a wretched vagabond. Still, however, it appeared that the French court were very well acquainted with many particulars relating to the ſtate of Britain, and the movements of their ſquadrons, which ought by all means to have been kept ſecret. Theſe treacherous proceedings were firſt detected in the month of June 1780. One Ratcliffe, maſter of a cutter, gave information that he had been hired by one Mr Rogere to carry packets to France, for which he was to be paid 20l. each time, and to have 100l. beſides at a certain period. Apprehending at laſt, however, that he might incur ſome danger by continuing this employment, he gave information of what was going on to one Mr Steward, a merchant at Sandwich, by whom his laſt packet was carried to the ſecretary of ſtate. After being opened and ſealed up again, it was returned, and he was directed to carry it to France as formerly. This was the fate of ſeveral ſucceeding packets, though it was ſome time before Ratcliffe ſaw the principal party concerned. At laſt this was accompliſhed by his complaining to Mr Rogere that he had not been paid the 100l. according to promiſe.

697 La Motte, a Frenchman, apprehended for high treaſon.

A meeting being thus procured, it was found that the perſon who gave intelligence to the enemy was one M. Henry de la Motte, a French gentleman then reſiding in London. On ſearching his houſe, no papers of any conſequence were found; but on his arrival, he being abſent when the meſſengers firſt arrived, he threw ſome out of his pocket, unperceived by any body, as he thought. The papers, however, were taken up by the meſſengers, and gave plain indications not only of a treaſonable correſpondence with the enemy, but that he was connected with one Henry Lutterloh, Eſq; a German, who then reſided at Wickham near Portſmouth. This perſon being alſo apprehended, not only made a full diſcovery of the treaſonable correſpondence with France, but gave abundant proofs of himſelf being one of the moſt depraved and hardened of all mankind, loſt to every ſenſation excepting the deſire of accumulating wealth.

698 He is executed.

His evidence, however, and other ſtrong circumſtances, were ſufficient to convict M. de la Motte, who was accordingly executed, tho' the king remitted that dreadful part of his ſentence of having his heart taken out alive, &c. During his trial, and on every other occaſion, he behaved in ſuch a manner as ſhowed him to be an accompliſhed gentleman; and not only excited the compaſſion, but the admiration of every one who ſaw him.

699 David Tyrie, a Scotſman, apprehended, tried, and executed, for correſponding with the French.

During the whole courſe of the war, only one other perſon was detected in any act of treaſon; and he appears to have been actuated merely by mercenary motives, though La Motte and John the Painter probably acted from principle. This was one David Tyrie, a native of Edinburgh. Having been bred in the mercantile line, and engaged in a number of ſpeculations with a view to gain money, in all of which he diſcovered conſiderable abilities, he at laſt engaged in the dangerous one of conveying intelligence to the French of the ſhips of war fitted out in Britain, the time of their ſailing, &c. For this he was apprehended in February 1782. The diſcovery was made by means of one Mrs Aſkew, who paſſed for his wife, having delivered a bundle of papers in a hurry to a ſchool-miſtreſs, and deſiring her not to ſhow them to any body. Inſtead of this, however, ſhe not only inſpected them herſelf, but ſhowed them to another, by whom they were ſent to the ſecretary at war. By this, and another packet diſcovered by William James, who had been employed to carry it to France, Tyrie was convicted and executed in the month of Auguſt 1782. He behaved with great reſolution, and at laſt ſhowed rather an indecent levity and unconcern, by laughing at the place of execution.

700 Barbarity of the crowd who attended his execution.

The ſentence not only took place in the dreadful manner appointed by law, but the crowd behaved with the moſt ſhameful and unexampled barbarity. "Such (ſay the accounts of his execution) being the *ſingular conduct* of many who were near the body, that happy was he who could procure a finger, or ſome veſtige of the criminal!"—This unhappy man, while in priſon, had, with his companions, contrived a method of effecting their eſcape, by working through a brick wall three feet thick, and covering the hole with a plank coloured like the bricks: but the ſcheme was diſcovered by the imprudence of Tyrie himſelf aſking the keeper how thick the wall was.

On the whole, it appears, that notwithſtanding the exceſſive altercation and virulence of parties, which even went to ſuch a length as to produce duels between ſome members of parliament, neither the one nor the other entertained any deſigns againſt what they believed to be the true intereſt of the nation. The one ſeemed to have regarded its honour too much, and been inclined to ſacrifice even its exiſtence to that favourite notion: the other perhaps regarded the national honour too little.

701 Preſent flouriſhing ſtate of Great Britain.

The various and expenſive armaments, and enterpriſes in which Britain was engaged in the courſe the war, occaſioned a prodigious increaſe of that enormous load of debt with which the nation is burdened; but the commerce of the country has not ſuffered, as was apprehended, by the loſs of the colonies; it ſeems rather to be enlarged in a variety of channels, and the conſequent increaſe of wealth may in time compenſate for the vaſt expence incurred in attempting to conquer the Americans.

New Britain, a large country of North America, called alſo *Terra Labrador*, has Hudſon's bay and ſtrait, on the north and weſt; Canada and the river St Lawrence, on the ſouth; and the Atlantic ocean, on the eaſt. It is ſubject to Great Britain, but yields only ſkins and furs. The following is the beſt deſcription of this country that hath yet appeared. It was drawn up

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Phil. Tranſ. Vol. LXIV. p. 372.

up by the commander of the Otter ſloop, and communicated to the royal ſociety by the honourable Daines Barrington in 1774.

“ There is no part of the Britiſh dominions ſo little known as the immenſe country of Labrador. So few have viſited the northern parts of this vaſt country, that almoſt from the ſtraits of Belleiſle until you come to the entrance to Hudſon's bay, for more than ten degrees of latitude, no chart which can give any tolerable idea of the coaſt hath been hitherto formed. The bareneſs of the country explains why it has been ſo ſeldom frequented. Here avarice has but little to feed on.

“ Perhaps, without any immoderate ſhare of vanity, I may venture to preſume, that, as far as I have been, which is to the latitude of 59. 10. the draught which I have been able to form is by much the beſt of any that has hitherto been made.

“ Others have gone before me bleſt with abilities ſuperior to mine, and to whom I hope to be thought equal only in aſſiduity. But I had advantages of which they were deſtitute: with a ſmall veſſel, and having an Indian with me, who knew every rock and ſhoal upon the coaſt, I was enabled to be accurate in my obſervations; and theſe are the reaſons why I deem my own ſketch preferable to all others.

“ As this country is one of the moſt barren in the whole world, ſo its ſea-coaſt is the moſt remarkable. Bordered by innumerable iſlands, and many of them being a conſiderable diſtance from the main land, a ſhip of burden would ſail a great way along the coaſt without being able to form any notion of its true ſituation.

“ Hence it is that all charts of it have been ſo extremely erroneous; and hence aroſe thoſe opinions that ſome of the inlets extended a vaſt diſtance into the country, if not quite into the ſea of Hudſon's bay.

“ Davis's inlet, which has been ſo much talked of, is not 20 leagues from the entrance of it to its extremity.

“ The navigation here is extremely hazardous. Towards the land, the ſea is covered with large bodies and broken pieces of ice; and the farther you go northward, the greater is the quantity you meet with.

“ Some of thoſe maſſes, which the ſeamen call *iſlands of ice*, are of a prodigious magnitude; and they are generally ſuppoſed to ſwim two thirds under water. You will frequently ſee them more than 100 feet above the ſurface; and to ſhips in a ſtorm, or in thick weather, nothing can be more terrible.

“ Thoſe prodigious pieces of ice come from the north, and are ſuppoſed to be formed by the freezing of cataracts upon the lands about Eaſt Greenland and the pole. As ſoon as the ſeverity of the winter begins to abate, their immenſe weight breaks them from the ſhore, and they are driven to the ſouthward. To the miſerable inhabitants of Labrador their appearance upon the coaſt ſerves as a token of the approach of ſummer.

“ This vaſt tract of land is extremely barren, and altogether incapable of cultivation. The ſurface is every where uneven and covered with large ſtones, ſome of which are of amazing dimenſions. There are few ſprings; yet throughout the country there are prodigious chains of lakes or ponds, which are produced by the rains and the melting of the ſnow. Theſe ponds abound in trout, but they are very ſmall.

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“ There is no ſuch thing as level land. It is a country formed of frightful mountains, and unfruitful valleys. The mountains are almoſt devoid of every ſort of herbage. A blighthed ſhrub and a little moſs is ſometimes to be ſeen upon them, but in general the bare rock is all you behold. The valleys are full of crooked low trees, ſuch as the different pines, ſpruce, birch, and a ſpecies of cedar. Up ſome of the deep bays, and not far from the water, it is ſaid, however, there are a few ſticks of no inconſiderable ſize. In a word, the whole country is nothing more than a prodigious heap of barren rocks.

“ The climate is extremely rigorous. There is but little appearance of ſummer before the middle of July; and in September the approach of winter is very evident. It has been remarked, that the winters within theſe few years have been leſs ſevere than they have been known heretofore. The cauſe of ſuch an alteration it would be difficult to diſcover.

“ All along the coaſt there are many rivers that empty themſelves into the ſea, yet there are but few of any conſideration; and you muſt not imagine that the largeſt are any thing like what is generally underſtood by a river. Cuſtom has taught us to give them this appellation; but the greateſt part of them are nothing more than broad brooks or rivulets. As they are only drains from the ponds, in dry weather they are every where fordable; for, running upon a ſolid rock, they become broad without having a bed of any depth below the ſurface of the banks.

“ The ſuperficial appearance of this country is extremely unfavourable. What may be hidden in its bowels, we cannot pretend to ſuggeſt: probably it may produce ſome copper; the rocks in many places are impregnated with an ore of that reſemblance. Something of a horny ſubſtance, which is extremely tranſparent, and which will ſcale out into a multitude of ſmall ſheets, is often found amidſt the ſtones; there are both black and white of this ſort, but the black is the moſt rare. It has been tried in fire, but ſeems to be no ways affected by heat.

“ The ſpecies of wood here are not very various: excepting a few ſhrubs which have as yet received no name from the Europeans, the principal produce of the country is the different ſorts of ſpruce and pine. Of theſe, even in the more ſouthern parts, there is not abundance; as you advance northwards they gradually diminiſh; and by the time you arrive at the 60th degree of latitude, the eye is not delighted with any ſort of herbage. Here the wretched reſidents build their miſerable habitations with the bones of whales. If ever they cheer their aching limbs with a fire, they gather a few ſticks from the ſea ſhore, which have probably been waſhed from Norway or Lapland. Here a vaſt quantity of ſnow remains upon the land throughout the year.

“ Although the winter here is ſo exceſſively rigid, in ſummer the heat is ſometimes diſagreeable; and in that ſeaſon the weather is very moderate, and remarkably ſerene. It is but ſeldom foggy, ſpeaking comparatively, between this and Newfoundland; nor are you ſo frequently liable to thoſe deſtructive gales of wind which viſit many other parts of the globe.

"It is in general high land, and ſometimes you meet with mountains of an aſtoniſhing height; you are alſo frequently preſented with proſpects that are really awful, and extremely romantic.

"The inhabitants of New Britain are called *Eſkimaux;* for a particular account of whom, ſee the article Eskimaux.

BRITANNICUS, ſon to the emperor Claudius by Meſſalina, was excluded from the empire after his father had married Agrippina; who put her ſon Nero on the throne, and cauſed Britannicus to be poiſoned, A. D. 55.

Britannicus, an Italian, one of the beſt humaniſts of the 15th century, was born at Breſcia. He publiſhed notes on Perſius, Juvenal, Terence, Statius and Ovid. He died in 1510.

BRITE, or **Bright**, in huſbandry. Wheat, barley or any other grain, is ſaid to *brite*, when it grows over ripe and ſhatters.

BRITTANY, or **Bretagne**, a conſiderable province of France, which is 150 miles in length, and 112 in breadth. It is a peninſula, ſurrounded on all ſides by the ocean, except on the eaſt where it joins to Anjou, Maine, Normandy, and Poitou. It is divided into the upper and lower; and therein are large foreſts. It carries on great trade, by reaſon of the many harbours on its coaſts. It was united to the crown of France in 1532. Rennes is the capital town.

BRITTLENESS, that quality of bodies on account of which they are denominated *brittle*, or which ſubjects them to be eaſily broken by preſſure or percuſſion.

Brittle bodies are extremely hard; a very ſmall percuſſion exerts a force on them equivalent to the greateſt preſſure, and thus may eaſily break them. This effect is particularly remarkable in glaſs ſuddenly cooled, the brittleneſs of which is thereby much increaſed. Tin, though in itſelf tough, gives a brittleneſs to all the other metals when mixed therewith. The brittleneſs of glaſs has been ſaid ariſe from the heterogeneity of the parts whereof it is compoſed, as ſalt and ſand can never bind ſufficiently together: but this cannot be the caſe, for the pure calces of metals, or any other ſimple ſubſtances when vitrified, became brittle alſo. In timber brittleneſs ſeems to be connected with durability; the more brittle any ſort of wood is, the more durable it is found. Thus oak is of very long duration; while beech and birch, as being tough, preſently rot, and are of little ſervice in building.

BRITTON (Thomas), the famous muſical ſmall-coal-man, was born at Higham Ferrers in Northamptonſhire. He ſerved his time in London, where he ſet up in a ſtable, next door to the little gate of St. John of Jeruſalem, on Clerkenwell-green, which he converted into a houſe. Here getting acquainted with Dr Garenciers, his near neighbour, he became an excellent chemiſt, conſtructing a moveable laboratory, which was much admired by all who ſaw it. His ſkill in muſic was noways inferior to that in chemiſtry, either in the theory or practice: he had for many years a well-frequented muſical club meeting at his own little cell; and was as well reſpected as known by perſons of the firſt quality; being, above all, a valuable man in his moral character. In Ward's account of clubs, we are told, that "Britton's was firſt begun, at leaſt confirmed, by Sir Roger d'Eſtrange, a very muſical gentleman; and that the attachment of Sir Roger and other ingenious gentlemen, lovers of the muſes, to Britton, aroſe from the profound regard he had in general to all manner of literature. It is obſerved, that this meeting was the firſt of the kind, and the undoubted parent of ſome of the moſt celebrated concerts in London. Ward, who was his cotemporary, ſays, that at the firſt inſtitution of it, his concert was performed in his own houſe, which is thus deſcribed. "On the ground floor was a repoſitory for ſmall-coal: over that was the concert room, which was very long and narrow; and had a ceiling ſo low, that a tall man could but juſt ſtand upright in it. The ſtairs to this room were on the outſide of the houſe, and could ſcarce be aſcended without crawling. The houſe itſelf was very old and low built, and in every reſpect ſo mean as to be a fit habitation only for a very poor man." Notwithſtanding all this manſion, deſpicable as it may ſeem, attracted to it as polite an audience as ever the opera did. At theſe concerts Dr Pepuſch, Mr Handel, Mr Baniſter, Mr Henry Needler, and other capital maſters, were performers. At the firſt inſtitution of this club, it is certain Britton would receive no gratuity whatever from his gueſts, and was offended when ever any was offered him. According to ſome, however, he departed from this; and the rules were, Britton found the inſtruments, the ſubſcription was 10s. a year, and they had coffee at a penny a diſh. The ſingularity of his character, the courſe of his ſtudies, and the collections he made, induced ſuſpicions that Britton was not the man he ſeemed to be. Among other groundleſs conjectures, his muſical aſſembly was thought by ſome to be only a cover for ſeditious meetings; by others, for magical purpoſes; and Britton himſelf was taken for an atheiſt, a Preſbyterian, a Jeſuit, &c. The circumſtances of this man's death are not leſs remarkable than thoſe of his life. There lived at that time one Samuel Honeyman, a blackſmith by trade, who became very famous for a faculty which he poſſeſſed of ſpeaking as if his voice proceeded from ſome diſtant part of the houſe were he ſtood; in ſhort, he was one of thoſe men called *Ventriloqui**. *i. e.* thoſe that ſpeak from their bellies. One Robe an acquaintance of Britton's, was fooliſh enough to introduce this man, unknown, to Britton, for the ſole purpoſe of terrifying him; and he ſucceeded in it. Honeyman without moving his lips or ſeeming to ſpeak, announced, as from afar off, the death of Britton within a few hours, with an intimation that the only way to avert his doom was for him to fall on his knees immediately and ſay the Lord's prayer: the poor man did as he was bid, went home and took to his bed, and in a few days died, leaving his friend Mr Robe to enjoy the fruits of his mirth. This happened in September 1714. Britton left behind him a large collection of books, muſic, and muſical inſtruments. Of the former Sir Hans Sloane was a conſiderable purchaſer. His collection of muſic, moſtly pricked by himſelf, and very neatly, ſold for near L.100. In the Britiſh Muſeum there is a painting of him taken from the life. A mezzotinto print was taken from his picture, for which Mr Hughes (author of

* See *Ventriloquiſm.*

of the ſiege of Damaſcus and a frequenter performer at Britton's concerts) wrote the following line:

Tho' mean thy rank, yet in thy humble cell
Did gentle peace and arts unpurchas'd dwell;
Well pleas'd, Apollo thither led his train,
And muſic warbled in her ſweeteſt ſtrain.
Cyllenius ſo, as fables tell, and Jove,
Came willing gueſts to poor Philemon's grove.
Let uſeleſs pomp behold, and bluſh to find
So low a ſtation, ſuch a lib'ral mind.

BRIVA-ISARÆ (anc. geog.), a town of Gallia Belgica on the river Iſara or Oyſe; now *Pontoyſe*.

BRIVATES, (anc. geog.), a port of Gallia Celtica; now *Breſt* in Brittany.

BRIVES-LA-GALLARD, town of France, in lower Limoſin. It ſtands in a fruitful plain, oppoſite to an iſland formed by the river Coreze, over which there are two handſome bridges. E. Long. 1. 45. N. Lat. 45. 15.

BRIXELLUM, (anc. geog), a town of Gallia Ciſpadana; remarkable for being the place where Otho killed himſelf after the battle of Bedriacum: now *Berſello*, or *Breſello*, in the territory of Rhegio.

BRIXEN, (the biſhopric of), is ſeated in Tirol, in Germany, near the frontiers of Friuli and Carinthia, towards the eaſt. The biſhop has a vote and ſeat in the diet of the empire, and furniſhes his contingent when any tax is laid on Tirol. The principal places are Brixen, Sertzingen, Breuneck, and Lientz.

BRIXEN, the capital of the biſhopric of the ſame name, and where the biſhop commonly reſides, is ſeated on the river Eiſache, at ſome diſtance from the mountain Brenner. It is ſurrounded with mountains, where there are plenty of vineyards, which yield good red wine. It is a populous town; and the houſes are well built with piazzas, and are painted on the outſide. The public buildings are very handſome, and there are ſeveral ſpacious ſquares. It is much frequented, on account of the mineral waters that are near it. E. Long. 11. 50. N. Lat. 46. 35.

BRIXIA (anc. geog), a town of the Cenomani in the Regio Tranſpadana: now *Breſcia*, capital of the Breſciano.

BRIZA, QUAKING-GRASS, in botany: a genus of the digynia order; belonging to the triandria claſs of plants; and in the natural method ranking under the 4th order, *Gramina*. The calyx is two-valved, and multiflorous; the ſpicula bifarious, or ſpread to the two ſides; with the ſmall valves heart-ſhaped and blunt, and the inner one ſmall in proportion to the reſt. There are five ſpecies of briza; two of which are natives of Britain, *viz.* the media, or middle quaking-graſs, and the minor, or ſmall quaking-graſs. They grow in paſture grounds.

BRIZE, in huſbandry, denotes ground that has lain long untilled.

BRIZE-Vents, ſhelters uſed by gardeners who have not walls on the north-ſide, to keep cold winds from damaging their beds of melons. They are incloſures about ſix or ſeven feet high, and an inch or more thick; made of ſtraw, ſupported by ſtakes fixed into the ground, and props acroſs on both inſide and outſide; and faſtened together with willow-twigs, or iron-wire.

BROACH, BROCHA (from the French *broche*, denotes an awl or bodkin; alſo a large packing-needle. A ſpit, in ſome parts of England, is called a *broach*; and from this word comes to pierce or broach a barrel. In Scotland, *broach*, *broche*, or *brotche*, is the name of an utenſil which the Highlanders uſe, like the *fibula* of the Romans, to faſten their veſt. They are uſually made of ſilver; of a round figure, with a tongue croſſing its diameter, to faſten the folds of the garment; ſometimes with two tongues, one on each ſide of a croſs-bar in the middle. There are preſerved in ſeveral families, ancient brotches of very elegant workmanſhip, and richly ornamented. Some of them are inſcribed with names, to which particular virtues uſed to be attributed; others are furniſhed with receptacles for relics, ſuppoſed to preſerve from harm. So that theſe brotches ſeem to have been wore not only for uſe but as amulets. One or two of this ſort are figured and deſcribed by Mr Pennant, *Tour in Scotl.* i. 90. iii. 14. edit. 3d.

BROADCAST, as oppoſed to the drill huſbandry, denotes the method of cultivating corn, turnips, pulſe, clover, the foreign graſſes, and moſt other field-plants, that are not tranſplanted by ſowing them with the hand; in which method they are ſcattered over the ground at large, and thence ſaid to be ſown in broadcaſt. This is called the *old huſbandry*, to diſtinguiſh it from the drill, horſe-hoeing, or new huſbandry. See AGRICULTURE.

BROAD-piece, a denomination given to certain gold pieces broader than a guinea; particularly Caroluſes and Jacobuſes.

BROAD-ſide, in the ſea-language, a diſcharge of all the guns on one-ſide of a ſhip at the ſame time. A broad-ſide is a kind of volley of cannonade, and ought never to be given at a diſtance from the enemy above muſket-ſhot at point-blank.

BROCADE, or BROCADO, a ſtuff of gold, ſilver, or ſilk, raiſed and enriched with flowers, foliages, and other ornaments, according to the fancy of the merchants or manufacturers.

Formerly the word ſignified only a ſtuff, wove all of gold, both in the warp and in the woof, or all of ſilver, or of both mixed together; thence it paſſed to thoſe of ſtuffs in which there was ſilk mixed, to raiſe and terminate the gold or ſilver flowers: but at preſent all ſtuffs, even thoſe of ſilk alone, whether they be grograms of Tours, or of Naples, ſattins, and even taffeties or luſtrings, if they be but adorned and worked with ſome flowers or other figures, are called *brocades*.

In manufacturing brocades, the flatted gilt wire is ſpun on threads of yellow ſilk approaching as near as may be to the colour of gold itſelf. The wire, winding off from a bobbin, twiſts about the thread as it ſpins round; and, by means of curious machinery, too complex to be deſcribed here, a number of threads are thus twiſted at once by the turning of one wheel. The principal art conſiſts in ſo regulating the motion, that the ſeveral circumvolutions of the flatted wire on each ſide may juſt touch one another, and form, as it were, one continued covering. It is ſaid, that at Milan there is made a ſort of flatted wire gilt only on one ſide, which is wound upon the thread ſo that only the gilt ſide appears; and that the preparation of this wire is kept a ſecret, and has been attempted in other places with little ſucceſs. There is alſo a gilt copper wire, made in the ſame manner as the gilt ſilver: Savary obſerves, that this kind of wire, called *falſe gold*, is prepared chiefly at Nuremberg; and that the ordinances of France, require it to be ſpun, for its diſtinction from the gilt ſilver, on flaxen or hempen threads. A Britiſh writer takes notice, that the Chineſe, inſtead of flatted gilt wire, uſe ſlips of gilt paper, which they both interweave in their ſtuffs and twiſt upon ſilk threads: this practice he inconſiderately propoſes as a hint to the Britiſh weaver. But, whatever be the pretended beauty of ſtuffs of this kind of manufacture, it is obvious that they muſt want durability. The Chineſe themſelves, according to Du Halde's account, ſenſible of this imperfection, ſcarcely uſe them any otherwiſe than in tapeſtries, and ſuch other ornaments as are not intended to be much worn, or expoſed to moiſture.

Lewis's Commerce of Arts.

The Venetians have carried on a large trade to the Levant, in a kind of brocade called *damaſquete*, which, though it has only about half the quantity of gold or ſilver as that made in England, looks far more beautiful. The flatted wire is neither wound cloſe together on the ſilk threads, nor the threads ſtruck cloſe in the weaving; yet, by paſſing the ſtuff betwixt rolls, the diſpoſition and management of which is kept a ſecret, the tiſſue or flower is made to appear one entire brilliant plate of gold or ſilver. The French miniſtry, ever vigilant for the advancement of arts and commerce, judged this manufacture important enough to deſerve their attention; and accordingly, for contriving the machinery, they engaged the ingenious M. Vaucanſon, known throughout Europe for his curious pieces of mechaniſm, who, in the memoirs of the academy for the year 1757, lately printed, gives an account of his ſucceſs, and of the eſtabliſhment of ſuch a manufacture at Lyons.

The lower roll is made of wood, 32 inches in length and 14 in diameter; the upper one of copper, 36 inches long and 8 in diameter: this laſt is hollow, and open at one end, for introducing iron heaters. For making the rolls cylindrical, he has a particular kind of lathe, wherein the cutting tool, which the moſt dexterous hand could not guide in a ſtraight line through ſuch a length as 36 inches, is made to ſlide, by means of a ſcrew, on two large ſteel rulers, perfectly ſtraight, and capable of being moved at pleaſure, nearer, and always exactly parallel, to the axis of the roll.

He firſt diſpoſed the rolls nearly as in the common flatting mill. In this diſpoſition, ten men were ſcarcely ſufficient for turning them with force enough to duly extend the gilding; and the collars, in which the axes of the rolls turned at each end, wore or gulled ſo faſt, that the preſſure continually diminiſhed, inſomuch that a piece of ſtuff of ten ells had the gilding ſenſibly leſs extended on the laſt part than on the firſt. He endeavoured to obviate this inconvenience by ſcrewing the rolls cloſer and cloſer in proportion as the ſtuff paſſed thro', or as the wearing of the collars occaſioned more play between them; but this method produced an imperfection in the ſtuff, every turn of the ſcrew making a ſenſible bar acroſs it. To leſſen the attrition, each end of the axis, inſtead of a collar, was made to turn between three iron cylinders called *friction wheels*: but even this did not anſwer fully, for now another ſource of unequal preſſure was diſcovered. The wooden roll, being compreſſible, had its diameter ſenſibly diminiſhed: it likewiſe loſt its roundneſs, ſo that the preſſure varied in different points of its revolution. On trying different kinds both of European and Indian woods, all the hard ones ſplit, the ſoft ones warped without ſplitting, and, of more than 20 rolls, there was not one which continued round for 24 hours even without being worked in the machine.

Theſe failures put him upon contriving another method of preſſing the rolls together, ſo that the force ſhould always accommodate itſelf to whatever inequalities might happen. The axis of the copper roll being made to turn between friction-wheels as before, that of the wooden one is preſſed upwards by a lever at each end furniſhed with a half collar for receiving the end of the axis. Each lever has the end of its ſhort arm ſupported on the frame of the machine, and the long arm is drawn upwards by an iron rod communicating with the end of the ſhort arm of another lever placed horizontally: to the long arm of this lever is hung a weight, and the levers are ſo proportioned, that a weight of 30 pounds preſſes the rolls together with a force equivalent to 17,536 pounds, which was found to be the proper force for the ſufficient extenſion of the gilding. By this contrivance four men can turn the rolls with more eaſe than ten can turn thoſe which are kept together by ſcrews; and the ſame weight acting uniformly in every part, the preſſure continues always equal, though the wooden roll ſhould even become oval, and though the ſtuff be of unequal thickneſs.

A piece of cloth, of about two ells, is ſewed to the beginning and end of the ſtuff, to keep it out to its width when it enters and parts from the rolls, which could not be done by the hands for fear of burning or bruiſing them; as it would take too much time to ſew theſe cloths to every ſmall piece of an ell or two, a number of theſe is ſewed together. The ſtuff is rolled upon a cylinder, which is placed behind the machine, and its axis preſſed down by ſprings to keep the ſtuff tight as it comes off. Four iron bars, made red hot, are introduced into the copper roll, which in half an hour acquires the proper degree of heat, or nearly ſuch a one as is uſed for the ironing of linen: the wooden roll is then laid in its place, and the machine ſet to work. If more than 30 ells are to be paſſed at once, the wooden roll muſt be changed for another, for it will not bear a long continuance of the heat without danger of ſplitting; and therefore the manufacturer ſhould be provided with ſeveral of theſe rolls, that when one is removed, another may be ready to ſupply its room: as ſoon as taken off from the machine, it ſhould be wrapt in a cloth and laid in a moiſt place.

The principal inconvenience attending the uſe of this machine, is, that the heat neceſſary for extending the gilding, though it improves the brightneſs of white and yellow ſilks, is injurious to ſome colours, as crimſon and green. A double preſſure will not ſupply the place of heat; and the only method of preventing this injury, or rendering it as ſlight as poſſible, appeared to be, to paſs the ſtuff through with great celerity.

Method of Cleaning BROCADE *when ſullied*. For this purpoſe neither alkalies nor ſoap muſt be uſed; becauſe the former, while they clean the gold, corrode the ſilk, and change or diſcharge its colour; and the latter alſo alters the ſhade, and even the ſpecies, of certain colours. But ſpirit of wine may be uſed without any danger of its injuring either the colour or quality of the ſubject; and in many caſes proves as effectual for reſtoring the luſtre of the gold, as the moſt corroſive detergents. A rich brocade, flowered with a variety of colours, after being diſagreeably tarniſhed, had the luſtre of the gold perfectly reſtored by waſhing it with a ſoft bruſh dipt in warm ſpirit of wine, and ſome of the colours of the ſilk which were likewiſe ſoiled became at the ſame time remarkably bright and lively. Spirit of wine ſeems to be the only material adapted to this intention, and probably the boaſted ſecret of certain artiſts is no other than this ſpirit diſguiſed. Dr Lewis ſays he does not know of any other that is of ſufficient activity to diſcharge the foul matter, without being hurtful to the ſilk. As to powders, however fine, and however cautiouſly uſed, they ſcratch and wear the gold, which here is only ſuperficial, and of extreme tenuity.

Commerce of Arts, p. 39.

Brocade-Shell, the Engliſh name of a ſpecies of Limax.

BROCATEL, or Brocadel, a kind of coarſe brocade: chiefly uſed for tapeſtry.

BROCCOLI, a kind of cabbage cultivated for the uſe of the table. See Brassica.

BROCHE, or Broach. See Broach.

BROCK, among ſportſmen, a term uſed to denote a badger.—A hart, too, of the third year, is called a *brock* or *brocket*; and a hind of the ſame year is called a *brocket's ſiſter*.

BROD, a town of Hungary, in the county of Poſſega in Sclavonia, ſeated on the river Save. It was once more conſiderable than at preſent; and is memorable for a victory obtained over the Turks in 1668. E. Long. 18. 36. N. Lat. 45. 20.

BRODEAU (John), in Latin *Brodæus*, a great critic, on whom Lypſius, Scaliger, Grotius, and all the learned, have beſtowed great encomiums, was deſcended from a noble family in France, and born at Tours in 1500. He was liberally educated, and placed under Alciat to ſtudy the civil law; but ſoon forſaking that, he gave himſelf up wholly to languages and the belles lettres. He travelled into Italy, where he became acquainted with Sadolet, Bembus, and other famous wits; and here (ſays Thaunus) he applied himſelf to the ſtudy of mathematics, philoſophy, and the ſacred languages, in which he made no ſmall proficiency. Then, returning to his own country, he led a retired, but not an idle, life, as his many learned lucubrations abundantly teſtify. He was a man free from all ambition and vain glory, and ſuffered his works to be publiſhed rather under the ſanction and authority of others than under his own. His chief works are, 1. A commentary on the *Anthologia*. 2. Ten books of miſcellanies. 3. Notes on Oppian, Euripides, &c. He died in 1563, aged 63.

BRODERA, or Brodra, a town of Aſia, in the empire of the Great Mogul. It ſtands in a large ſandy plain, on the little river Waſſet; and is fortified, after the old way, with pretty good walls and towers. It is inhabited by Banians and callico-weavers. The country about it produces plenty of gum lac and indigo. E. Long. 72. 30. N. Lat. 22. 10.

BROGLING for eels; the ſame with Sniggling.

BROGLIO, a town of Piedmont in Italy, and capital of a county of the ſame name, ſituated near the frontiers of Provence, in E. Long. 6. 42. N. Lat. 44. 12.

BROKE (Sir Robert), lord chief juſtice of the common pleas, in England, was the ſon of Thomas Broke, Eſq; of Claverly in Shropſhire, and educated at Oxford; from whence he removed to the Middle Temple, and ſoon became a very eminent lawyer. In the year 1542, he was choſen ſummer reader, and double reader in 1550. In 1552, he was made ſerjeant at law; and the year following (firſt of queen Mary), lord chief juſtice of the common pleas; about which time he received the honour of knighthood. Stow ſays he was recorder of London and ſpeaker of the houſe of commons; which is confirmed by a manuſcript in the Aſhmolean library. He died and was buried at Claverly in Shropſhire, the place of his nativity, in 1558. Wood gives him the character of a great lawyer and an upright judge. His works are, 1. An abridgement containing an abſtract of the year-books till the time of queen Mary. 2. Certain caſes adjudged in the reign of Henry VIII. Edward VI. and queen Mary. 3. Reading on the ſtatute of limitations, 32 Hen. VIII. c. 2.

BROKEN-wind, among farriers. See Farriery.

BROKER. The origin of the word is conteſted; ſome derive it from the French *broier*, "to grind;" others from *brocarder*, "to cavil, or triggle;" others deduce broker from a trader broken, and that from the Saxon *broc* "misfortune," which is often the true reaſon of a man's breaking. In which view, a broker is a broken trader by misfortune; and it is ſaid none but ſuch were formerly admitted to that employment.

Brokers are of three kinds; exchange-brokers, ſtock-brokers, and pawn-brokers.

Exchange Brokers, are a ſort of negociators, who contrive, make, and conclude bargains between merchants and tradeſmen, in matters of money or merchandiſe, for which they have a fee or premium. Theſe, in old Engliſh law-books, are called *broggers*, and in Scotland, *brocoarii*, i. e. according to Skene, mediators or interceſſors in any contract, &c.

They make it their buſineſs to know the alteration of the courſe of exchange, to inform merchants how it goes, and to notify to thoſe who have money to receive or pay beyond ſea, who are proper perſons for negociating the exchange with; and when the matter is accompliſhed, that is, when the money is paid, they have for brokage 2s. per 100l. ſterling. Theſe, by the ſtatute of 8 and 9 William III. are to be licenſed in London by the lord mayor, who gives them an oath, and takes bond for the faithful execution of their offices. If any perſon ſhall act as a broker without being thus licenſed and admitted, he ſhall forfeit the ſum of 500l.; and perſons employing him, 5l.; and brokers are to regiſter contracts, &c. under the like penalty: alſo brokers ſhall not deal for themſelves, on pain of forfeiting 200l. They are to carry about with them a ſilver medal, having the king's arms and the arms of the city, and pay 40s. a-year to the chamber of the city,

In France, till the middle of the 17th century, their exchange-brokers were called *courtiers de change*; but by an arret of council in 1639, the name was changed for that more creditable one of *agent de change, banque,*

& finance ; and in the beginning of the 18th century, to render the office ſtill more honourable, the title of *king's counſellors* was added.

At Grand Cairo, and ſeveral places of the Levant, the Arabs, who do the office of exchange-brokers, are called *conſuls* ; the manner of whoſe negociating with the European merchants has ſomething in it ſo very particular, that we have referred it to a diſtinct article. See Consul.

The exchange-brokers at Amſterdam, called *makelders*, are of two kinds ; the one, like the Engliſh, called *ſworn-brokers*, becauſe of the oath they take before the burgo-maſters ; but the others negociate without any commiſſion, and are called *walking brokers*. The firſt are in number 395 ; whereof 375 are Chriſtians, and 20 Jews : the others are near double that number ; ſo that in Amſterdam there are near 1000 exchange-brokers.—The difference between the two conſiſts in this : The books and perſons of the former are allowed as evidence in the courts of juſtice ; whereas, in caſe of diſpute, the latter are diſowned, and their bargains diſannulled.

The fee of the ſworn exchange-brokers of Amſterdam is fixed by two regulations, of 1613 and 1623, with regard to matters of exchange, to 18 ſols for 100 livres de gros, or 600 florins ; i. e. three ſols for 100 florins ; payable, half by the drawer and half by the perſon who pays the money. But cuſtom has made conſiderable alterations herein.

The Jews, Armenians, and Banians, are the chief brokers throughout moſt parts of the Levant and the Indies. In Perſia, all affairs are tranſacted by a ſort of brokers whom they called *delal*, i. e. great talkers. The manner of making their markets is very ſingular : after the brokers have launched out into long, and uſually impertinent diſcourſes, coming towards a concluſion, they only converſe with their fingers. The buyer and ſeller's broker each take the other by the right hand, which they cover with their coat, or a handkerchief : the finger ſtretched out ſtands for ſix ; bent for five ; the tip of the finger for one ; the whole hand for 100 ; and the hand clenched, for 1000. They will expreſs even pounds, ſhillings, and pence, by their hands. During all this myſtic commerce, the two brokers appear as cold and compoſed as if there were nothing paſſing between them.

The French diſtinguiſh two kinds of brokers ; one for the ſervice of merchants, the other of manufacturers, artificers, and workmen. The buſineſs of the former is to facilitate the ſale of goods in the wholeſale and mercantile way ; that of the other, to procure the goods wanted for manufacturers, artificers, &c. or to ſell their goods when made. At Paris there is ſcarce a company of tradeſmen, or even mechanics, but have their brokers, who are uſually taken out of their body, and make it their ſole buſineſs to negociate in the particular kinds of goods to which ſuch company is by ſtatutes reſtrained. There are brokers for drapery, brokers for grocery, brokers for mercery, &c. There are even brokers for tanners, curriers, cutlers, and the like.

Stock-Brokers, in England, are thoſe who are employed to buy and ſell ſhares in the joint ſtock of a company or corporation, and alſo in the public funds. As the practice of ſtock-jobbing has been carried to ſuch an exceſs as became not only ruinous to a great number of private families, but even affected, or at leaſt might ſoon affect, the public credit of the nation, the legiſlature thought fit to put a ſtop to it, or at leaſt to bring it within certain bounds, and under ſome regulation. The negociations, &c. of theſe brokers are regulated by ſtat. 6 Geo. I. cap 18. and 7 and 10 Geo. II. cap. 8. which, among other things, enact, that contracts in the nature of wagers, &c. incur a penalty of L. 500, and by the ſale of ſtock, of which the ſeller is not poſſeſſed, a forfeit of L. 100 ; and that brokers keep a book, in which all contracts, with their dates, and the names of the parties concerned, ſhall be entered, on pain of L. 50.

Pawn-Brokers, perſons who keep ſhops, and lend money upon pledges to neceſſitous perſons, and moſt commonly at an exorbitant intereſt. They are more properly ſtyled *pawn-takers, or tally-mem* ; ſometimes *fripers*, or *friperers*. Theſe are meant in 1 Jac. I cap. xxi. ſect. 5. where it is declared, that the ſale of goods wrongfully taken to any broker, or pawn-broker, in London, Weſtminſter, Southwark, or within two miles of London, does not alter the property. And (ſect. 7.) if a broker, having received ſuch goods, ſhall not, upon requeſt of the owner, diſcover them, how and when he came by them, and to whom they are conveyed, he ſhall forfeit the double value thereof, to be recovered by action of debt, &c.

In the cities of Italy, there are companies eſtabliſhed by authority for the letting out money on pawns, called *mounts of piety* ; a title little becoming ſuch inſtitutions. In ſome parts of Italy, they have alſo mounts of piety of another kind, wherein they only receive ready money, and return it again with intereſt, at a certain ſum *per annum*. At Bologna, they have ſeveral ſuch mounts, which are diſtinguiſhed into *frank* and *perpetual*: the intereſt of the former is only four *per cent*. that of the latter, ſeven.

Brokers are alſo thoſe who ſell old houſehold furniture, and wearing apparel, &c.

BROME (Alexander), a poet and attorney in the lord mayor's court in the reign of Charles II. was the author of the greateſt part of thoſe ſongs and epigrams which were publiſhed in favour of the royaliſts, and againſt the *rump*, as well in Oliver Cromwell's time as during the rebellion. Theſe, together with his Epiſtles and Epigrams tranſlated from different authors, were all printed in one volume 8vo after the Reſtoration. He alſo publiſhed a verſion of Horace, by himſelf and others, which is very far from being a bad one. He left behind him a comedy, entitled *The Cunning Lovers*: and the world is indebted to him for two volumes of Richard Brome's plays in octavo ; many of which, but for his care in preſerving and publiſhing them, would in all probability have been entirely loſt. He died in 1666.

Brome (Richard), a dramatic writer who lived in the reign of king Charles I. and was cotemporary with Decker, Ford, Shirley, &c. His extraction was mean, he having been originally no better than a menial ſervant to the celebrated Ben Johnſon. He wrote himſelf, however, into high reputation, as is teſtified not only by various commendatory verſes written by his cotemporaries and prefixed to many of his plays, but alſo by ſome lines which his quondam maſter addreſſed to him

Bromelia. on account of his comedy, called the *The NorthernLaſs*. Brome, in imitation of his maſter, laid it down as his firſt great point, to apply cloſely to the ſtudy of men and manners. His genius was entirely turned to comedy; and therefore his proper province was obſervation more than reading. His plots are all his own, and are far from being ill conducted; and his characters, which for the moſt part are ſtrongly marked, were the offspring of his own judgment and experience, and his cloſe attention to the foibles of the human heart. In a word, his plays in general are good ones; met with great applauſe when firſt acted; and as Langbain informs us, were thought by the players worthy to be revived, to their own profit and the author's honour, in that critical age which he himſelf lived in. Nay, we have had a proof even in our own time, of the merit of one of his comedies, which, with a very little alteration has lately been revived, and with great ſucceſs, viz. *The Jovial Crew*, which for no leſs than three ſeaſons running brought crouded audiences to the theatre-royal in Covent Garden at all the frequent repetitions of its performance. The comedies which the author left behind him are 15 in number; ten of which are collected together as abovementioned, in two volumes octavo. He joined alſo with Thomas Heywood in a play called *The Lancaſhire Witches*.

BROMELIA, the PINE-APPLE: A genus of the monogynia order, belonging to the hexandria claſs of plants; and in the natural method ranking under the 10th order, *Coronariæ*.

Species. Of this genus Linnæus enumerates ſeven ſpecies; but the following are the moſt remarkable. I. The ananas; of which there are ſix varieties, viz. 1. The ovatus, or oval-ſhaped pine-apple. 2. The pyramidalis, pyramidal, or ſugar-loaf pine. 3. The glaber, with ſmooth leaves. 4. The lucidus, with ſhining green leaves. 5. The ſerrotinus, with a yellowiſh coloured fleſh. 6. The viridis, or green pine-apple. The other ſpecies are, II. The nudicaulis, with the lower leaves indented and prickly. III. The lingulata, with obtuſe, ſawed, and prickly leaves.—The firſt ſort hath leaves very like ſome ſorts of aloes, but not ſo thick and ſucculent, which are ſtrongly armed with black ſpines. From the centre of the plant ariſes the flower-ſtalk, which is near three feet high, the lower part of which is garniſhed with entire leaves placed alternately at every joint. The upper part of the ſtalk is garniſhed with flowers ſet in a looſe ſpike or thyrſe quite round: theſe are ſucceeded by oval ſeed-veſſels, having a longitudinal partition, in the centre of which are faſtened ſmooth cylindrical ſeeds.—The ſecond hath ſhorter leaves than the firſt, which are ſharply ſawed on their edges, and of a deep green colour. The flower-ſtem ariſes from the centre of the plant, which divides upward into ſeveral branches: the upper part of theſe are garniſhed with ſpikes of flowers, which come out alternately from the ſides of the branches, each having a narrow entire leaf juſt below it, which are longer than the ſpike. The flowers are placed very cloſe on the ſpikes; and when they decay, the empalement turns to an oval pointed ſeed-veſſel, incloſing ſeeds of the ſame ſhape with the other.

Culture, &c. The firſt ſort of ananas is the moſt common in Europe; but the ſecond ſort is much preferable to it, the fruit of this being larger and much better flavoured: the juice of this ſort is not ſo aſtringent as that of the firſt; ſo that this fruit may be eaten in great quantity with leſs danger. This ſort frequently produces ſuckers immediately under the fruit, whereby it may be increaſed much faſter than the common ſort; ſo that in a few years it may be the beſt common ſort in Britain.—The third ſort is preſerved by ſome curious perſons for the ſake of variety; but the fruit is not worth any thing.—The ſort with very ſmooth graſs-green leaves was raiſed from ſeeds taken out of a rotten fruit which came from the Weſt-Indies to the late Henry Heathcote, Eſq; from whom Mr Miller received one plant, which produced large fruit: this is what the people of America call the *king pine*.—The plants are propagated by planting the crowns which grow on the fruit, or the ſuckers which are produced either from the ſides of the plants or under the fruit: both which are found to be equally good; although by ſome perſons the crown is thought preferable to the ſuckers, as ſuppoſing it would produce fruit ſooner than the ſuckers, which is certainly a miſtake. The ſuckers and crowns muſt be laid to dry in a warm place for four or five days, or more (according to the moiſture of the part which adhered to the old plant or fruit); for if they are immediately planted, they will rot. The certain rule of judging when they are fit to plant, is by obſerving if the bottom is healed over and become hard; for if the ſuckers are drawn off carefully from the old plants, they will have a hard ſkin over the lower part, ſo need not lie ſo long as the crowns of thoſe whoſe bottoms are moiſt. But whenever a crown is taken from the fruit, or the ſuckers from old plants, they ſhould be immediately diveſted of their bottom-leaves, ſo high as to allow depth for their planting; ſo that they may be thoroughly dry and healed in every part, leſt when they receive heat and moiſture they ſhould periſh, which often happens when this method is not obſerved. If theſe ſuckers or crowns are taken off late in the autumn, or during the winter, or early in the ſpring, they ſhould be laid in a dry place in the ſtove for a fortnight or three weeks before they are planted; but in the ſummer ſeaſon, they will be fit for planting in a week at fartheſt.

Bromelia.

Theſe ſhould be planted in a rich good kitchen-garden mould, not too heavy ſo as to detain the moiſture too long, nor over light and ſandy; but where this is wanting, you ſhould procure ſome freſh earth from a good paſture, which ſhould be mixed with about a third part of rotten neats dung, or the dung of an old mellon or cucumber bed which is well conſumed. Theſe ſhould be mixed ſix or eight months before they are uſed, but if it be a year it will be the better; and ſhould be often turned, that their parts may be the better united, as alſo the clods well broken. This earth ſhould not be ſcreened very fine; for if you only clear it of the great ſtones, it would be better for the plants than when it is made too fine. You ſhould always avoid mixing any ſand with the earth, unleſs it be extremely ſtiff, and then it will be neceſſary to have it mixed at leaſt ſix months or a year before it is uſed; and it muſt be frequently turned, that the ſand may be incorporated in the earth, ſo as to divide its parts; but you ſhould not put more than a ſixth part of ſand; for too much ſand is very injurious to theſe plants. In the ſummer ſeaſon, theſe plants muſt be frequently watered; but you ſhould not give them large quantities at a time: you muſt alſo be very careful that the moiſture is not detained in the pots by the holes being ſtopped, for that will ſoon deſtroy the plants. If the ſeaſon is warm, they ſhould be watered twice a-week; but in a cool ſeaſon, once a-week will be often enough: and, during the ſummer ſeaſon, you ſhould once a-week water them gently all over their leaves; which will waſh the filth from off them, and thereby greatly promote the growth of the plants.

There are ſome perſons who frequently ſhift theſe plants from pot to pot. But this is by no means to be practiſed by thoſe who propoſe to have large well-flavoured fruit: for, unleſs the pots be filled with the roots, by the time the plants begin to ſhow their fruit, they commonly produce ſmall fruit, which have generally large crowns on them; therefore the plants will not require to be new potted oftener than twice in a ſeaſon. The firſt time ſhould be about the end of April, when the ſuckers and crowns of the former year's fruit (which remained all the winter in thoſe pots in which they were firſt planted) ſhould be ſhifted into larger pots; *i. e.* thoſe which were in halfpenny or three farthing pots ſhould be put into penny or at moſt three-halfpenny pots, according to the ſize of the plants; for you muſt be very careful not to over-pot them, nothing being more prejudicial to theſe plants. The ſecond time for ſhifting them is in the beginning of Auguſt; when you ſhould ſhift thoſe which are of a proper ſize for fruiting the following ſpring in two-penny pots, which are full large enough for any of theſe plants. At each of theſe times of ſhifting the plants, the bark-bed ſhould be ſtirred up, and ſome new bark added, to raiſe the bed up to the height it was at firſt made; and when the pots are plunged again into the bark-bed, the plants ſhould be watered gently all over their leaves, to waſh off the filth, and to ſettle the earth to the roots of the plants. If the bark-bed be well ſtirred, and a quantity of good freſh bark added to the bed, at this latter ſhifting, it will be of great ſervice to the plants: for they may remain in the ſame tan until the beginning of November, or ſometimes later, according to the mildneſs of the ſeaſon, and will require but little fire before that time. During the winter, they will not require to be watered oftener than once a-week, according as you find the earth in the pots to dry: nor ſhould you give them too much at each time; for it is much better to give them a little water often, than to overwater them.

You muſt obſerve never to ſhift thoſe plants which ſhow their fruit into other pots; for if they are removed after the fruit appears, it will ſtop the growth, and thereby cauſe the fruit to be ſmaller and retard its ripening, ſo that many times it will be October or November before the fruit is ripe: therefore you ſhould be very careful to keep the plants in a vigorous growing ſtate from the firſt appearance of the fruit, becauſe upon this depends the goodneſs and the ſize of the fruit; for if they receive a check after this the fruit is generally ſmall and ill-taſted.—When you have cut off the fruit from the plant whoſe kind you are deſirous to propagate, you ſhould trim the leaves, and plunge the pots again into a moderate hot-bed, obſerving to refreſh them frequently with water, which will cauſe them to put out ſuccours in plenty; ſo that a perſon may ſoon be ſupplied with plants enough of any of the kinds, who will but obſerve to keep the plants in health.

The moſt dangerous thing that can happen to theſe plants is their being attacked by ſmall white inſects, which appear at firſt like a white mildew, but ſoon after have the appearance of lice; theſe attack both root and leaves at the ſame time; and, if they are not ſoon deſtroyed, will ſpread over a whole ſtove in a ſhort time, and in a few weeks entirely ſtop the growth of the plants by ſucking out the nutritious juice, ſo that the leaves will appear yellow and ſickly, and have generally a great number of yellow tranſparent ſpots all over them. The inſects, after they are fully grown, appear like bugs, adhering ſo cloſely to the leaves as not to be eaſily waſhed off, and ſeem to have no local motion. They were originally brought from America upon the plants which were imported from thence; and are probably the ſame inſects which have deſtroyed the ſugar-canes of late in ſome of the Leeward Iſlands, for upon ſome ſugar-canes which were ſent Mr Miller from Barbadoes he obſerved great numbers of theſe inſects. Since they have been in England, they have ſpread greatly in ſuch ſtoves where there has not been more than ordinary care taken to deſtroy them. They have alſo attacked the orange-trees in many gardens near London, and have done them incredible damage; but they do not endure the cold of Britain in winter, ſo that they are never found on ſuch plants as live in the open air. The only method yet diſcovered for deſtroying theſe inſects, is by frequently waſhing the leaves, branches, and ſtems, of ſuch plants as they attack, with water in which there has been an infuſion of tobacco ſtalks. But this method cannot be practiſed on the ananas plants, becauſe the inſects will faſten themſelves ſo low between the leaves, that it is impoſſible to come at them with a ſponge to waſh them off; ſo that if all thoſe which appear to ſight are cleared off, they will ſoon be ſucceeded by a freſh ſupply from below, and the roots will be alſo equally infeſted at the ſame time. Therefore, wherever theſe inſects appear on the plants, the ſafeſt method will be to take the plants out out of the pots, and clear the earth from the roots; then prepare a large tub, which ſhould be filled with water in which there has been a ſtrong infuſion of tobacco ſtalks; into this tub you ſhould put the plants, placing ſome ſticks croſs the tub to keep them immerſed in water. In this water they ſhould remain 24 hours; then take them out, and with a ſponge waſh off all the inſects from the leaves and roots, and dip the plants into a tub of fair water, waſhing them therein, which is the moſt effectual way to clear them from the inſects. After which, you ſhould pot them in freſh earth: and, having ſtirred up the bark-bed, and added ſome new tan to give a freſh heat to the bed, the pots ſhould be plunged again, obſerving to water them all over the leaves, and this ſhould be repeated once a-week during the ſummer ſeaſon; for theſe inſects always multiply much faſter where the plants are kept dry, than where they are ſometimes ſprinkled over with water, and kept in a growing ſtate. As theſe inſects are frequently brought over from America on the ananas plants which come from thence, thoſe perſons who procure their plants from thence, ſhould look carefully over them when they receive them, to ſee they have none of theſe inſects on them; for if they have, they will ſoon be propagated over all the plants in the ſtove where they are placed; therefore, whenever they are obſerved, the plants ſhould be ſoaked (as before directed) before they are planted into pots.

Such are the directions generally given with regard to the culture of the pine-apple in Great Britain. Of late, however, ſome very conſiderable improvements have been made in that article. The leaves of the oak have been ſubſtituted to the more expenſive bark; and by treating the pines with them, they are found to thrive as well, and to produce as good fruit, as in the other method: of the proper way of managing theſe leaves for the rearing of exotic plants, an account is given under the article *Oak-Leaves*. But the moſt conſiderable improvement is that mentioned in the 67th volume of the Philoſophical Tranſactions, where a method is ſhown by William Baſtard, Eſq; of Devonſhire, of raiſing theſe fruits in water. His account of this method is as follows.

“ Before I enter into the particulars of raiſing pine-apples in water, it will be neceſſary to tell you that my hot-houſe is covered with the beſt crown-glaſs, which I apprehend gives more heat than the common ſort of green-glaſs generally uſed for hot-houſes. In the front part of the houſe, and indeed any where in the loweſt part of it, the pine-apple plants will not thrive well in water. The way in which I treat them is as follows. I place a ſhelf near the higheſt part of the back wall, ſo that the pine-plants may ſtand without abſolutely touching the glaſs, but as near it as can be: on this ſhelf I place pans full of water, about ſeven or eight inches deep; and in theſe pans I put the pine-apple plants, growing in the ſame pots of earth as they are generally planted in to be plunged into the bark-bed in the common way; that is, I put the pot of earth, with the pine-plant in it, in the pan full of water, and as the water decreaſes I conſtantly fill up the pan. I place either plants in fruit, or young plants as ſoon as they are well rooted, in theſe pans of water, and find they thrive equally well: the fruit reared this way is always much larger as well as better flavoured, than when ripened in the bark-bed. I have more than once put only the plants themſelves without any earth, I mean after they had roots, into theſe pans of water, with only water ſufficient to keep the roots always covered, and found them flouriſh beyond expectation. In my houſe, the ſhelf I mention is ſupported by irons from the top, and there is an intervening ſpace of about 10 inches between the back wall and the ſhelf. A neighbour of mine has placed a leaden ciſtern upon the top of the back flue (in which, as it is in contact with the flue, the water is always warm when there is fire in the houſe), and finds his fruit excellent and large. My ſhelf does not touch the back flue, but is about a foot above it, and conſequently the water is only warmed by the air in the houſe. Both theſe methods do well. The way I account for this ſucceſs is, that, the warm air always aſcending to the part where the ſhelf is placed, as being the higheſt part of the houſe, keeps it much hotter than in any other part. The temperature at that place is, I believe, ſeldom leſs than what is indicated by the 73d degree of Fahrenheit's thermometer, and when the ſun ſhines it is often at above 100: the water the plants grow in ſeems to enable them to bear the greateſt heat, if ſufficient heat be allowed; and I often ſee the roots of the plants growing out of the holes in the bottom of the pot of earth, and ſhooting vigorouſly in the water.

“ My hot-houſe (the dimenſions of which it may be proper to know) is 60 feet long and 11 feet wide, the flues included; ſix feet high in the front, and 11 feet at the back of the inſide of the houſe. It is warmed by two fires. A leaden trough or ciſtern on the top of the back flue is preferable to my ſhelf, as in it the pine plants grow much faſter in the winter, the water being always warmed by the flue; of this I have ſeen the great benefit theſe laſt two months in my neighbourhood. It is not foreign to this purpoſe to mention, that, as a perſon was moving a large pine-plant from the hot-bed in my houſe laſt ſummer, which plant was juſt ſhowing fruit, by ſome accident he broke off the plant juſt above the earth in which it grew, and there was no root whatever left to it: by way of experiment I took the plant and fixed it upright in a pan of water (without any earth whatever) on the ſhelf; it there ſoon threw out roots, and bore a pine-apple that weighed upwards of two pounds.”

BROMLEY, a town of Kent in England, ſituated on the river Ravenſburn, in E. Long. 0. 5. N. Lat. 51. 23.

BROOMSGROVE, a town of Worceſterſhire in England, ſeated on the river Salwarp. It is a pretty good town, well inhabited by clothiers; and the market is large for corn, cattle, and all ſorts of proviſions. W. Long. 2. 5. N. Lat. 52. 26.

BROMUS, BROOM-GRASS, in botany: A genus of the digynia order, belonging to the triandria claſs of plants; ranking, in the natural method, under the 4th order, *Gramina*. The calyx is bivalved, having a partial ſpike, oblong and round, oppoſite grains, with an awn below the point of each outer valve. There are 24 ſpecies, eight of which are natives of Britain, viz. the ſecalinus, or field broom-graſs; the arvenſis, or common broom-graſs; the ciliatus, or wall-broom-graſs; the ſterilis, or barren broom-graſs; the giganteus, or tall broom-graſs; the ramoſus, or wood-broom graſs; and the pinnatus, or ſpiked broom-graſs.

BROMYARD, a town of Herdfordſhire in England, ſeated on a riſing ground, and containing about 200 houſes. W. Long. 2. 46. N. Lat. 52. 20.

BRON, a town of Italy in the duchy of Milan, where the Imperialiſts gained an advantage over the French in 1703. E. Long. 10. 0. N. Lat. 44. 50.

BRONCHIA, in anatomy, the ramifications of the trachea. See ANATOMY, n° 116.

BRONCHOCELE, a tumour riſing in the anterior part of the neck. See MEDICINE-*Index*.

BRONCHOTOMY, in ſurgery, an inciſion made in the aſpera arteria, or wind-pipe, which is neceſſary in many caſes, and eſpecially in a violent quinſey, to prevent ſuffocation from the great inflammation or tumour of the parts. It is alſo called *laryngotomy* and *tracheotomy*. See SURGERY.

BRONKHORST (John Van), an eminent painter who flouriſhed about the middle of the laſt century. He was born at Utrecht; and after having ſtudied under ſeveral maſters, entered the ſchool of Cornelius Poelemburg, whoſe ſtyle of painting he imitated with great ſucceſs. He painted both hiſtory and landſcapes; and his pictures, which are very highly finiſhed, are held in great eſtimation. He amuſed himſelf with the point; and ſome landſcapes from Poelemburg, together with other ſubjects from his own compoſitions, are attributed to him.

BRONTIÆ, or Thunder-stones, in natural hiſtory. See Belemnites.

BRONTIUM, in Grecian antiquity, a place underneath the floor of the theatres, in which were kept brazen veſſels full of ſtones and other materials, with which they imitated the noiſe of thunder.

BRONTOLOGY, denotes the doctrine of thunder, or an explanation of its cauſes, phenomena, &c. together with the preſages drawn from it. See Electricity and Thunder.

BRONZE, a compound of copper and tin, to which ſometimes other metallic ſubſtances, particularly zinc, are added.—This metal is brittle, hard, and ſonorous. It is employed for various uſes, as for making of bells, cannons and ſtatues; and the proportions of the component metals are varied to ſuit the ſeveral purpoſes to which it is applied. This compound, like ſome others, is ſpecifically heavier than either of the metals taken ſeparately. A metallic maſs, compoſed of four fifths of copper and one-fifth part of tin, weighs in water $7\frac{1}{10}$ grains more than the ſame quantities of theſe two metals would together weigh in water if not allayed. This proves, that in the union of copper and tin there is a penetration of parts, the one metal entering into the pores of the other; and this is further confirmed by an obſervation of Mr Tillet, member of the royal academy of ſciences. In his memoir concerning the ductility of metals, he takes notice, that when the mixture of copper and tin is made in the proportions abovementioned, the colour of the copper is entirely annulled and covered by that of the tin, although the quantity of the firſt be four times greater; and this ſingular effect cannot be underſtood without admittiug a total change in the ſize and diſpoſition of the pores of the compound metal.

Tin being leſs ſubject to ruſt than copper, bronze is alſo found to be leſs liable to be covered with verdigreaſe than pure copper is; and this is one reaſon why it is uſed for cannons, ſtatues, and works expoſed to the air and weather. The greater fuſibility of bronze than copper is alſo an advantageous property, and much facilitates the caſting of large works. The operation of caſting bronze is ſufficiently ſimple. For this purpoſe a brick furnace is uſed, nearly of the ſhape of an oven for baking bread. The floor of this furnace is concave, and conſiſts of a compoſition of ſand and clay. In this hollow floor the metals to be fuſed are put.—The furnace has three openings. The firſt is a lateral mouth, at which enters the flame of the wood placed in a ſecond furnace, on one ſide of the firſt: the ſecond opening is a chimney placed on a ſide oppoſite to the mouth, by means of which the flame is drawn over the metal. The third is a hole which is opened and ſhut at pleaſure; through which the inner part of the furnace may be occaſionally inſpected, that the ſtate of the metal may be obſerved. When the metal is in the ſtate required, a ſourth opening is then uncloſed, communicating with the hollow floor, and thro' which the melted metal flows by channels into the moulds prepared to receive it.

Bronze, alſo denotes a colour prepared by the colourmen of Paris, wherewith to imitate bronze.—There are two ſorts, the red bronze, and the yellow or golden. The latter is made ſolely of copper-duſt, the fineſt and brighteſt that can be got: the former is made of the ſame, with the addition of a little quantity of red ochre well pulverized. They are both applied with varniſh. To prevent their turning greeniſh, the work muſt be dried over a chafing-diſh as ſoon as bronzed.

BRONZES, a name given by antiquarians to figures either of men or beaſts, to urns, and in general to every piece of ſculpture which the ancients made of that metal. We likewiſe give the name of *bronzes* to ſtatues or buſts caſt of bronze, whether theſe pieces be copies of antiques or original ſubjects.—Among medalliſts, all copper medals bear the name of *bronze*.

BRONZING, the art or act of imitating bronze, which is done by means of copper-duſt or leaf, faſtened on the outſide, as gold leaves are in guilding.

BROOD, the young of fiſh, fowls, &c.

BROODING, the act of a hen in hatching her eggs. See Hatching.

BROOK, a little river or ſmall current of water.—A brook is diſtinguiſhed from a river, inſomuch as a river flows at all times, whereas a brook flows at ſome particular ſeaſons only.

Brook-Lime. See Veronica.

BROOKE (Mrs), daughter of a clergyman of the name of Moore, was a lady as remarkable for her virtues and ſuavity of manners as for her great literary accompliſhments. Her firſt performance, which introduced her to the notice and conſequent eſteem of the public, was *Julia Mandeville*; a work concerning which there were various opinions, but which every body read with eagerneſs. It has been often wiſhed that ſhe had made the cataſtrophe leſs melancholy; and we believe that ſhe afterwards was of the ſame opinion, but ſhe thought it beneath her character to alter it. She ſoon afterwards went to Canada with her huſband, who was chaplain to the garriſon at Quebec; and here ſhe ſaw and loved thoſe romantic characters and ſcenes which gave birth to *Emily Montague*, a work moſt deſervedly in univerſal eſteem, which has paſſed through ſeveral editions, and which is now not eaſily met with. On her return to England, accident introduced her, and congenial ſentiments attracted her, to Mrs Yates; an intimacy was formed, which terminated only with the life of that lady. Mrs Brooke, in conſequence of this connection, formed an acquaintance with Mr Garrick, and wrote ſome pieces for the ſtage. She had, however, great reaſon to be diſſatiſfied with his behaviour as a manager; and ſhe made *The Excurſion*, a novel which ſhe wrote at this time, the vehicle by which ſhe exhibited to the public her complaints and anger againſt the king of Drury. Her anger, we believe, was juſt, but the retribution was too ſevere. She herſelf afterwards thought ſo, for ſhe lamented and retracted it. Her firſt dramatic performance was the tragedy of *Virginia*, 1756. Her next effort in that line was, *The Siege of Synope*, a tragedy introduced by Mr Harris, and written principally with a view of placing Mrs Yates in a conſpicuous character. This did not altogether fail, but it did not become popular; it wanted energy, and it had not much originality; there was little to diſapprove, but there was nothing to admire. Her next and moſt popular production was *Roſina*, which, in a moſt liberal manner, ſhe preſented to Mr Harris. Few modern pieces have been equally ſucceſsful. Lately alſo, a muſical piece of hers, entitled *Marian*, was introduced, which is now occaſionally exhibited, for which we believe Shield is principally to be thanked. Mrs Brooke was alſo the tranſlator of various books from the French. She was eſteemed by Dr Johnſon, valued by Miſs Seward, and her company courted by all the firſt characters of her time. She died in January 1789, two days after her huſband. Her huſband enjoyed the rectory of Colney in Norfolk, to which he had been preferred after his return from America.

BROOM, in botany. See GENISTA.

Butcher's BROOM, in botany. See RUSCUS.

Spaniſh BROOM, in botany. See SPARTIUM.

BROOM alſo denotes a well-known houſehold beſom or implement wherewith to ſweep away dirt, duſt, and the like. We ſay, a *birch-broom*, a *hair-broom*, a *ruſh-broom*, a *hickory-broom*. The primitive kind of brooms, from whence the denomination is given to all the reſt, was made of the geniſta or wild broom growing on commons.

Broom-flower gives the denomination to an order of knights inſtituted by St Lewis of France, on occaſion of his marriage. The motto was, *Exaltat humiles*, and the collar of the order made up of broom-flowers and huſks, enamelled and intermixed with *fleur-de-lys* of gold, ſet in open lozenges, enamelled white, chained together, and it is hung a croſs florence of gold. This anſwers to what the French call *Ordre de la Geneſte*, from the name of a ſpecies of broom ſo called; different from the common broom, as being lower, the ſtalk ſmaller, and leaf narrow; the flower is yellow, and bears a long huſk. Some alſo ſpeak of another order of the *Geneſte* or *Broom* eſtabliſhed by Charles Martel, or rather Charles VI.

Broom-gall, in natural hiſtory, a name given by authors to a remarkable ſpecies of galls found on the *geniſta vulgaris* or common broom. This is occcaſioned, like all other galls, by the puncture and eating of an inſect; and when opened, is found to contain a ſmall oblong worm, of a red colour, but whoſe ſize requires the uſe of a glaſs in order to ſee it diſtinctly.

Broom-Rape, in Botany. See OROBANCHE.

BROOME (William), the coadjutor of Pope in tranſlating the Odyſſey, was born in Cheſhire, as is ſaid, of very mean parents. He was educated upon the foundation at Eaton, and was captain of the ſchool a whole year, without any vacancy, by which he might have obtained a ſcholarſhip at King's college. Being by this delay, ſuch as is ſaid to have happened very rarely, ſuperannuated, he was ſent to St John's college by the contribution of his friends, where he obtained a ſmall exhibition. At this college he lived for ſome time in the ſame chamber with the well-known Ford, by whom Dr Johnſon heard him deſcribed as a contracted ſcholar and a mere verſifier, unacquainted with life, and unſkilful in converſation. His addiction to metre was then ſuch, that his companions familiarly called him *Poet*. When he had opportunities of mingling with mankind, he cleared himſelf, as Ford likewiſe owned, from great part of his ſcholaſtic ruſt. He appeared early in the world as a tranſlator of the Iliads into proſe, in conjunction with Ozell and Oldiſworth. How their ſeveral parts were diſtributed is not known. This is the tranſlation of which Ozell boaſted as ſuperior, in Toland's opinion, to that of Pope: It has long ſince vaniſhed (Dr Johnſon obſerves), and is now in danger from the critics. He was introduced to Mr Pope, who was then viſiting Sir John Cotton at Madingley, near Cambridge; and gained ſo much of his eſteem, that he was employed to make extracts from Euſtathius for the notes to the tranſlation of the Iliad; and in the volumes of poetry publiſhed by Lintot, commonly called *Pope's Miſcellanies*, many of his early pieces were inſerted.

Pope and Broome were to be yet more cloſely connected. When the ſucceſs of the Iliad gave encouragement to a verſion of the Odyſſey, Pope, weary of the toil, called Fenton and Broome to his aſſiſtance; and taking only half the work upon himſelf, divided the other half between his partners, giving four books to Fenton and eight to Broome. Fenton's books are enumerated in Dr Johnſon's life of him. To the lot of Broome fell the ſecond, ſixth, eighth, eleventh, twelfth, ſixteenth, eighteenth, and twenty-third, together with the burden of writing all the notes. The price at which Pope purchaſed this aſſiſtance was three hundred pounds paid to Fenton and five hundred to Broome, with as many copies as he wanted for his friends, which amounted to one hundred more. The payment made to Fenton is known only by hearſay; Broome's is very diſtinctly told by Pope in the notes to the Dunciad. It is evident, that, according to Pope's own eſtimate, Broome was unkindly treated. If four books could merit three hundred pounds, eight and all the notes, equivalent at leaſt to four, had certainly a right to more than ſix. Broome probably conſidered himſelf as injured, and there was for ſome time more than coldneſs between him and his employer. He always ſpoke of Pope as too much a lover of money, and Pope purſued him with avowed hoſtility; for he not only named him diſreſpectfully in the Dunciad, but quoted him more than once in the Bathos, as a proficient in the art of ſinking: and in his enumeration of the different kinds of poets diſtinguiſhed for the profound, he reckons Broome among "the parots who repeat another's words in ſuch a hoarſe old tone as makes them ſeem their own." It has been ſaid that they were afterwards reconciled; but their peace was probably without friendſhip. He afterwards publiſhed a Miſcellany of Poems, and never roſe to very high dignity in the church. He was ſome time rector of Sturſton in Suffolk, when he married a wealthy widow; and afterwards, when the king viſited Cambridge 1728, became doctor of laws. He was 1733 preſented by the crown to the rectory of Pulham in Norfolk, which he held with Oakley Magna in Suffolk, given him by the lord Cornwallis, to whom he was chaplain, and who added the vicarage of Eye in Suffolk; he then reſigned Pulham, and retained the other two. Towards the cloſe of his life he grew again poetical, and amuſed himſelf with tranſlating Odes of Anacreon, which he publiſhed in the Gentleman's Magazine under the name of *Cheſter*. He died at Bath in 1745, and was buried in the abbey church.

BROOMING, or *Breaming of a Ship*, the waſhing and burning off all the filth ſhe has contracted on her ſides with weeds, ſtraw, broom, or the like, when ſhe is on the careen, or on the ground. See CAREENING.

BROSSARD (Sebaſtian de), an eminent French muſician. In the former part of his life he had been prebendary and chapel-maſter of the cathedral church of Straſburg; but afterwards became grand-chaplain, and alſo maitre de chapelle in the cathedral of Meux. There is extant of his a work entitled *Prodromus muſicalis*. He was author alſo of a very uſeful book, entitled *Dictionaire de muſique*, printed at Amſterdam, in folio, 1703; and afterwards at the ſame place in octavo, without a date. At the end of this book is a catalogue of authors ancient and modern, to the amount of 900, who have written on muſic; divided into claſſes, wherein are interſperſed many curious obſervations of the author relating to the hiſtory of muſic. By Mr Boivin's *Catalogue general des livres de muſique* for the year 1729, it appears that Broſſard was the author of two ſets of motets, as alſo of nine *Lecons de Tenebres* therein mentioned. It ſeems that theſe ſeveral publications were at a time when the author was far advanced in years; for Walther takes notice, that in the *Mercure Galante*, he is mentioned as an abbé and componiſt, ſo early as the year 1678.

BROTHEL-HOUSES, lewd places, being the common habitations of proſtitutes. King Henry VIII. by proclamation, in the 37th year of his reign, ſuppreſſed all the ſtews or brothel-houſes which had long continued on the bank-ſide in Southwark, contrary to the law of God and of the land*. A brothelman was a looſe idle fellow; and a *feme bordelier*, or *brothelier*, a common whore. And *borelman* is a contraction for *brothelman*. See *BAWDY-Houſe*.

BROTHER, *Frater*, a term of relation between two male children, ſprung from the ſame father, or mother, or both. Scaliger and Voſſius derive *frater* from φρατηρ, for φρατωρ, which properly ſignifies a perſon who draws water in the ſame well; φρεαρ, in Greek, ſignifying *well*, and φρωτρια, a company of people, who have a right to draw water out of the ſame well.—The word, it is ſaid, came orignally from the city of Argos, where there were only a few wells diſtributed in certain quarters of the city, to which thoſe of the ſame neighbourhood alone repaired.

By the civil law, brothers and ſiſters ſtand in the ſecond degree of conſanguinity; by the canon law, they are in the firſt degree.—By the Moſaic law, the brother of a man who died without iſſue was obliged to marry the widow of the deceaſed. Deuter. xxv. 7.

The ancients applied the term brother indifferently to almoſt all who ſtood related in the collateral line, as uncles and nephews, couſin-germans, &c.—This we learn not only from a great many paſſages in the Old Teſtament, but alſo from profane authors: Cicero, in his Philippics, ſays, "Antonia was both wife and ſiſter of Mark Anthony; becauſe ſhe was daughter of his brother C. Antonius." And as to couſins, Tullius Hoſtilius, in Dionyſius Halicarneſſeus, calls the Horatii and Curiatii, brothers; becauſe they were ſiſters children.

The language of the Jews, biſhop Pearſon obſerves, included in the name of brethren not only the ſtrict relation of fraternity, but alſo the larger of conſanguinity. We are brethren, ſays Abraham to Lot, Gen. xiii. 8. whereas Lot was only his nephew.—So Jacob told Rachel that he was her father's brother, Gen. xxix. 12. whereas he was only her father's nephew.—This conſideration has been urged with good advantage againſt the Antidicomarianites, who, from the mention made of the brethren of Jeſus, John ii. 12. Matth. xii. 46. have impugned the perpetual virginity of the mother of Chriſt.

It is cuſtomary for kings to give the title brother to each other; the unction in coronation being eſteemed to create a kind of brotherhood. Nor is the cuſtom modern: Menander mentions a letter of Coſroes king of Perſia to the emperor Juſtinian, beginning thus: Coſroes, king of kings, &c. to the emperor Juſtinian my brother.—Kings now alſo give the ſame appellation to the electors of the empire; and the like was given by the king of France to the late king of Sardinia, while only duke of Savoy.

In the civil law, brothers, *fratres*, in the plural, ſome times comprehend ſiſters: as *Lucius & Titia, fratres; tres fratres, Titius, Mævius, & Seia.*

Foſter-BROTHERS, thoſe who ſucked the ſame nurſe. The French call them *fratres du lait*, or brothers by milk; which is moſt properly uſed in reſpect of a perſon who ſucked a nurſe at the ſame time with the nurſe's own child.

BROTHERS-German, Fratres Germani. See GERMAN.

BROTHER was alſo uſed, in middle-age writers, for a *comes*, or governor of a province.

BROTHER is applied, in a leſs proper ſenſe, to denote a perſon of the ſame profeſſion. In which ſenſe, judges, biſhop, prieſts, &c. call each other brothers.

BROTHER is alſo a cuſtomary term for prieſts of the ſame perſuaſion to addreſs one another by: but it is more particularly uſed to denote the relation between monks of the ſame convent; as, brother Zachary: in Engliſh, we more uſually ſay, Friar Zachary, from the French word *frere*, brother.—Preachers alſo call their hearers, *brethren*, or *dear brethren*. This appellation is borrowed from the primitive Chriſtians who all called each other *brothers*. But it is now principally uſed for ſuch of the religious as are not prieſts; thoſe in orders are generally honoured with the title of *father*, whereas the reſt are only ſimply brothers.

BROTHER is alſo an appellation more peculiarly given to certain orders of religious: Thus, the

BROTHERS of St Alexis, in the low countries, were an order of perſons who attended on thoſe who lay dying, and took care of the burial of the dead. See alſo *Brethren of CHARITY, of DEATH*, &c.

Poor BROTHERS, in the charity-houſe, a denomination given to decayed gentlemen, to the number of 80, who are ſubſiſted with diet, clothing, and lodging, on the eſtabliſhment. The poor brothers are to be gentlemen by deſcent, come to poverty, or decayed merchants, ſoldiers, or officers of the king's houſhold. The conditions of admiſſion are, that they have no eſtate for life worth 200l. nor coming in, *viis & modis*, 24l. *per annum*; and that they be fifty years old, unleſs they have been maimed in the public ſervice; in which caſe, the age of forty ſuffices. They wear a livery-gown within doors.

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* 3 Inſt. 205.

Brothers *of Arms*, an appellation given thoſe who contract a kind of fraternity in war, obliging themſelves to the mutual ſervice and aſſiſtance of each other. In the military orders, the knights are alſo called *brothers*.—In the order of Malta, there is a particular claſs, who are called *ſerving brothers*; conſiſting of ſuch as cannot give proof of their nobility. In Latin they are denominated *fratres clientes*.

Brothers of the roſy croſs. See Rosycrucians.

BROUAGE, a maritime town of Saintonge in France. It conſiſts of five or ſix ſtreets which terminate in a great ſquare. It is famous for its ſalt-works, which are the fineſt in the kingdom. W. Long. 1. 0. N. Lat. 45. 50.

BROURSHAVEN, a port-town of the United Provinces, in the iſland of Schonen in Zealand, ſeated on the north ſide of the iſland, in a bay of the ſea, in E. Long. 3. 35. N. Lat. 51. 50.

BROUGH, a town in Weſtmoreland in England, ſeated under Stanmore-hill, W. Long. 2. 50. N. Lat. 54. 40. It was formerly a place of great note, being a Roman fortreſs; but is now ſo much decayed, that it its little better than a village.

BROUGHTON (Thomas), a learned divine, and one of the original writers of the Biographia Britannica, was born at London, July 5th, 1704, in the pariſh of St Andrew, Holborn; of which pariſh his father was miniſter. At an early age he was ſent to Eton ſchool, where he ſoon diſtinguiſhed himſelf by the acuteneſs of his genius, and the ſtudiouſneſs of his diſpoſition. Being ſuperannuated on this foundation, he removed about 1722 to the univerſity of Cambridge; and for the ſake of a ſcholarſhip, entered himſelf of Gonvelle and Caius college. Here two of the principal objects of his attention were, the acquiſition of the knowledge of the modern languages, and the ſtudy of the mathematics, under the famous profeſſor Sanderſon. May 28th 1727, Mr Broughton, after taking the degree of Bachelor of Arts, was admitted to deacon's orders. In the ſucceeding year, September 22d, he was ordained prieſt, and proceeded to the degree of M. A. At this time he removed from the univerſity, to the curacy of Offley, in Hertfordſhire. In 1739, he was inſtituted to the rectory of Stepington, otherwiſe Stibington, in the county of Huntingdon, on the preſentation of John Duke of Bedford, and was appointed one of that nobleman's chaplains. Soon after he was choſen reader to the Temple, by which means he became known to biſhop Sherlock, then maſter of it, and who conceived ſo high an opinion of our author's merit, that, in 1744, this eminent prelate preſented Mr Broughton to the valuable vicarage of Bedminſter, near Briſtol, together with the chapels of St Mary, Redcliff, St. Thomas, and Abbot's Leigh, annexed. Some ſhort time after, he was collated, by the ſame patron, to the prebend of Bedminſter and Redcliff, in the cathedral of Saliſbury. Upon receiving this preferment, he removed from London to Briſtol, where he married the daughter of Thomas Harris, clerk of that city, by whom he had ſeven children, ſix of whom ſurvived him. He reſided on his living till his death, which happened December 21ſt 1774, in the 71ſt year of his age. He was interred in the church of St Mary Redcliff.

From the time of Mr Broughton's quitting the univerſity, till he was conſiderably advanced in life, he was engaged in a variety of publications, of which a liſt is given in the Biographia Britannica, 2d edition. Some little time before his death, he compoſed "A ſhort view of the principles upon which Chriſtian churches require, of their reſpective clergy, ſubſcription to eſtabliſhed articles of religion;" but this work never appeared in print. He poſſeſſed, likewiſe, no inconſiderable talent for poetry, as is evident from many little fugitive pieces in manuſcript, found among his papers; and particularly from two unfiniſhed tragedies, both written at the age of 17. When he was at Eton ſchool, Mr Broughton was of the ſame years with Dr. Ewer, late biſhop of Bangor; Dr. Sumner, late provoſt of King's college, Cambridge; and Dr Sleech, late provoſt of Eton: and during his reſidence in London, he enjoyed the eſteem and friendſhip of moſt of the literary men of his time. He was a great lover of muſic, particularly the ancient; which introduced him to the knowledge and acquaintance of Mr Handel; whom he furniſhed with the words for many of his compoſitions. In his public character, Mr Broughton was diſtinguiſhed by an active zeal for the Chriſtian cauſe, joined with a moderation of mind. In private life, he was devoted to the intereſts and happineſs of his family; and was of a mild, cheerful, and liberal temper. This diſpoſition, which is not always united with eminent literary abilities, attended him to his grave. In 1778, a poſthumous "volume of ſermons, on ſelect ſubjects," was publiſhed by his ſon, the Rev. Thomas Broughton, M. A. of Wadham college, Oxford, and vicar of Tiverton, near Bath.

BROUKHUSIUS (Jonus), or John Broekhuizen, a diſtinguiſhed ſcholar in Holland, was born November 20. 1649, at Amſterdam, where his father was a clerk in the admiralty. He learned the Latin tongue under Hadrian Junius, and made a prodigious progreſs in polite literature; but, his father dying when he was very young, he was taken from literary purſuits, and placed with an apothecary at Amſterdam, with whom he lived ſome years. Not liking this, he went into the army, where his behaviour raiſed him to the rank of lieutenant-captain; and, in 1674, was ſent with his regiment to America in the fleet under admiral de Ruyter, but returned to Holland the ſame year. In 1678, he was ſent to the garriſon at Utrecht, where he contracted a friendſhip with the celebrated Grævius; and here, though a perſon of an excellent temper, he had the misfortune to be ſo deeply engaged in a duel, that according to the laws of Holland, his life was forfeited: but Grævius wrote immediately to Nicholas Heinſius, who obtained his pardon from the Stadtholder. Not long after, he became a captain of one of the companies then at Amſterdam; which poſt placed him in an eaſy ſituation, and gave him leiſure to purſue his ſtudies. His company being diſbanded in 1697, a penſion was granted him; upon which he retired to a country houſe near Amſterdam, where he ſaw but little company, and ſpent his time among books. He died December 15th 1707.

As a claſſical editor, he is diſtinguiſhed by his labours upon Tibullus and Propertius; the latter was publiſhed in 1702, the former in 1708. He was an excellent Latin poet himſelf: a volume of his poems was publiſhed at Utrecht, 1684, in 12mo; but a very noble edition of them was given by Van Hoogſtraeten, at Amſterdam, 1711, in 4to. His "Dutch poems" were alſo publiſhed at Amſterdam, 1712, in 8vo, by the ſame perſon, who prefixed his life, extracted from Peter Burman's funeral oration upon him. Broukhuſius was alſo an editor of Sannazarius's and Palearius's Latin works. With regard to his Latin poems, the authors of the "Journal de Trevoux" have delivered themſelves thus (and what they have ſaid may be applied to the bulk of modern Latin poems): "His verſes are written in good Latin enough; but they want fire. We find in them a great many paſſages borrowed from Tibullus and Propertius, but not their genius. The author was a poet by art, not by nature."

BROUNCKER, or **BROUNKER**, (William), lord viſcount of Caſtle-Lyons, in Ireland, and the firſt preſident of the Royal Society, was the ſon of Sir William Brounker, knt. and born about the year 1620. He was diſtinguiſhed by his knowledge of the mathematics, and by the conſiderable poſts of honour and profit he enjoyed after the reſtoration; for he had at the ſame time the office of chancellor to the queen, and the keeping of her great ſeal, that of one of the commiſſioners of the navy, and maſter of St Catherine's hoſpital near the Tower of London. He wrote, 1. Experiments of the recoiling of guns. 2. An algebraical paper upon the ſquaring of the hyperbola; and ſeveral letters to Dr Uſher, archbiſhop of Armagh. He died in 1684.

BROUWER (Adrian), a famous Dutch painter, born either at Oudenard or Harlaem, in 1608, of poor parentage. He became the diſciple of Francis Hals, under whom he proved an inimitable artiſt. His ſubjects were taken from low life, always copied from nature; as droll converſations, drunken brawls, boors at cards, or ſurgeons dreſſing the wounded. Brouwer was apprehended at Antwerp as a ſpy; where being diſcovered by Rubens, he procured his liberty, took him home, clothed him, and endeavoured to acquaint the public with his merit; but the levity of his temper made him quit his benefactor; and he died not long after, in 1640, deſtroyed by a diſſolute courſe of life.

BROW, or **EYE-BROW**, an hairy arch extended over the orbit of each eye. See ANATOMY, nº 142.

Brow-Poſt, among builders, denotes a beam which goes acroſs a building.

Brow-Antler, among ſportſmen, that branch of a deer's horn next the tail.

BROWALLIA, in botany, a genus of the angioſpermia order, belonging to the didynamia claſs of plants: for this plant there is no Engliſh name.—There are two ſpecies of browallia, viz. the demiſſa, with a ſingle flower upon each footſtalk; and the elata, with one or many flowers on each footſtalk. The ſeeds of the firſt were ſent to Mr Miller from Panama. It uſually grows about two feet high, and ſpreads out into lateral branches on every ſide of the ſtalk, garniſhed with oval leaves which are entire, and have ſhort footſtalks. Towards the end of the branches, the flowers are produced ſingly upon pretty long footſtalks ariſing from the wing of the leaf. Theſe are of a light blue colour, ſometimes inclining to a purple or red; and there are often three colours of flowers on the ſame plant. They plant flowers in Britain in July, Auguſt, and September; and the ſeeds are ripe in five or ſix weeks after. The ſecond ſort is a native of Peru: the ſtalk of this plant is twice the ſize of that of the firſt, and appears ſomewhat ſhrubby; the leaves upon the flower-branches are ſmooth; the footſtalks have ſome with one flower, others with three, and others with five; which are of a deep violet colour. As both ſpecies of browallia are annual plants, they muſt be raiſed from ſeeds, which are to be ſown on a hot-bed: but they may be tranſplanted in June, into the borders of the flower-garden; where, if the weather proves warm, they will flower and perfect ſeeds; but leſt theſe ſhould fail, there ſhould be a plant or two kept in the ſtove to ſecure ſeeds.

BROWN (Robert), a ſchiſmatic divine, the founder of the Browniſts, a numerous ſect of diſſenters in the reign of queen Elizabeth. He was the ſon of Mr Anthony Brown of Tolthorp in Rutlandſhire; whoſe father obtained the ſingular privilege of wearing his cap in the king's preſence, by a charter of Henry VIII. Robert was educated at Cambridge, in Corpus Chriſti, or, according to Collier, in Bennet college, and was afterwards a ſchoolmaſter in Southwark. About the year 1580, he began to promulgate his principles of diſſention from the eſtabliſhed church; and the following year preached at Norwich, where he ſoon accumulated a numerous congregation. He was violent in his abuſe of the church of England; pretended to divine inſpiration, and that he alone was the ſure guide to heaven. This new ſect daily increaſing, Dr Freake biſhop of Norwich, with other eccleſiaſtical commiſſioners, called our apoſtle before them. He was inſolent to the court, and they committed him to the cuſtody of the ſheriff's officer: but he was releaſed at the interceſſion of lord treaſurer Burleigh, to whom it ſeems he was related. Brown now left the kingdom; and, with permiſſion of the States, ſettled in Middleburg, in Zealand; where he formed a church after his own plan, and preached without moleſtation; but here perſecution, the *ſine qua non* of fanaticiſm was wanting. In 1585, we find him again in England: for in that year he was cited to appear before archbiſhop Whitgift; and ſeeming to comply with the eſtabliſhed church, was, by lord Burleigh, ſent home to his father: but, relapſing into his former obſtinacy, his aged parent was obliged to turn him out of his houſe. He now wandered about for ſome time, and in the courſe of his miſſion endured great hardſhips. At laſt he fixed at Northampton; where, labouring with too much indiſcretion to increaſe his ſect, he was cited by the biſhop of Peterborough, and, refuſing to appear, was finally excommunicated for contempt. The ſolemnity of this cenſure, we are told immediately effected his reformation. He moved for abſolution, which he obtained, and from that time become a dutiful member of the church of England. This happened about the year 1590; and

Brown.

in a ſhort time after, Brown was preferred to a rectory in Northamptonſhire, where he kept a curate to do his duty, and where he might probably have died in peace: but having ſome diſpute with the conſtable of his pariſh, he proceeded to blows: and was afterwards ſo inſolent to the juſtice, that he committed him to Northampton jail, where he died in 1630, aged 80. Thus ended the life of the famous Robert Brown; the greateſt part of which was a ſeries of oppoſition and perſecution. He boaſted on his death-bed, that he had been confined in no leſs than 32 different priſons. He wrote "A treatiſe of reformation without tarrying for any, and of the wickedneſs of thoſe teachers which will not reform themſelves and their charge, becauſe they will tarry till the magiſtrate command and compel them, by me Robert Brown;" and two others, making together a thin quarto; publiſhed at Middleburg, 1582.

BROWN (Ulyſſes Maximilian), a celebrated general of the 18th century, was ſon of Ulyſſes, baron Brown and Camus, colonel of a regiment of cuiraſſiers in the emperor's ſervice, and deſcended from one of the moſt ancient and noble families in Ireland. He was born at Baſil in 1705; and having finiſhed his firſt ſtudies at Limeric in Ireland, was, in 1715, ſent for into Hungary, by count George Brown, his uncle, member of the aulic council of war, and colonel of a regiment of infantry. He was preſent at the famous battle of Belgrade, in 1717. Next year he followed his uncle into Italy, who made him continue his ſtudies, in the Clementine college at Rome, till the year 1721, when he was ſent to Prague in order to learn the civil law. At the end of the year 1723, he became captain in his uncle's regiment; and in 1725, lieutenant-colonel: in 1730, he went into Corſica with a battalion of his regiment; and contributed greatly to the taking of Callanſara, where he received a conſiderable wound in his thigh. In 1732, the emperor made him chamberlain: He was raiſed to the rank of colonel in 1734; and diſtinguiſhed himſelf ſo much in the war of Italy, eſpecially at the battles of Parma and Guaſtalla, and in burning, in the preſence of the French army, the bridge which the marſhal de Noailles had cauſed to be thrown over the Adige, that he was made general in 1736. The following year he favoured the retreat of the army, after the unhappy battle of Banjaluca in Boſnia, by an excellent manœuvre, and ſaved all the baggage. His admirable conduct upon this occaſion was rewarded by his obtaining a ſecond regiment of infantry, vacant by the death of count Francis de Wallis.

At his return to Vienna, in 1739, the emperor Charles VI. raiſed him to the rank of general-field-marſhal-lieutenant, and made him counſellor in the aulic council of war. After the death of that prince the king of Pruſſia entering Sileſia, count Brown, with a ſmall body of troops, diſputed the country with him inch by inch. He ſignalized himſelf on ſeveral other occaſions: and, in 1743, the queen of Hungary made him a privy-counſellor, at her coronation in Bohemia. He at length paſſed into Bavaria, where he commanded the van-guard of the Auſtrian army; ſeized Deckendorf, with a great quantity of baggage; and obliged the French to abandon the banks of the Danube, which the Auſtrian army paſſed in full ſecurity. The ſame year, viz. in 1743, the queen of Hungary ſent him to Worms, in quality of her plenipotentiary to the king of Britain; where he put the laſt hand to the treaty of alliance between the courts of Vienna, London, and Turin. In 1744, he followed prince Lobkowitz into Italy; took the city of Veletri, on the 4th of Auguſt, in ſpite of the ſuperior numbers of the enemy; entered their camp, overthrew ſeveral regiments, and took many priſoners. The following year he was recalled into Bavaria, where he took the town of Wilſhoſen by aſſault, and received a dangerous ſhot in the thigh. The ſame year he was made general of the artillery; and in January 1746, marched for Italy, at the head of a body of 18,000 men. He then drove the Spaniards out of the Milaneſe; and having joined the forces under prince Lichtenſtein, commanded the left wing of the Auſtrian army at the battle of Placentia, on the 15th of June 1746, and defeated the right wing of the enemy's forces commanded by marſhal de Maillebois. After this victory, he commanded in chief the army againſt the Genoeſe; ſeized the paſs of Boſetta, or Bochetta, though defended by above 4000 men; and took the city of Genoa. Count Brown at length joined the king of Sardinia's troops; and took, in conjunction with him, Mont-Alban, and the county of Nice. On the 30th of November he paſſed the Var, in ſpite of the French troops; entered Provence; took the iſles of St Margaret and St Honorat; and thought to have rendered himſelf maſter of a much greater part of Provence, when the revolution which happened at Genoa, and marſhal de Belleiſle's advancing with his army, obliged him to make that fine retreat which procured him the admiration and eſteem of all perſons ſkilled in war. He employed the reſt of the year 1747 in defending the ſtates of the houſe of Auſtria in Italy; and after the peace in 1748, he was ſent to Nice to regulate there, in conjunction with the duke of Belleiſle and the marquis de la Minas, the differences that had ariſen with reſpect to the execution of ſome of the articles of the definitive treaty of Aix la Chapelle.

The empreſs queen, to reward theſe ſignal ſervices, eſpecially his glorious campaigns in Italy in 1749, made him governor of Tranſylvania, where he rendered himſelf generally admired for his probity and diſintereſtedneſs. In 1752, he obtained the government of the city of Prague, with the chief command of the troops in that kingdom. In 1753, the king of Poland, elector of Saxony, honoured him with the collar of the order of the white eagle; and the next year he was declared field-marſhal.

The king of Pruſſia entering Saxony in 1756, and attacking Bohemia, count Brown marched againſt him; and repulſed that prince at the battle of Loboſitz, on the 1ſt of October, though he had only 27,000 men, and the king of Pruſſia had at leaſt 40,000. Seven days after this battle he undertook the famous march into Saxony, to deliver the Saxon troops ſhut up between Pirna and Konigſtein; an action worthy of the greateſt captains, ancient or modern. He at length obliged the Pruſſians to retire from Bohemia; for which he was rewarded, by being make a knight of the golden fleece. Soon after, count Brown haſtily aſſembled an army in Bohemia, to oppoſe the king of Pruſſia, who had again penetrated into that kingdom at the head of all his force; and on the 6th of May fought the famous battle of Prague; in which, while he was employed in giving his orders for maintaining the advantages he had gained over the Pruſſians, he was ſo dangerouſly wounded, that he was obliged to be carried to Prague, where he died of his wounds on the 26th of June 1757, at 52 years of age. There is reaſon to believe, that had he not been wound, he would have gained the victory, as he had broken the Pruſſians, and the brave count Schwerin, one of their greateſt generals, was ſlain.

Brown (Sir Thomas), an eminent phyſician and celebrated writer, was born at London, October 19th 1605. Having ſtudied at Wincheſter college, and afterwards at Oxford, he travelled through France and Italy; and returning by the way of Holland, took his degree of doctor of phyſic at Leyden. In 1636, he ſettled at Norwich; and the year following, was incorporated as doctor of Phyſic at Oxford. His *Religio Medici* made a great noiſe; and being tranſlated into Latin, inſtantly ſpread throughout Europe, and gained him a prodigious reputation: it was then tranſlated into almoſt every language in Europe. This book has been heavily cenſured by ſome, as tending to infidelity, and even atheiſm; while others, with much more reaſon, have applauded the piety, as well as the parts and learning, of the author. The reverend Mr Granger obſerves, that among other peculiarities in this book he ſpeaks of the ultimate act of love as a folly beneath a phiſoſopher; and ſays, that he could be content that we might procreate, like trees, without conjunction: but, after the writing of it, he deſcended from his philoſophic dignity, and married an agreeable woman. It was ſaid, that his reaſon for marrying was, becauſe he could diſcover no better method of procreation. His Treatiſe on Vulgar-Errors was read with equal avidity; he alſo publiſhed *Hydriotaphia*, or a Diſcourſe of Sepulchral Urns lately found in Norfolk. His reputation in his profeſſion was equal to his fame for learning in other reſpects; and therefore the college of phyſicians were pleaſed to take him into their number as an honorary member; and king Charles II. coming to Norwich in his progreſs, in 1671, was pleaſed to knight him with ſingular marks of favour and reſpect. He died on his birth-day, in 1682, leaving ſeveral manuſcripts behind him, which were publiſhed under the title of *The poſthumous works of the learned Sir Thomas Brown, Knt. M. D.*

Brown (Edward), the ſon of the former, phyſician to king Charles II. and preſident of the royal college at London. He was born in the year 1642; and ſtudied at Cambridge, and afterwards at Merton college, Oxford. He then travelled; and at his return publiſhed a brief account of ſome travels in Hungary, Servia, Bulgaria, Macedonia, Theſſaly, Auſtria, Styria, Carinthia, Carniola, Fruili, &c.: he alſo publiſhed an account of ſeveral travels through great part of Germany; and joined his name to thoſe of many other eminent men, in a tranſlation of Plutarch's lives. He was acquainted with Hebrew, was a critic in Greek, and no man of his age wrote better Latin. High Dutch, Italian, French, &c. he ſpoke and wrote with as much eaſe as his mother-tongue. King Charles ſaid of him, that "he was as learned as any of the college, and as well bred as any at court." He died Auguſt 27th 1708.

Brown (William), an Engliſh poet of the 17th century, was deſcended from a good family, and born at Taviſtock in Devonſhire in the year 1590. After he had paſſed through the grammar ſchool, he was ſent to Exeter college in the univerſity of Oxford, in the beginning of the reign of James I. and became tutor to Robert Dormer, who was afterwards earl of Carnarvon, and killed at Newbury battle, September 20th 1643. He is ſtyled in the public regiſter of the univerſity, "a man well ſkilled in all kinds of polite literature and uſeful arts;" *vir omni humana literatura et bonorum artium cognitione inſtructus.* After he had left the college with his pupil, he was taken into the family of William earl of Pembroke, who had a great reſpect for him; and he made his fortune ſo well, that he purchaſed an eſtate. His poetical works procured him a very great reputation. They are as follow: 1. Britannia's paſtorals. The firſt part was publiſhed at London, 1613, in folio; and uſhered into the world with ſeveral copies of verſes made by his ingenious and learned friends John Selden, Michael Drayton, Chriſtopher Cook, &c. The ſecond part was printed at London in 1616, and recommended by various copies of verſes written by John Glanville, who afterwards became eminent in the profeſſion of the law, and others. Theſe two parts were reprinted in two vols. 8vo, 1625. 2. The Shepherd's Pipe, in ſeven eclogues; London, 1614, in 8vo. 3. An elegy on the never-enough bewailed death of prince Henry, eldeſt ſon of king James I. Mr Wood tells us, that it is probable our author wrote ſeveral other poems which he had not ſeen. It is uncertain when he died.

Brown (Thomas), "of facetious memory," as he is ſtyled by Addiſon, was the ſon of a farmer in Shropſhire; and entered in Chriſt-church college, Oxford, where he ſoon diſtinguiſhed himſelf by his uncommon attainments in literature. But the irregularities of his life not ſuffering him to continue long there, he, inſtead of returning to his father, went to London to ſeek his fortune: his companions, however, being more delighted with his humour than ready to relieve his neceſſities, he had recourſe to the uſual refuge of half-ſtarved wits, ſcribbling for bread; and publiſhed a great variety of poems, letters, dialogues, &c. full of humour and erudition, but often indelicate. Though a good-natured man he had one pernicious quality, which was, rather to loſe his friend than his joke.

Towards the latter end of Tom Brown's life, we are informed by Mr Jacob, that he was in favour with the earl of Dorſet, who invited him to dinner on a Chriſtmas-day, with Mr Dryden and ſome other gentlemen celebrated for their ingenuity, (as his lordſhip's cuſtom was); when Mr Brown, to his agreeable ſurpriſe, found a bank note of 50l. under his plate, and Mr Dryden at the ſame time was preſented with another of 100l. Mr Brown died in the year 1704; and was interred in the cloyſter of Weſtminſter abbey, near the remains of Mrs Behn, with whom he was intimate in his lifetime. His works have been printed both in 8vo and 12mo. making 4 vols.

Brown (Dr John), a clergyman of the church of England, and an ingenious writer, was born at Rothbury in Northumberland in November 1715. His father John Brown, was a native of Scotland, of the Browns of Colſtown near Haddington; and at the time of his ſon's birth was curate to Dr Thomlinſon rector of Rothbury. He was afterwards collated to the vicarage of Wigton in Cumberland; to which place he carried his ſon, who received the firſt part of his education there. Thence he was removed in 1732 to the univerſity of Cambridge, and entered of St John's college, under the tuition of Dr Tunſtall. After taking the degree of bachelor of arts with great reputation (being amongſt the liſt of wranglers, and his name at the head of the liſt), he returned to Wigton, and received both deacon's and prieſt's orders from Sir George Fleming biſhop of Carliſle. Here he was appointed by the dean and chapter a minor canon and lecturer of the cathedral church. For ſome years he lived here in obſcurity; and nothing farther is known concerning him, than that in 1739, he went to Cambridge to take his degree of maſter of arts. In 1745 he diſtinguiſhed himſelf as a volunteer in the king's ſervice, and behaved with great intrepidity at the ſiege of Carliſle. After the defeat of the rebels, when ſeveral of them were tried at the aſſizes held at Carliſle in the ſummer of 1746, he preached at the cathedral church of that city two excellent diſcourſes, on the mutual connection between religious truth and civil freedom; and between ſuperſtition, tyranny, irreligion, and licentiouſneſs.

Mr Brown's attachment to the royal cauſe and to the Whig party procured him the friendſhip of Dr Oſbaldeſton, who was the only perſon that continued to be his friend through life; the peculiarities of Mr Brown's temper, or ſome other cauſe; having produced quarrels with every one elſe. When Dr Oſbaldeſton was advanced to the ſee of Carliſle, he appointed Mr Brown to be one of his chaplains.

It was probably in the early part of his life, and during his reſidence at Carliſle, that Mr Brown wrote his poem intitled *Honour*, inſcribed to the lord viſcount Londſdale. Our author's next poetical production was his *Eſſay on Satire*; and which was of conſiderable advantage to him both in point of fame and fortune. It was addreſſed to Dr Warburton; to whom it was ſo acceptable, that he took Mr Brown into his friendſhip, and introduced him to Ralph Allen, Eſq; of Prior Park, near Bath, who behaved to him with great generoſity, and at whoſe houſe he reſided for ſome time.

In 1751 Mr Brown publiſhed his "Eſſay on the Characteriſtics of Lord Shafteſbury, &c." dedicated to Raph Allen, Eſq. This was received with a high degree of applauſe, though ſeveral perſons attempted to anſwer it. In 1754 our author was promoted by the earl of Hardwicke to the living of Great Horkeſley in Eſſex.

In 1755, our author took the degree of docter of divinity at Cambridge. This year he publiſhed his tragedy of Barbaroſſa; which under the manangement of Mr Garrick, was acted with conſiderable applauſe; but when it came to be publiſhed, it was expoſed to a variety of ſtrictures and cenſures. This tragedy introduced our author to the acquaintance of that eminent actor; by whoſe favour he had a ſecond tragedy, named *Athelſtan*, repreſented at Drury-Lane play-houſe. This was alſo well received by the public; but did not become ſo popular as Barbaroſſa, nor did it preſerve ſo long the poſſeſſion of the ſtage.

In 1757 appeared his famous "Eſtimate of the Manners and principles of the Times." The reception which this work met with from the public was very flattering to his vanity; no fewer than ſeven editions of it having been printed in little more than a year. The chief deſign of his performance was to ſhow, that a vain, luxurious, and ſelfiſh effeminacy in the higher ranks of life marked the character of the age; and to point out the effects and ſources of this effeminacy. Several antagoniſts appeared, ſome of whom were neither deſtitute of learning nor ingenuity; though Dr Brown himſelf aſſerted that Mr Wallace, a clergyman of Edinburgh, was the only candid and decent adverſary that appeared againſt him. The teſtimony given by M. de Voltaire to the effect which the Eſtimate had on the conduct of the nation, is very honourable to Dr Brown. "When Marſhal Richelieu, in 1756, (ſays that celebrated writer), laid ſiege to Port Mahon, the capital of Minorca, the Britiſh ſent out admiral Bying with a ſtrong naval force, to drive the French fleet off the iſland, and raiſe the ſiege. At this time there appeared a book, intitled *An Eſtimate of the Manners of the Times*; of which there was no leſs than five editions printed off in London in the ſpace of three months. In this treatiſe the author proves that the Engliſh nation was entirely degenerated;—that it was near its ruin;—that its inhabitants were no longer ſo robuſt and hardy as in former times;—and that its ſoldiers had loſt their courage.—This work rouſed the ſenſibility of the Engliſh nation, and produced the following conſequences. They attacked, almoſt at one and the ſame time all the ſea coaſts of France, and her poſſeſſions in Aſia, Africa, and America." In 1758, our author publiſhed the ſecond volume of his Eſtimate of the Manners and Principles of the Times; containing additional remarks on the ruling manners and principles, and on the public effects of thoſe manners and principles. The deſign of this volume was, to retract ſuch miſtakes as he thought he had committed; to prove ſuch points as were affirmed and not proved; to illuſtrate thoſe particulars which were hinted, but not explained; to reply to ſuch capital objections as had been made to his general ſyſtem by preceding writers on the ſame ſubject; and to diſplay the conſequences which might be fairly deduced from his principles, and through a deſigned brevity were omitted in the firſt volume. But it unfortunately happened that the Doctor's ſelf-opinion, which gave ſo much offence in his firſt volume, broke out in the ſecond with ſtill greater violence. The conſequence of this was, that he expoſed himſelf to general cenſure and diſlike; and the prejudices againſt him occaſioned the real excellencies of the work to be very much overlooked. The periodical critics, whom he had gone needleſsly out of his way to abuſe, treated him with uncommon ſeverity; and ſuch a multitude of antagoniſts aroſe againſt him, ſo many objections were urged upon him, by friends as well as enemies, that he ſeems to have been deeply impreſſed, and to have retired for a while into the country. From the country it was that he wrote, in a ſeries of letters to a noble friend, "An Explanatory Defence of the Eſtimate of the Manners and Principles of the Times; being an appendix to that work, occaſioned by the clamours lately raiſed againſt it among certain ranks of men."

But while Dr Brown thus diſtinguiſhed himſelf as a political writer, he was advanced to no higher dignity in the church: nay, on ſome diſguſt, it is ſuppoſed, he reſigned his living in Eſſex: however, in recompence, Dr Oſbaldeſton procured him the rectory of St Nicholas in Newcaſtle on Tyne. He would probably have received further favours from this prelate, had not the latter died ſoon after his promotion to the ſee of London.

In 1760 our author publiſhed an Additional Dialogue of the Dead, between Pericles and Ariſtides; being a ſequel to a dialogue of lord Lyttleton's between Pericles and Coſmo. One deſign of this additional dialogue was to vindicate the meaſures of Mr Pitt, againſt whoſe adminiſtration lord Lyttleton had been ſuppoſed to have thrown out ſome hints. Our author's next publication, in 1763, was "The cure of Saul," a ſacred ode; which was followed in the ſame year by "A Diſſertation on the Riſe, Union, and Power, the Progreſſions, Separations, and Corruptions of Poetry and Muſic." This is one of the moſt pleaſing of Dr Brown's performances, and abounds with a variety of critical diſcuſſions. A number of ſtrictures on this piece were publiſhed; and the Doctor defended himſelf in a treatiſe intitled, *Remarks on ſome Obſervations on Dr Brown's Diſſertations on Poetry and Muſic.* In 1764 our author publiſhed, in octavo, "The Hiſtory of the Riſe and Progreſs of Poetry through its ſeveral Species:" which is no more than the ſubſtance given in the diſſertation abovementioned. The ſame year Dr Brown publiſhed a volume of ſermons, dedicated to his patron Dr Oſbaldeſton biſhop of London; but moſt, if not all, of theſe, had been ſeparately publiſhed, excepting the firſt three, which were on the ſubject of education. In the beginning of the year 1765, the Doctor again returned to politics, and publiſhed "Thoughts on Civil Liberty, Licentiouſneſs, and Faction." At the concluſion of this work the author preſcribed a code of education, upon which Dr Prieſtley made remarks at the end of his "Eſſay on the courſe of a liberal Education for civil and active Life." The ſame year he publiſhed a ſermon "On the Female Character and Education," preached on the 16th of May 1765, before the guardians of the aſylum for deſerted female orphans. His laſt publication was in 1766, "A Letter to the Rev. Dr Lowth, occaſioned by his late Letter to the Right Rev. Author of the Divine Legation of Moſes." This was occaſioned by Dr Lowth's having *clearly*, though *indirectly*, pointed at Dr Brown as one of the extravagant adulators and defenders of biſhop Warburton. Beſides theſe works, Dr Brown publiſhed a poem on Liberty, and two or three anonymous pamphlets. At the end of ſeveral of his later writings, he advertiſed his deſign of publiſhing "Chriſtian Principles of Legiſlation," but was prevented from executing it by his death; though the work appears to have been completed.

We come now to the concluding events of our author's life; concerning which the following is the moſt authentic intelligence that can be procured. Whilſt Dr Dumareſq reſided in Ruſſia in the year 1765, to which he had been invited the preceding year to give his advice and aſſiſtance for the eſtabliſhment and regulation of ſeveral ſchools which her Imperial majeſty intended to erect, he received a letter from a lady of diſtinguiſhed character in England, recommending to him Dr Brown as a proper correſpondent on this occaſion. Dr Dumareſq then wrote a letter to Dr Brown, telling him the occaſion of his application, and the difficulties that occurred. He had imagined that nothing more would be wanted of him than what concerned claſſical learning, and a general foundation for the ſciences; as that had been the common introduction to every kind of uſeful knowledge in the weſtern parts of Europe. But on his arrival he found that a much more extenſive ſcheme was required; and ſuch as extended not only to learning properly ſo called, but alſo to matters military and naval, civil and commercial. But having ſtated his difficulties in executing this plan to Dr Brown, the latter propoſed a ſcheme ſtill more extenſive; and which was no leſs than a general plan of civilization throughout the whole Ruſſian empire. In this plan, however, though it ſhowed very enlarged ideas and great ſtrength of mind, there were ſeveral defects which rendered it, as Dr Brown himſelf was afterwards convinced, impracticable. He had laid greater ſtreſs upon the ſupport, energy, and efficacy of abſolute power in princes when exerted in a good cauſe, than experience would warrant; and he was ready to imagine that the bulk of the Ruſſian nation, juſt emerging out of barbariſm, was like a *tabula raſa*, upon which any characters might be written. At laſt the Doctor's letter was laid before the empreſs, who was ſo pleaſed with it that ſhe immediately invited him to Ruſſia. He accepted the invitation, and procured his Majeſty's leave to go; 1000 l. were ordered for his expence, and he actually received 200l. But when he was on the point of ſetting out, an attack of the gout and rheumatiſm, to which he had been all his lifetime ſubject, ſo impaired his health, that his friends diſſuaded, and at laſt ſucceeded in preventing him from going. The money was returned, excepting 97l. 6s. which had been expended in neceſſaries for the intended journey. But though he thus declined the journey, a long letter which he afterwards wrote to the empreſs, and which does honour to his abilities, ſhows that he had not abandoned his intention of being ſerviceable. The affair, however, taking in all its circumſtances, did no doubt greatly agitate his mind; and his being obliged at length to give up the journey, muſt have been no ſmall diſappointment to a man of his ſanguine expectations. This diſappointment concurring with the general ſtate of his health, and perhaps the recollection of ſome other failures that had happened, was followed by a dejection of ſpirits; in conſequence of which he put an end to his life on the 23d of September 1766, in the 51ſt year of his age. On the morning of that day his ſervant came into his bed-chamber, and aſked him what ſort of a night he had had? to which he replied, "A pretty good one." The ſervant having quitted the bedſide for a few minutes, heard a noiſe in the Doctor's throat, which he imagined to be owing to ſome obſtruction occaſioned by phlegm. Going to aſſiſt his maſter, he found him ſpeechleſs, and bleeding profuſely, ly, having cut the jugular vein with a razor; and this he had done ſo effectually, that death ſpeedily enſued. Such was the unhappy end of this ingenious writer; but the manner of it, when ſome previous circumſtances of his life are underſtood, will caſt no ſtain on his character. He had a tendency to inſanity in his conſtitution; and, from his early life, had been ſubject at times to ſome diſorder in his brain, at leaſt to melancholy in its exceſs. Mrs Gilpin of Carliſle, ſoon after Dr Brown's deceaſe, wrote in the following terms in a letter to a friend. "His diſtemper was a frenzy, to which he had by fits been long ſubject; to my own knowledge, above 30 years. Had it not been for Mr Fariſh frequently, and once for myſelf, the ſame event would have happened to him long ago. It was no premeditated purpoſe in him; for he abhorred the thought of ſelf-murder; and in bitterneſs of ſoul expreſſed his fears to me, that one time or another ſome ready miſchief might preſent itſelf to him, at a time when he was wholly deprived of his reaſon."

Brown (Simon), a diſſenting miniſter, whoſe uncommon talents and ſingular misfortunes intitle him juſtly to a place in this work, was born at Shepton Mallet in Somerſetſhire, 1680. Grounded and excelling in grammatical learning, he early became qualified for the miniſtry, and actually began to preach before he was twenty. He was firſt called to be a paſtor at Portſmouth, and afterwards removed to the Old Jewry, where he was admired and eſteemed for a number of years. But the death of his wife and only ſon, which happened in 1723, affected him ſo as to deprive him of his reaſon; and he became from that time loſt to himſelf, to his family, and to the world: his congregation at the Old Jewry, in expectation of his recovery, delayed for ſome time to fill his poſt; yet at length all hopes were over, and Mr Samuel Chandler was appointed to ſucceed him in 1725. This double misfortune affected him at firſt in a manner little different from diſtraction, but afterwards ſunk him into a ſettled melancholy. He quitted the duties of his function, and would not be perſuaded to join in any act of worſhip, public or private. Being urged by his friends for a reaſon of this extraordinary change, at which they expreſſed the utmoſt grief and aſtoniſhment, he told them, after much importunity, that "he had fallen under the ſenſible diſpleaſure of God, who had cauſed his rational ſoul gradually to periſh, and left him only an animal life in common with brutes: that, though he retained the human ſhape, and the faculty of ſpeaking in a manner that appeared to others rational, he had all the while no more notion of what he ſaid than a parrot: that it was therefore profane in him to pray, and incongruous to be preſent at the prayers of others:" and, very conſiſtently with this, he conſidered himſelf no longer as a moral agent, or ſubject of either reward or puniſhment. In this way of thinking and talking he unalterably and obſtinately perſiſted to the end of his life; though he afterwards ſuffered, and even requeſted, prayers to be made for him. Some time after his ſeceſſion from the Old Jewry, he retired to Shepton Mallet, his native place; and though in this retirement he was perpetually contending that his powers of reaſon and imagination were gone, yet he was as conſtantly exerting both with much activity and vigour. He amuſed himſelf ſometimes with tranſlating parts of the ancient Greek and Latin poets into Engliſh verſe: he compoſed little pieces for the uſe of children: An Engliſh Grammar and Spelling Book; An Abſtract of the Scripture-Hiſtory, and a collection of Fables, both in metre; and with much learning he brought together into a ſhort compaſs all the *Themata* of the Greek and Latin tongues, and alſo compiled a Dictionary to each of thoſe works, in order to render the learning of both theſe languages more eaſy and compendious. Of theſe performances none have been made public. But what ſhowed the ſtrength and vigour of his underſtanding, while he was daily bemoaning the loſs of it, were two works compoſed during the two laſt years of his life, in defence of Chriſtianity, againſt Woolſton and Tindal. He wrote an anſwer to Woolſton's fifth Diſcourſe on the Miracles of our Saviour, entitled, A fit rebuke for a ludicrous infidel, with a preface concerning the proſecution of ſuch writers by the civil power. The preface contains a vigorous plea for liberty, and is ſtrongly againſt proſecutions in matters of religion; and in the anſwer, Woolſton is as well managed as he was by any of his refuters, and more in his own way too. His book againſt Tindal was called, A Defence of the Religion of Nature and the Chriſtian Revelation, againſt the defective account of the one and the exceptions againſt the other, in a book entitled, Chriſtianity as old as the Creation; and it is allowed to be as good a one as that controverſy produced. He intended to dedicate it to queen Caroline; but as the unhappy ſtate of his mind appeared in the dedication, ſome of his friends very wiſely ſuppreſſed it, as ſure to defeat the uſe and intent of his work. The copy, however, was preſerved, and is ſubjoined in the note (A), as much too great a curioſity to be ſuppreſſed. The above pieces were publiſhed

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(A) Madam, Of all the extraordinary things that have been rendered to your royal hands ſince your firſt happy arrival in Britain, it may be boldly ſaid, what now beſpeaks your majeſty's acceptance is the chief. Not in itſelf indeed: it is a trifle unworthy your exalted rank, and what will hardly prove an entertaining amuſement to one of your majeſty's deep penetration, exact judgment, and fine taſte; but on account of the author, who is the firſt being of the kind, and yet without a name. He was once a man, and of ſome little name; but of no worth, as his preſent unparalleled caſe makes but too manifeſt: for, by the immediate hand of an avenging God, his very thinking ſubſtance has for more than ſeven years been continually waſting away, till it is wholly periſhed out of him, if it be not utterly come to nothing. None, no, not the leaſt remembrance of its very ruins remains; not the ſhadow of an idea is left; nor any ſenſe, ſo much as one ſingle one, perfect or imperfect, whole or diminiſhed, ever did appear to a mind within him, or was perceived by it. Such a preſent from ſuch a thing, however worthleſs in itſelf, may not be wholly unacceptable to your majeſty, the author being ſuch as hiſtory cannot parallel; and if the fact, which is real, and no fiction or wrong conceit, obtains credit, ed by Mr afterwards by Dr W. Harris, who, in an advertiſement to the reader, recommends the afflicted caſe of the author, under a deep and peculiar melancholy, to the compaſſion and prayers of all his friends, and every ſerious Chriſtian. Mr Brown ſurvived the publication of this laſt work a very ſhort time. A complication of diſtempers, contracted by his ſedentary life (for he could not be prevailed on to refreſh himſelf with air and exerciſe), brought on a mortification, which put a period to his labours and ſorrows about the latter end of 1732. He was unqueſtionably a man of uncommon abilities and learning: his management of Woolſton ſhowed him to have alſo vivacity and wit: and, notwithſtanding that ſtrange conceit which poſſeſſed him, it is remarkable that he never appeared feeble or abſurd, except when the object of his frenzy was before him. Beſides the two pieces abovementioned, and before he was ill, he had publiſhed ſome ſingle Sermons, together with a Collection of Hymns and Spiritual Songs. He left ſeveral daughters.

Brown (Iſaac Hawkins), an ingenious Engliſh poet, was born at Burton upon Trent, Staffordſhire, Jan. 21. 1705-6; of which place his father was the miniſter. He received his grammatical inſtitution firſt at Litchfield, then at Weſtminſter; whence, at ſixteen years of age, he was removed to Trinity college, Cambridge, of which his father had been fellow. He remained there till he had taken a maſter of arts degree; and about 1727, ſettled himſelf in Lincoln's Inn, where he ſeems to have devoted more of his time to the Muſes than to the law. Soon after his arrival there, he wrote a poem on *Deſign and Beauty*, which he addreſſed to Mr Highmore the painter, for whom he had a great friendſhip. Several other poetical pieces were written here, and particularly his *Pipe of Tobacco*. This is in imitation of Cibber, Ambroſe, Phillips, Thomſon, Young, Pope, and Swift, who were then all living; and is reckoned one of the moſt pleaſing and popular of his performances. In 1743-4, he married the daughter of Dr Trimnell, archdeacon of Leiceſter. He was choſen twice to ſerve in parliament, firſt in 1744, and afterwards in 1748; both times for the borough of Wenlock in Shropſhire, near which place he poſſeſſed a conſiderable eſtate, which came from his maternal grandfather, Iſaac Hawkins, Eſq. In 1754, he publiſhed what has been deemed his capital work, *De Animi Immortalitate*, in two books; in which, beſides a moſt judicious choice of matter and arrangement, he is thought to have ſhown himſelf not a ſervile but happy imitator of Lucretius and Virgil. The univerſal applauſe and popularity of this poem produced ſeveral Engliſh tranſlations of it in a very ſhort time; the beſt of which is that by Soame Jenyns, Eſq; printed in his *Miſcellanies*. Mr Brown intended to have added a third part, but went no farther than to leave a fragment. This excellent perſon died, after a lingering illneſs, in 1760, aged 55. In 1768, the preſent Hawkins Brown, Eſq; obliged the public with an elegant edition of his father's poems, in large octavo; to which is prefixed a print of the author, from a painting of Mr Highmore, engraved by Ravenet.

Brown (Sir William), a noted phyſician and multifarious writer, was ſettled originally at Lynn in Norfolk, where he publiſhed a tranſlation of Dr Gregory's Elements of Catoptrics and Dioptrics; to which he added, 1. A Method for finding the Foci of all Specula, as well as Lens's univerſally; as alſo magnifying or leſſening a given Object by a given Speculum or Lens, in any aſſigned Proportion. 2. A Solution of thoſe Problems which Dr Gregory has left undemonſtrated. 3. A particular Account of Microſcopes and Teleſcopes, from Mr Huygens; with the Diſcoveries made by Catoptrics and Dioptrics. Having acquired a competence by his profeſſion, he removed to Queen's Square, Ormond Street, London, where he reſided till his death. By his lady, who died 1763, he had one daughter, grandmother to the preſent Sir Martin-Brown Folkes, bart. A great number of lively eſſays, both in proſe and verſe, the production of his pen, were printed and circulated among his friends. The active

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credit, it muſt be recorded as the moſt memorable, and indeed aſtoniſhing, event in the reign of George II. that a tract, compoſed by ſuch a thing, was preſented to the illuſtrious Caroline: his royal conſort needs not be added: fame, if I am not miſinformed, will tell that with pleaſure to all ſucceeding times. He has been informed, that your majeſty's piety is as genuine and eminent as your excellent qualities are great and conſpicuous. This can indeed be truly known to the great Searcher of hearts only. He alone, who can look into them, can diſcern if they are ſincere, and the main intention correſponds with the appearance; and your majeſty cannot take it amiſs if ſuch an author hints, that his ſecret approbation is of infinitely greater value than the commendation of men, who may be eaſily miſtaken, and are too apt to flatter their ſuperiors. But, if he has been told the truth, ſuch a caſe as his will certainly ſtrike your majeſty with aſtoniſhment; and may raiſe that commiſeration in your royal breaſt, which he has in vain endeavoured to excite in thoſe of his friends: who, by the moſt unreaſonable and ill-founded conceit in the world, have imagined, that a thinking being could for ſeven years together live a ſtranger to its own powers, exerciſes, operations, and ſtate; and to what the great God has been doing in it and to it. If your majeſty, in your moſt retired addreſs to the King of kings, ſhould think of ſo ſingular a caſe, you may perhaps make it your devout requeſt, that the reign of your beloved ſevereign and conſort may be renowned to all poſterity by the recovery of a ſoul now in the utmoſt ruin, the reſtoration of one utterly loſt, at preſent amongſt men. And ſhould this caſe affect your royal breaſt, you will recommend it to the piety and prayers of all the truly devout, who have the honour to be known to your majeſty: many ſuch doubtleſs there are, though courts are not uſually the places where the devout reſort, or where devotion reigns. And it is not improbable, that multitudes of the pious throughout the land may take a caſe to heart, that under your majeſty's patronage comes thus recommended. Could ſuch a favour as this reſtoration be obtained from heaven by the prayers of your majeſty, with what tranſport of gratitude would the recovered being throw himſelf at your majeſty's feet, and, adoring the divine power and grace, profeſs himſelf, Madam, your majeſty's moſt obliged and dutiful ſervant,

Simon Brown.

part taken by Sir William Brown in the conteſt with the licentiates, 1768, occaſioned his being introduced by Mr Foote in his *Devil upon Two Sticks*. Upon Foote's exact repreſentation of him with his identical wig and coat, tall figure, and glaſs ſtiffly applied to his eye, he ſent him a card complimenting him on having ſo happily repreſented him; but as he had forgot his muff, he had ſent him his own. This good-natured method of reſenting diſarmed Foote. He uſed to frequent the annual ball at the ladies boarding-ſchool, Queen Square, merely as a neighbour, a good-natured man, and fond of the company of ſprightly young folks. A dignitary of the church being there one day to ſee his daughter dance, and finding this upright figure ſtationed there, told him he believed he was Hermippus *redivivus* who lived *anhelitu puellarum*, When he lived at Lynn, a pamphlet was written againſt him: he nailed it up againſt his houſe-door. At the age of 80, on St Luke's day, 1771, he came to Batſon's coffee-houſe in his laced coat and band, and fringed white gloves, to ſhow himſelf to Mr Croſby, then lord mayor. A gentleman preſent obſerving that he looked very well, he replied, *he had neither wife nor debts*. He died in 1774, at the age of 82; and by his will he left two prize-medals to be annually contended for by the Cambridge poets.

Brown, among dyers, painters, &c. a duſky colour inclining towards redneſs. Of this colour there are various ſhades or degrees, diſtinguiſhed by different appellations; for inſtance, Spaniſh-brown, a ſad-brown, a tawny-brown, the London-brown, a clove-brown, &c.

Spaniſh brown is a dark dull red, of a horſe-fleſh colour. It is an earth; and is of great uſe among painters, being generally uſed as the firſt and priming colour that they lay upon any kind of timber-work in houſe-painting. That which is of the deepeſt colour, and freeſt from ſtones, is the beſt. Though this is of a dirty brown colour, yet it is much uſed, not to colour any garment, unleſs it be an old man's gown; but to ſhadow vermilion, or to lay upon any dark ground behind a picture, or to ſhadow yellow berries in the darkeſt places, when you want lake, &c. It is beſt and brighteſt when burnt in the fire till it be red-hot; although, if you would colour any hare, horſe, dog, or the like, it ſhould not be burnt: but, for other uſes, it is beſt when it is burnt; as for colouring wood, poſts, bodies of trees, or any thing elſe of wood, or any dark ground of a picture.

BROWNIA, in botany; a genus of the endecandria order, belonging to the monadelphia claſs of plants. The calyx is bifid, the corolla double, the exterior quinquefid, and the interior pentapetalous. There is but one ſpecies, the coccinea, a native of the Weſt-Indies.

BROWNISTS, a religious ſect, which ſprung out of the Puritans, towards the cloſe of the 16th century: their leader, Robert Brown, wrote divers books in their behalf, was a man of good parts, and ſome learning. He was born of a good family in Rutlandſhire, and related to the lord-treaſurer Burleigh. He had been educated at Cambridge; but firſt publiſhed his notions, and began to inveigh openly againſt the diſcipline and ceremonies of the church, at Norwich, in the year 1580, from which time he underwent divers perſecutions from the biſhops; inſomuch that he boaſted he had been committed to no leſs than 32 priſons, in ſome of which he could not ſee his hand at noon-day. At length, with his congregation, he left England, and ſettled at Middleburgh in Zealand; where they obtained leave of the ſtates to worſhip God in their own way, and form a church according to their own model; which they had not long done before this handful of men, juſt delivered from the ſeverities of the biſhops, began to differ among themſelves, and crumble into ſo many parties, that Brown their paſtor grew weary of his office; and, returning to England in 1589, renounced his principles of ſeparation, and was preferred to the rectory of a church in Northamptonſhire, and died, after leading a very idle and diſſolute life, in 1630.

The revolt of Brown was attended with the diſſolution of the church at Middleburgh; but the ſeeds of Browniſm, which he had ſown in England, were ſo far from being deſtroyed, that Sir Walter Raleigh, in a ſpeech in 1592, computes no leſs than 20,000 followers of it. The occaſion of their ſeparation was not any fault they found with the faith, but only with the diſcipline and form of government of the other churches in England. They equally charged corruption on the epiſcopal form, and on that of the preſbyterians, by conſiſtories, claſſes, and ſynods: nor would they join with any other reformed church, becauſe they were not aſſured of the ſanctity and regeneration of the members that compoſed it; on account of the toleration of ſinners, with whom they maintained it an impiety to communicate. They condemned the ſolemn celebration of marriages in the church; maintaining, that matrimony being a political contract, the confirmation thereof ought to come from the civil magiſtrate. They would not allow any children to be baptized of ſuch as were not members of the church, or of ſuch as did not take ſufficient care of thoſe baptized before. They rejected all forms of prayer; and held that the Lord's prayer was not to be recited as a prayer, being only given for a rule or model whereon all our prayers are to be formed. The form of church-government which they eſtabliſhed was democratical. When a church was to be gathered, ſuch as deſired to be members of it made a confeſſion of it, and ſigned a covenant, by which they obliged themſelves to walk together in the order of the goſpel. The whole power of admitting and excluding members, with the deciſion of all controverſies, was lodged in the brotherhood. Their church officers were choſen from among themſelves, for preaching the word, and taking care of the poor, and ſeparated to their ſeveral offices by faſting, prayer, and impoſition of hands of ſome of the brethren. But they did not allow the prieſthood to be any diſtinct order, or to give any indelible character. As the vote of the brotherhood made a man a miniſter, and gave him authority to preach the word and adminiſter the ſacraments among them, ſo the ſame power could diſcharge him from his office, and reduce him to a mere layman again. And as they maintained the bounds of a church to be no greater than what could meet together in one place and join in one communion, ſo the power of theſe officers was preſcribed within the ſame limits. The miniſter or paſtor of one church could not adminiſter the Lord's ſupper

ſupper to another, nor baptize the children of any but thoſe of his own ſociety. Any lay-brother was allowed the liberty of propheſying, or of giving a word of exhortation to the people; and it was uſual for ſome of them, after ſermon, to aſk queſtions, and reaſon upon the doctrines that had been preached. In a word, every church on the Browniſts model is a body-corporate, having full power to do every thing which the good of the ſociety requires, without being accountable to any claſſis, ſynod, convocation, or other juriſdiction whatever. Moſt of their diſcipline has been adopted by the Independents, a party which afterwards aroſe from among the Browniſts. The laws were executed with great ſeverity on the Browniſts; their books were prohibited by queen Elizabeth, and their perſons impriſoned, and many of them were hanged. The eccleſiaſtical commiſſion and the ſtar-chamber, in fine, diſtreſſed them to ſuch a degree, that they reſolved to quit their country. Accordingly, many families retired and ſettled at Amſterdam, where they formed a church, and choſe Mr Johnſon their paſtor; and after him Mr Ainſworth, author of the learned commentary on the Pentateuch. Their church flouriſhed near 100 years. See INDEPENDENTS.

BROWNY, the name of a ſerviceable kind of ſprite, who, according to a ſuperſtitious notion formerly prevalent in the Hebrides and Highlands of Scotland (as well as among the country people in England, where he had the name of *Robin Goodfellow*), was wont to clean the houſes, helped to churn, threſhed the corn, and would belabour all that pretended to make a jeſt of him. He was repreſented as ſtout and blooming, had fine long flowing hair, and went about with a wand in his hand. He was the very counter part of Milton's *Lubber Fiend*, who

Tells how the drudging goblin ſweat,
To earn his cream-bowl duly ſet,
When in one night, ere glimpſe of morn,
His ſhadowy flail had threſh'd the corn,
That ten day-lab'rers could not end;
Then lies him down the Lubber Fiend,
And, ſtretch'd along the chimney's length,
Baſks at the fire his hairy ſtrength.

BROWSE, the tops of the branches of trees, whereon beaſts feed. This is ſometimes alſo called *brouce* and *bruttle*; probably from the French *brout*, which ſignifies the ſame thing.

BROWSE more properly denotes the food which deer find in young copſes, continually ſprouting anew.

BRUCE (Robert), ſon of the earl of Carrick, being competitor with Baliol for the crown of Scotland, loſt it by the arbitration of Edward I. of England, for generouſly refuſing to hold the crown of Scotland as depending on him, which his anceſtors had left him independent. But Baliol having afterward broke his agreement with Edward, Bruce was eaſily perſuaded by the king to ſide with him againſt Baliol, upon promiſe that he would ſettle him on the throne. Having contributed much to the breaking of Baliol's party, he demanded the accompliſhment of king Edward's promiſe, who is ſaid to have given him this anſwer: "What! have I nothing elſe to do but to conquer kingdoms for you?" However, he recovered his crown, defeated the Engliſh in ſeveral battles, raiſed the glory of the Scots, and extended their dominions. See *Hiſtory of* SCOTLAND.

BRUCHSAL, a town of Germany, in the palatinate of the Rhine, and biſhopric of Spires, ſituated on the river Satz, in E. Long. 8. 30. N. Lat. 49. 15.

BRUCHUS, in zoology, a genus of inſects belonging to the order of coleoptera. The feelers are filiform, and gradually increaſe in thickneſs. There are ſeven ſpecies, viz. 1. The piſi, has grey elytra interſperſed with white ſpots, and a white fundament with two black ſpots. It is a native of North America, and deſtroys whole fields of peaſe: It is now found in ſeveral of the ſouthern parts of Europe; where it does great injury to the corn. 2. The theobromæ, with whitiſh elytra interſperſed with black points. It frequents the theobromæ or chocolate-trees in the Eaſt-Indies. 3. The gleditſiæ, with ſtraited elytra of the ſame length with the belly, a pitch-coloured body, and green-feelers. It is a native of America. 4. The bactris, with ſmooth elytra, a hoary body, and the hind parts of the thighs oval. It frequents the palm-trees of Jamaica. 5. The granarius, has black elytra; the fore-feet are red, and the hind-feet are dentated. It frequents the ſeeds of plants in different parts of Europe. 6. The ſeminarius is black, with the baſe of the feelers and fore-feet teſtaceous. It is about the ſize of a louſe, and a native of Europe. 7. The pecticornis, with comb-ſhaped feelers longer than the body. It is a native of Barbary and China.

BRUEGHEL. See BREUGHEL.

BRUGES, a city of the Auſtrian Netherlands, capital of the territory of Bruges, with a biſhop's ſee. It is ſeated in a plain eight miles from the ſea; and has a great number of canals, made for the benefit of trade, one of which leads to Ghent, another to Oſtend, another to Sluys, to Newport, to Furnes, to Ypres, and to Dunkirk, which you may reach in a day in the ſummer-time. All the waters about Bruges are without any current; but they may be changed in half an hour's time, by opening the ſluices, and letting the water run into the ſea. There are ſeveral bridges about the city, and that which was built in 1739 of free ſtone is very ſtately.

Bruges was in a very flouriſhing condition upwards of 200 years ago, and every nation had a conſul herein for the maintenance of their rights and privileges; but ſince the enlargement of Amſterdam and Antwerp, the trade is diminiſhed, and its inhabitants are not numerous enough for ſo large a place. However, there are many rich merchants, and a chamber for trade. There are ſeveral fine churches; in the firſt rank of which is the cathedral, whoſe rich ornaments and treaſure deſerve notice. The fineſt ſquare in the city is the great market, in which ſtand the halls, with public galleries, and a large court in the middle, and on one of its ſides a high ſteeple ſupported only with four pillars. It is full of bells with the moſt harmonious chimes in all the country. On the ſide of the great ſquare there is a ſtructure which ſerves for a public magazine to lay cloth in. It is built on a canal, and ſupported by pillars in ſuch a manner, that ſmall veſſels can paſs under it, to croſs the city from the canal of Oſtend to that of Ghent.

The ſquare where the Wedneſday's market is kept is very fine; for it contains ſeveral walks between two rows of trees, and a new guard-houſe in the middle. The Burg is a large ſquare, in which is the town-houſe, built in the Gothic manner, and adorned with a variety of figures of the ancient counts and counteſſes of Flanders. In the ſame ſquare there are ſeveral other public buildings. The church dedicated to the Virgin Mary is very fine, with a high ſteeple, which ſerves as a ſea-mark for the ſhips that come to Oſtend; on the inſide are two tombs of copper gilt, of an extraordinary magnificence. Beſides the cathedral and two collegiate churches, there are five pariſh churches, fourteeen chapels, and twelve convents for men and women. There are a great many alms-houſes and hoſpitals, one of which is called the *School of Bogards*, where there are about 180 boys, ſome of which are brought up to learning, others to trades, according to their genius. Their habit is cloth, and half of them wear blue and half red, with a black bonnet. There is alſo a ſchool for poor girls, to the number of 120, clothed with red or blue. In ſhort, there is no place in the Low Countries where they take more care of widows and orphans.

It is remarkable that the knights of the golden fleece were inſtituted in this city in 1430, when the marriage of Philip the Good was celebrated with Elizabeth princeſs of Portugal. The parts about the city, which belong to it, are called *Franc of Bruges*, and contain 37 villages, and enjoy pefect liberty, according to the tenor of their freedom. The fortifications of Bruges are but trifling, inſomuch that in the time of war they always yield to the ſtrongeſt party. In is eight miles eaſt of Oſtend, 24 north-eaſt of Ghent, and 46 weſt of Antwerp. E. Long. 3. 5. N. Lat. 51. 11.

Bruges (John of), (real name, John van Eick), a celebrated Flemiſh painter, and the firſt who diſcovered the method of painting in oil, flouriſhed in the 15th century. He found in the courſe of his chemical experiments (to which ſcience he alſo applied himſelf), that, by grinding colours with linſeed or nut-oil, he could form them into a ſolid body which would reſiſt the water, and not need the varniſh uſed in painting in water-colours or in freſco. He preſented the firſt picture painted in this manner to Alphonſus I. King of Naples; who was much pleaſed with it.

BRUIN (John de), profeſſor of natural philoſophy and mathematics at Utrecht, was born at Gorcum in 1620. He had uncommon ſkill in diſſecting animals, and was a great lover of experiments. He made alſo obſervations in aſtronomy. He publiſhed diſſertations *De vi altrice; De corporum gravitate et levitate; De cognitione Dei naturali; De lucis cauſa et origine*, &c. He had a diſpute with Iſaac Voſſius, to whom he wrote a letter printed at Amſterdam in 1663; wherein he criticiſes Voſſius's book *De natura et proprietate lucis*; and ſtrenuouſly maintains the hypotheſis of Deſcartes. He died in 1675, after he had been profeſſor 23 years: and his funeral oration was pronounced four days after by M. Grævius.

BRUISE, in ſurgery, the ſame with Contusion.

BRUMALES Plantæ, in botany (from *bruma* winter): plants which flower in our winter; common about the Cape.

BRUMALIA, in Roman antiquity, feſtivals of Bacchus celebrated twice a-year; the firſt on the 12th of the kalends of March, and the other of the 18th of the kalends of November. They were inſtituted by Romulus, who during theſe feaſts uſed to entertain the ſenate. Among other heathen feſtivals which the primitive Chriſtians were much inclined to obſerve, Tertullian mentions the brumæ or brumalia.

BRUMOY (Peter), a learned Jeſuit born at Rouen in 1668, diſtinguiſhed himſelf in his youth by his talents for the belles lettres; and during his whole life was beloved for his probity, his virtue and the goodneſs of his heart. He wrote many works, the moſt conſiderable of which is his Theatre of the Greeks. He died at Paris in 1742.

BRUN (Anthony le), an ambaſſador of Spain, famous for his ſkill in negociating, was of an ancient and noble family, and born at Dole in the year 1600. He was attorney-general in the parliament of Dole; during which time he had a hand in all the ſtate negociations which concerned the provinces. He was ſent afterwards by Philip IV. to the diet of Ratiſbon, and from thence to the court of the emperor Ferdinand III. He was one of the plenipotentiaries of his Catholic majeſty, at the conferences of Munſter held in 1643; where, though all the other plenipotentiaries took place of him, yet it is ſaid that he far exceeded them all in capacity. The king of Spain was particularly beholden to him for the peace which the Dutch made at Munſter excluſively of France; and the intriguing turn which he ſhewed upon this occaſion made him dreaded ever after by French ambaſſadors. He was a man of letters, as well as of politics; and therefore employed his pen as well as his tongue in the ſervice of his maſter. He died at the Hague, during his embaſſy, in the year 1654.

Brun (Charles le), was deſcended of a famiy of diſtinction in Scotland, and born in the year 1619. His father was a ſtatuary by profeſſion. He diſcovered, it is ſaid, ſuch an early inclination for painting, that at three years of age he uſed to take coals, and deſign on the hearth and ſides of the chimney, only by the light of the fire; and at 12 he drew the picture of his uncle ſo well, that it ſtill paſſes for a fine piece. His father being employed in the gardens at Sequier, and having brought his ſon along with him, the chancellor of that name took a liking to him, and placed him with Simeon Vouet, an eminent painter. He was afterwards ſent to Fountainbleau, to take off ſome of Raphael's pieces. He ſent him next to Italy, and ſupported him there for ſix years. Le Brun, in his return, met with the celebrated Pouſſin, by whoſe converſation he greatly improved himſelf in his art, and contracted a friendſhip with him which laſted as long as their lives. A painting of St Stephen, which he finiſhed in 1651, raiſed his reputation to the higheſt pitch. Soon after this, the king, upon the repreſentation of Mr. Colbert, made him his firſt painter, and conferred on him the order of St Michael. His majeſty employed two hours every day to ſee him work, while he was painting the family of Darius at Fountainbleau. About the year 1662, he began his five large pieces of the hiſtory of Alexander the Great, in which he is ſaid to have ſet the actions of that famous conqueror in a more glorious light than Quintus Curtius hath done in his hiſtory. He procured ſeveral advantages for the royal academy of painting and ſculpture at Paris, and formed the plan of another for the ſtudents of his own nation at Rome. There was ſcarce any thing done for the advancement of the fine arts in which he was not conſulted. It was thro' the intereſt of M. Colbert that the king gave him the direction of all his works, particularly of his royal manufactory at the Gobelins, where he had a handſome houſe with a genteel ſalary aſſigned to him. He was alſo made director and chancellor of the royal academy, and ſhowed the greateſt zeal to encourage the fine arts in France. He was endowed with a vaſt inventive genius, which extended itſelf to arts of every kind. He was well acquainted with the manners and hiſtory of all nations. Beſides his extraordinary talents, his behaviour was ſo genteel, and his addreſs ſo pleaſing, that he attracted the regard and affection of the whole court of France, where, by the places and penſions conferred on him by the king's liberality, he made a very conſiderable figure. Le Brun was the author of two treatiſes; one on phyſiognomy, and the other on the different characters of the paſſions. He died at Paris in 1690.

The talent of this painter, except for landſcapes was univerſal. He was not indeed admired for his colouring, nor for his ſkill in the diſtribution of his lights and ſhadows; but for a good guſto of deſign, an excellent choice of attitudes, an agreeable management of his draperies, a beautiful and juſt expreſſion, and a ſtrict obſervance of decorum. In fine, his compoſitions demand the attention and admiration of the niceſt judges. The pieces that gained him greateſt reputation were, beſides what we have already mentioned, thoſe which he finiſhed at Fountainbleau, the great ſtair-caſe at Verſailles, but eſpecially the grand gallery there, which was the laſt of his works, and is ſaid to have taken him up 14 years.

BRUNDISIUM, or BRUNDUSIUM, (anc. geog.), a town of Calabria, with the beſt harbour in Italy. It was a very ancient town, and belonged originally to the Salentines; but was taken by the Romans about 256 years before Chriſt. Now *Brindiſi;* which ſee.

BRUNIA, in botany; a genus of the monogynia order, belonging to the pentandria claſs of plants. The flowers are aggregate or cluſtered; the filaments inſerted into the heels of the petals; the ſtigma is bifid: the ſeeds are ſolitary, and the capſule is bilocular. There are eight ſpecies.

BRUNO (Jordano), an atheiſtical writer, was born at Nolo in the kingdom of Naples; and about the year 1582 began to call in queſtion ſome of the tenets of the Romiſh church, which occaſioned his retiring to Geneva: but after two years ſtay there, he expreſſed his averſion to Calviniſm in ſuch a manner that he was expelled the city. After having ſtaid ſome time at Lyons, Thoulouſe and Paris, he came to London, and continued two years in the houſe of M. Caſtleneau the French ambaſſador. He was very well received by queen Elizabeth and the politer part of the court. His principal friends were Sir Philip Sidney and Sir Fulk Greville. With theſe and ſome others of their club, Bruno held aſſemblies; but as they treated of ſubjects of a very delicate nature, which did not ſuit the taſte or capacity of every body, they kept the door always ſhut, and none but ſelect perſons were admitted into their company. At Sir Philip's requeſt, he compoſed his *Spaccio della Beſtia Triumphante,* which was printed in 8vo, 1584, and dedicated to that gentleman. This work, which is remarkable for nothing but its impiety, we are told in one of the Spectators, (n° 389), ſold at an auction in London for L. 30. From England he went to Wittemberg, and from thence to Prague, where he printed ſome tracts, in which he openly diſcovered his atheiſtical principles. After viſiting ſome other towns in Germany, he made a tour to Venice. Here he was apprehended by order of the inquiſition, tried, condemned, and refuſing to retract, was burnt at the ſtake, February 9th 1600.

BRUNSBUTTLE, a ſea-port town of Germany, in the circle of Lower Saxony, and duchy of Holſtein, ſeated at the mouth of the river Elbe, in E. Long. 8. 42. N. Lat. 44. 30. It is ſubject to Denmark.

BRUNSFELSIA, in botany, a genus of the monogynia order, belonging to the pentandria claſs of plants. The corolla is funnel-ſhaped, and very long; and the fruit an unilocular polyſpermous berry. There is but one ſpecies, viz. the americana. It riſes with a woody branching rough ſtem ſix or eight feet high, varniſhed with oblong entire leaves on footſtalks, and large whitiſh flowers by threes or fours at the ends of the branches, ſucceeded by round ſaffron-coloured ſoft fruit. This plant may be raiſed from ſeeds ſown in pots in the ſpring, and plunged in a bark-bed. It may alſo be propagated by cuttings planted in pots in the ſame ſeaſon, plunging them alſo in a bark-bed, or other hot bed under glaſſes. The plants muſt always remain in the ſtove.

BRUNSWICK, a city of Germany, in the circle of Lower Saxony, and capital of the duchy of the ſame name. It is compoſed of five towns, *viz.* the Old Town, the New Town, the Hagen or Burg, the Old Wieck, and the Sac, which makes it a large place, but the houſes are almoſt all built of wood. There are ſeveral churches, one of which is an ancient Gothic building, but the appearance of its antiquity is almoſt abſorbed by the repairs it has undergone. Brunſwick is a fortified place, and would require a numerous army to beſiege, and not a few men to defend it. It is of a ſquare form, divided in the middle by the river Ocker. It is about two miles in circumference, and is ſtrongly fortified. On the ramparts is a mortar piece of braſs, ten feet ſix inches long, and nine feet two inches in circumference, weighing 1800 quintals, and has 93 quintals of iron in its carriages. It will carry a ball of 730 pounds weight to the diſtance of 33,000 paces, and throw a bomb of a thouſand weight; but it requires 52 pounds of powder for a charge. This city is the reſidence of the prince who is ſtyled the *duke of Brunſwick Wolfenbuttle.* The inhabitants of the city and parts adjacent carry on a conſiderable trade with Bohemia. Brunſwick mum is well known in England; a ſmall ſort of which is the common drink of the inhabitants of the city. The religion here is the Lutheran, and they obſerve it very ſtrictly. The peaſants are ſober aud laboroious, but clowniſh and heavy; however as they are robuſt and ſtrong, they make good ſoldiers. The elector of Hanover is ſtyled *duke of Brunſwick,* though he has no property in, nor dominion over, this city, which belongs to the duke of Brunſwick Wolfenbuttle. The number of inhabitants is about 24,000; and the whole income of the duke is eſtimated at L. 130,000. The academy of Brunſwick, Dr Moore informs us, has been new-modelled, and the plan of education improved, by the attention, and under the patronage, of the hereditary prince. Students now reſort to this academy from many parts of Germany: and there are generally ſome young gentlemen from Britain, who are ſent to be educated there. Such of them as are intended for a military life, will not find ſo many advantages united at any other place in the continent, as at the academy at Brunſwick. They will here be under the protection of a family partial to the Britiſh nation; every branch of ſcience is taught by maſters of known abilities;—the young ſtudents will ſee garriſon duty regularly performed, and may by the intereſt of the prince obtain liberty to attend the reviews of the Pruſſian troops at Magdeburg and Berlin. They will have few temptations to expence, in a town where they can ſee no examples of extravagance—have few opportunities of diſſipation, and none of groſs debauchery.

The fortifications at Brunſwick were of great utility laſt war, and on one occaſion they ſaved the town from being pillaged, and afforded prince Frederick, who is now in the Pruſſian ſervice, an opportunity of performing an action, which, it is imagined, gave him more joy than twenty victories. This happened in the year 1761, ſoon after the battle of Kirch Denkern, when duke Ferdinand protected Hanover, not by conducting his army into that country, and defending it directly, as the enemy ſeemed to expect, and probably wiſhed; but by diverſion, attacking with ſtrong detachments, commanded by the hereditary prince, their magazines in Heſſe, and thus drawing their attention from Hanover to that quarter. While the duke lay encamped at Willhemſthall, watching the motions of Broglio's army, the marechal being greatly ſuperior in numbers, ſent a body of 20,000 men, under prince Xavier of Saxony, who took poſſeſſion of Wolfenbuttle, and ſoon after inveſted Brunſwick. Prince Ferdinand, anxious to ſave his native city, ventured to detach 5000 of his army, ſmall as it was, under his nephew Frederick, aſſiſted by general Luckener, with orders to haraſs the enemy, and endeavour to raiſe the ſiege. The young prince, while on his march, ſent a ſoldier with a letter to the governor, which was wrapped round a bullet, and which the ſoldier was to ſwallow in caſe of his being taken by the enemy.—He had the good fortune to get ſafe into the town. The letter appriſed the commander of the garriſon of the prince's approach, and particulariſed the night and hour when he expected to be at a certain place near the town, requiring him to favour his entrance.

In the middle of the night appointed, the prince fell ſuddenly on the enemy's cavalry, who, unſuſpicious of his approach, were encamped careleſsly within a mile of the town. They were immediately diſperſed, and ſpread ſuch an alarm among the infantry, that they alſo retreated with conſiderable loſs. Early in the morning the young prince entered Brunſwick, amidſt the acclamations of his fellow citizens, whom he had relieved from the horrors of a ſiege. The hereditary prince having deſtroyed the French magazines in Heſſe, had been recalled by his uncle, and ordered to attempt the relief of Brunſwick. While he was advancing with all poſſible ſpeed, and had got within a few leagues of the town, he received the news of the ſiege being raiſed. On his arrival at his father's palace, he found his brother Frederick at table, entertaining the French officers, who had been taken priſoners the preceding night.

BRUNSWICK (the duchy of), is a country of Germany, bounded on the north by the duchy of Lunenburg; on the weſt, by the circle of Weſtphalia, from which it is ſeparated by the river Weſer; on the ſouth by Heſſe, and the little territory of Piechfield; and on the eaſt by Thuringia, with the principalities of Anhalt and Halberſtadt, and the duchy of Magdeburg. The rivers are, the Weſer, the Ocker, and the Lyne; and it is fertile both in corn and paſtures. It is divided into the three principalities, Wolfenbuttle, Grubenhagen, and Calenberg, which alſo comprehends the duchy of Gottingen. The principality of Wolfenbuttle has its own dukes; but the other two belong to the elector of Hanover. The territories of the houſe of Brunſwick are more extenſive; the principal of which are the duchies of Brunſwick and Lunenburg, with the county of Danneburg, which is annexed thereto. The reſt are Blankenburg, Dieport, and Hoye, beſides two or three ſmaller diſtricts.

BRUNSWICK (the family of). The illuſtrious and ancient houſe of Brunſwick owes its origin to Azo IV. one of the family of Eſté, ſon of Hugo III. marquis of Ferrara in Italy. Azo, who died in 1055, left by his wife Cunegonde, daughter and heireſs to Guelf III. Duke of Bavaria, a ſon, who was Guelf IV. great-grandfather to Henry the Lyon. His ſon, Guelf V. ſurnamed the Valiant, was created duke of Bavaria by the Emperor Henry II. His ſon, Guelf VI. married Matilda, the richeſt heireſs in Europe; but having no iſſue, his brother Henry the Black ſucceeded to his dominions. He died in 1125, having married Wulfhild daughter of Magnus laſt duke of Saxony, of the Bulling family, by whom he had Henry the Proud, who ſucceeded to Bavaria in 1137; and he having married a daughter of the emperor Lotharius, his father-in-law granted him inveſtiture of Saxony, and meant him for his ſucceſſor in the empire; but this laſt he was diſappointed of. Dying in 1139, both Saxony and Bavaria devolved on his ſon Henry V. ſurnamed the Lyon. He married Maude, eldeſt daughter of king Henry II. of England, and is always looked upon as the founder of the Brunſwick family: it is therefore extremely remarkable, that his Majeſty ſhould be deſcended from one of our worthieſt monarchs, in whom were united the royal Auglo-Saxon and Norman blood. The dominions poſſeſſed by Henry the Lyon were the moſt extenſive of any prince of his time; but having refuſed to aſſiſt the emperor Frederic Barbaroſſa in a war againſt Pope Alexander III. this drew the emperor's reſentment on him; and being already jealous of his power and abilities, all his former ſervices were forgotten; and in the diet of Wurtzburg in 1179 or 1180, he was proſcribed. The duchy of Bavaria was given to Otho count Wittelpatch, from whom is deſcended the preſent electoral family of Bavaria; the duchy of Saxony to Bernard Aſcanius, founder of the houſe of Anhalt; and all his other territories diſpoſed of to different perſons. On this he retired to England; and, by his father's interceſſion, Brunſwick and Lunenburgh were reſtored to him. His wife Maude died in 1189, and he in 1195. He left three ſons; but the two oldeſt, not leaving any male iſſue, William, the third ſon, carried on the line of the family: and his ſon Otho was created duke of Brunſwick and Lunenburgh in 1235, by the emperor Ferdinand II. From him all the ſucceeding dukes of this family have deſcended; and no family can boaſt of a line of princes who have more diſtinguiſhed themſelves, both by their political abilities and martial atchievements; and they are allied to all the principal families in Europe. The houſe of Brunſwick has divided into ſeveral branches. The preſent duke of Brunſwick-Wolfenbuttel is ſprung from the eldeſt; the duke of Brunſwick-Zell was from the ſecond; and from this laſt ſprung the elector of Hanover.

BRUNTISLAND, a parliament town of Fifeſhire in Scotland, ſituated on the frith of Forth, eight miles north of Edinburgh, in W. Long. 3. 5. N. Lat. 56. 12. Here is the beſt harbour on the coaſt, formed by a rocky iſle eked out with piers, for there are none on this ſide the county entirely natural. This is dry at low water. The church is ſquare, with a ſteeple riſing in the centre. The old caſtle, built by the *Duries*, commanded both town and harbour. The place has a natural ſtrength, which, with the conveniency of a port oppoſite to the capital, made it, during the troubles of 1560, a moſt deſirable poſt. The French, allies of the queen regent, fortified it ſtrongly. In 1715, it was ſurpriſed and poſſeſſed by the rebels, who here formed the bold deſign of paſſing over a body of troops to the oppoſite ſhore; which was in part executed, under the command of brigadier Macintoſh, notwithſtanding all the efforts of the men of war.

BRUSCHIUS (Gaſpar), a Latin hiſtorian and poet, was born at Egra in Bohemia, in 1518. He was devoted to books from his childhood, and eſpecially to poetry, in which he gained ſo much reputation, that he attained to the poetical crown, to the dignity of poet laureat, and of count palatine. He wrote with prodigious facility; and his verſes are extremely flowing, eaſy, and natural. He publiſhed Latin poems on a great variety of ſubjects; the hiſtory of the biſhops and biſhoprics of Germany: hiſtory of German monaſteries; and a great number of other works, of which a catalogue is given in Geſner's *Bibliotheque*. Bruſchius was far from being rich, or rather he was very poor; ſubſiſting almoſt entirely by the benefactions of his poetical patrons, and by preſents from the abbots and abbeſſes whoſe monaſteries he deſcribed. The liberalities of ſome abbots, while he was with Oporin at Baſil, enabled him to buy a new ſuit of clothes; but when he found, that appearing well dreſſed in the ſtreets procured him many marks of reſpect from the vulgar, he tore his new finery to pieces, "as ſlaves that had uſurped their maſter's honours." Bruſchius ſeems to have been too great a philoſopher for the age he lived in, or indeed for any age. He was murdered in the foreſt of Scalingenbach, between Rottemberg on the Tauber and Winſheim: and it was believed that this aſſaſſination was concerted and carried into execution by ſome gentlemen againſt whom Bruſchius was about to write ſomething.

BRUSH, an aſſemblage of hairs or hogs briſtles faſtened in the holes of a wooden handle or board, pierced for that purpoſe, ſerving to cleanſe divers bodies by rubbing therewith. The manner of making bruſhes is by folding the hair or briſtle in two; and bringing it by means of a packthread, which is engaged in the fold, through the holes with which the wood is pierced all over, being afterwards faſtened therein with glue. When the holes are thus filled, the ends of the hair are cut to make the ſurface even.

Shearmens BRUSH, is made of wild boars briſtles; and ſerves to lay the wool or nap of cloth, after ſhearing it for the laſt time.

BRUSH, among painters, a larger and coarſer kind of a pencil made of hogs briſtles, wherewith to lay the colours on their large pieces. The Chineſe painters bruſh conſiſts of the ſtalk of a plant; whoſe fibres being fretted at both ends, and tied again, ſerve for a bruſh.

Wire-BRUSHES, are uſed by ſilver ſmiths and gilders, for ſcrubbing ſilver, copper, or braſs pieces, in order to the gilding of them. There is a method of dying or colouring leather, performed by only rubbing the colour on the ſkin with a bruſh. This the French leather-gilders call *brouſſure*; being the loweſt of all the ſorts of dye allowed by their ſtatutes.

BRUSH *of a Fox*, among ſportſmen, ſignifies his drag or tail, the tip or end of which is called the *chape*.

BRUSH is alſo uſed in ſpeaking of a ſmall thicket or coppice. In this ſenſe the word is formed from the middle-age Latin *bruſcia*, *bruſcus*, which ſignifies the ſame.

Brush-Wood denotes ſmall ſlender wood or ſpray. See BROWSE.

BRUSH, in electricity, denotes the luminous appearance of the electric matter iſſuing in a parcel of diverging rays from a point. Beccaria aſcribes this appearance to the force with which the electric fluid, going out of a point, divides the contiguous air, and paſſes through it to that which is more remote.

BRUSHING. Among jockies, a bruſhing gallop denotes a briſk one: a horſe ſhould have his bruſhing gallop in a morning before watering.

BRUSSELS, the capital of Brabant in the Auſtrian Netherlands, and generally the ſeat of the Auſtrian governor, is ſituated on the ſmall river Senne, which runs through it. It is a rich and handſome city; and among the public ſtructures, the ducal palace where the governor reſides, the town-houſe, and the arſenal, are moſt ſuperb. No city in Europe, except Naples and Genoa, makes a finer appearance at a diſtance: but, like them, when in the town, it is all up and down hill. It is encompaſſed with a double brick wall, and has ſeven gates; but being ſeven miles in compaſs, is too large to hold out a long ſiege. In Bruſſels are ſeven fine ſquares or market-places; that of the great market is one of the moſt beautiful in the world. The town-houſe takes up one quarter of it; and has a very high ſteeple, on the top of which is a brazen ſtatue of St Michael, fifteen feet high. In one of the apartments, which is handſomely adorned, the ſtates of Brabant meet. In three other rooms there is the hiſtory of the reſignation of Charles V. wrought in tapeſtry; which is ſo well done, that it may be miſtaken for painting. In the other parts of this ſquare, are the halls of the different trades. There are here ſeveral palaces of the nobility: that of Orange now belongs to the king of

Pruſſia. The opera-houſe is built after the Italian manner, with rows of boxes, in which are chimneys. One is covered over with looking-glaſs, ſo that they can ſit by the fire, drink a bottle, and ſee what is doing. There are 20 public fountains, adorned with ſtatues, at the corners of the moſt public ſtreets; and in the middle of the town-houſe is one with Neptune, the tritons, and the horſes ſpouting out water from their noſtrils. The hoſpitals are well endowed, ſome of which are for the maintenance of ſtrangers for three days. There is alſo a foundling-hoſpital, and one for penitent courtezans. Among the churches, that of St Gudula is very magnificent. It ſtands on the top of a hill, near the gate of Louvain, and is ſurrounded with iron baluſtrades. It is an old Gothic ſtructure, with two large ſteeples at the eaſt end, and is finely adorned within. The Jeſuits have a fine church as well as a library. There are ſeveral monaſteries and nunneries, two of which laſt are Engliſh. The nunnery called the *Beguinage* is like a little town, being ſurrounded by a wall and ditch, and has little ſtreets, where each nun has an apartment. Six or ſeven hundred girls are educated here.

In 1695, Bruſſels was bombarded by marſhall Villeroy, who demoliſhed four thouſand houſes, the ſtadthouſe, and ſeveral churches. In 1708, it was beſieged again by the elector of Bavaria; but the duke of Marlborough ſoon came to its aſſiſtance, and obliged him to raiſe the ſiege with precipitation. Marſhal Saxe, the French general, took it in 1746; but it was reſtored by the treaty of Aix la Chapelle. It is much fallen from its former ſplendor; and all the trade which is carried on there is in lace, camblets, and tapeſtry, which they make in great perfection. E. Long. 4. 8. N. Lat. 50. 51.

BRUSSELS (the quarter or diſtrict of), is one of the four parts of the duchy of Brabant. This quarter is bounded on the eaſt by that of Louvain; on the north by that of Antwerp; on the weſt by Flanders; and on the ſouth by Hainhalt. Bruſſels is the capital city of this quarter and all Brabant.

BRUTE, a general name for all animals except mankind.

Among brutes, the monkey kind bear the neareſt reſemblance to man; both in the external ſhape and internal ſtructure, but more in the former than in the latter. In the monkey kind, the higheſt and the neareſt approach to the likeneſs of man is the Oran Outang, or Homo Sylveſtris†.—The ſtructure and œconomy of brutes make the objects of what is called *Comparative* ANATOMY. See that article.

†See *Simia*.

Philoſophers have been much puzzled about the eſſential characteriſtics of brutes, by which they may be diſtinguiſhed from man. Some define a brute to be an *animal not riſible*, or a *living creature incapable of laughter*; others call them *mute animals*. The peripatetics allowed them a ſenſitive power, but denied them a rational one. The Platoniſts allowed them reaſon and underſtanding, though in a degree leſs pure and refined than that of men. Lactantius allows every thing to brutes which men have, except a ſenſe of religion; and even this has been aſcribed to them by ſome ſceptics. Deſcartes maintained that brutes are mere inanimate machines, abſolutely deſtitute not only of reaſon, but of all thought and perception, and that all their actions are only conſequences of the exquiſite mechaniſm of their bodies. This ſyſtem, however, is much older than Deſcartes; it was borrowed by him from Gomez Pereira, a Spaniſh phyſician, who employed 30 years in compoſing a treatiſe which he entitled, *Antoniana Margarita*, from the Chriſtian names of his father and mother. It was publiſhed in 1554: but his opinion had not the honour of gaining partizans, or even of being refuted; ſo that it died with him. Even Pereira ſeems not to have been the inventor of this notion; ſomething like it having been held by ſome of the ancients, as we find from Plutarch and St Auguſtin. Others, who rejected the Carteſian hypotheſis, have maintained that brutes are endowed with a ſoul eſſentially inferior to that of men; and to this ſoul ſome have allowed immortality, others not. And laſtly, in a treatiſe publiſhed by one Bougeant a Jeſuit, entitled, *A philoſophical amuſement on the language of beaſts*, he affirms that they are animated by evil-ſpirits or devils.

The opinion of Deſcartes was probably invented, or at leaſt adopted, by him to defeat two great objections: one againſt the immortality of the ſouls of brutes, if they were allowed to have any; the other againſt the goodneſs of God, in ſuffering creatures who had never ſinned, to be ſubjected to ſo many miſeries. The arguments in favour of it may be ſtated as follow: 1. It is certain, that a number of human actions are merely mechanical; becauſe they are done imperceptibly to the agent, and without any direction from the will; which are to be aſcribed to the impreſſion of objects and the primordial diſpoſition of the machine, wherein the influence of the ſoul has no ſhare; of which number are all habits of the body acquired from the reiteration of certain actions. In all ſuch circumſtances, human beings are no better than automata. 2. There are ſome natural movements ſo involuntary, that we cannot reſtrain them; for example, that admirable mechaniſm ever on the watch to preſerve an equilibrium, when we ſtoop, bend, or incline our bodies in any way, and when we walk upon a narrow plank. 3. The natural liking for, and antipathy againſt certain objects, which in children precede the power of knowing and diſcriminating them, and which ſometimes in grown perſons triumph over all the efforts of reaſon; are all phenomena to be accounted for from the wonderful mechaniſm of the body, and are ſo many cogent proofs of that irreſiſtible influence which objects have on the human frame. 4. Evey one knows how much our paſſions depend on the degree of motion into which the blood is put, and the reciprocal impreſſions cauſed by the animal-ſpirits between the heart and brain, that are ſo cloſely connected by their nerves, and if ſuch effects may be produced by ſuch ſimple mechanical means as the mere increaſe of motion in the blood, without any direction of the will, we are not to wonder at the actions of brutes being the effects only of a refined mechaniſm, without thought or perception. 5. A farther proof will ariſe from a conſideration of the many wonderful effects which even the ingenuity of men has contrived to bring about by mechanical means; the androide, for inſtance, of Mr Kempell, which plays at cheſs. Now, it is not to be queſtioned, but that the mechaniſm of the body of the meaneſt animal infinitely ſurpaſſes that of Mr Kempell's machine; and what can be the conſequence of this, but that the actions of that animal muſt be proportionably more ſurpriſing than thoſe of the wooden cheſs-player? See ANDROIDES and AUTOMATON.

The above is a ſhort abſtract of all the arguments that are brought in favour of the Carteſian ſyſtem: but they are evidently very far from being concluſive. They are deficient, in the firſt place, becauſe, though we allow them in the utmoſt extent the Carteſians themſelves can deſire, they prove only the poſſibility of brutes being inanimate, and that the power of God actually could produce ſuch and ſuch actions from inanimate machines; but that he actually hath done ſo, they have not the leaſt tendency to prove. In the ſecond place, the Carteſian argument is inſufficient, becauſe it hath no limits, and knows not where to ſtop; as, by the ſame method of arguing, every man might prove his neighbour to be an inanimate machine: for though every individual be conſcious of his own thoughts, he is not ſo of thoſe of his neighbours; and it no more exceeds the power of God to cauſe an inanimate machine perform the actions of a man than thoſe of a beaſt. Neither are the two objections which the hypotheſis is calculated to anſwer, to be at all admitted as arguments in its favour. They are, 1. That if we allow brutes to have ſouls, they muſt be immaterial, and conſequently immortal; and, 2. It ſeems a contradiction to the goodneſs of God to think that he ſhould ſubject innocent creatures to ſuch a multitude of evils as we ſee the brute creation endure in this world. The firſt of theſe is productive of no bad conſequences to us, though it ſhould be granted: and if it is ſuppoſed that the brute creatures are really immortal, the ſecond objection vaniſhes; becauſe, in the enjoyment of endleſs felicity, all temporary afflictions, how ſevere ſoever, muſt be ſwallowed up as though they had never been.

As to a poſitive proof on the other ſide, *viz.* that brutes are really endowed with ſenſation and conſciouſneſs, there is undoubtedly the ſame evidence for the ſenſibility of brutes that there is for that of mankind. We ſee brutes avoid pain as much as we do; and we likewiſe ſee them ſeek for pleaſure, and expreſs their happineſs in the enjoyment of certain things by ſigns not at all equivocal. Therefore, though we grant the poſſibility of all this being the effect of mere mechaniſm: yet, as we are conſcious that in ourſelves ſimilar effects are produced by a ſentient principle, we have all the reaſon in the world to conclude that in brutes they are likewiſe derived from a principle of ſenſation: eſpecially ſeeing we know of no kind of mechaniſm in any other part of nature that produces any thing like the effects juſt mentioned; and until we ſee that a mechaniſm of this kind does take place in ſome part of nature, we have no right to ſuppoſe it in any. As to thoſe actions of the human body in which it ſeems to move ſpontaneouſly, like an automaton, without the direction of the mind or will, it is almoſt ſuperfluous to obſerve, that they were not performed in this manner originally, but required very great exertions of the will and intellectual faculty before the body could be brought to perform them eaſily; ſo that from this nothing can be inferred. Add to this, that divine revelation ſets forth to us in many places the brute creation as objects of mercy; which could not be done without the higheſt abſurdity, if they were not really capable of feeling pleaſure and pain as well as we.

The moſt rational oppoſers of the Carteſian ſcheme maintain, that brutes are endowed with a principle of ſenſation as well as we; though of an inferior nature to ours. Great diſputes, however, have ariſen on this ſubject; ſome maintaining, that the ſoul of brutes is merely ſenſitive, and that they are altogether deſtitute of reflection and underſtanding; others, that they not only reaſon, but make a better uſe of it than men do. That the brutes are endowed only with ſenſation, and totally deſtitute of all power of reflection, or even reaſoning, is what can by no means be maintained on good grounds: neither can it be aſſerted that they act entirely from inſtinct, or a blind propenſity to certain things without knowing why or wherefore. In numberleſs inſtances, needleſs to be mentioned here, but which will readily occur to every reader, it is evident, that education will get the better of many of the natural inſtincts of brutes; which could never be the caſe were they abſolutely incapable of reaſoning. On the other hand, it is equally certain, that they are by no means capable of education in the ſame degree that men are; neither are the rational exertions of beaſts at all to be compared even with thoſe of the meaneſt ſavages. One remarkable inſtance of this is in the uſe of the element of fire. The moſt ſavage nations have known how to make this element ſubſervient to their purpoſes; or if ſome have been found who have been entirely ignorant of its exiſtence, they have quickly learned its uſes on ſeeing it made uſe of by others: but though many of the brute creatures are delighted with warmth, and have opportunities every day of ſeeing how fire is ſupplied with fuel, and by that means preſerved, it never was known that one of them attempted to preſerve a fire by this means. This ſhows a ſtrange defect of rationality, unaccountable upon any other ſuppoſition than that the ſoul or ſentient principle of brutes is ſome how or other inferior in its nature to that of man; but ſtill it is a ſentient principle, capable of perceptions as quick, and in many inſtances much more ſo than our own.

Father Bougeant ſupports his opinion of the ſpirits of brute creatures being devils, in the following manner: Having proved at large that beaſts naturally have underſtanding, "Reaſon (ſays he) naturally inclines us to believe that beaſts have a ſpiritual ſoul; and the only thing that oppoſes this ſentiment is, the conſequences that might be inferred from it. If brutes have a ſoul, that ſoul muſt be either matter or ſpirit; it muſt be one of the two, and yet you dare affirm neither. You dare not ſay it is matter, becauſe you muſt then neceſſarily ſuppoſe matter to be capable of thinking: nor will you ſay that it is ſpirit; this opinion bringing with it conſequences contrary to the principles of religion; and this, among others, that man would differ from beaſts only by the degrees of plus and minus; which would demoliſh the very foundation of all religion. Therefore, if I can elude all theſe conſequences; if I can aſſign to beaſts a ſpiritual ſoul, without ſtriking at the doctrines of religion; it is evident, that my ſyſtem, being moreover the moſt agreeable to reaſon, is the only warrantable hypotheſis. Now I ſhall, and can do it, with the greateſt eaſe imaginable. I even have means, by the ſame method, to explain many very obſcure paſſages in the Holy Scripture, and to reſolve ſome very great difficulties which are not well confuted. This we ſhall unfold in a more particular manner.

"Religion teaches us, that the devils, from the very moment they had ſinned, were reprobate, and that they were doomed to burn for ever in hell; but the church has not yet determined whether they do actually endure the torments to which they are condemned. It may then be thought that they do not yet ſuffer them, and that the execution of the verdict brought againſt them is reſerved for the day of the final judgment.—Now, what I pretend to infer from hence is, that, till doomſday comes, God, in order not to ſuffer ſo many legions of reprobate ſpirits to be of no uſe, has diſtributed them through the ſeveral ſpaces of the world, to ſerve the deſigns of his Providence, and make his omnipotence to appear. Some, continuing in their natural ſtate, buſy themſelves in tempting men, in ſeducing and tormenting them; either immediately, as Job's devil, and thoſe that lay hold of human bodies; or by the miniſtry of ſorcerers or phantoms. Theſe wicked ſpirits are thoſe whom the ſcripture calls the *powers of darkneſs*, or the *powers of the air*. God, with the others, makes millions of beaſts of all kinds, which ſerve for the uſes of men, which fill the univerſe, and cauſe the wiſdom and omnipotence of the Creator to be admired. By that means I can eaſily conceive, on the one hand, how the devils can tempt us; and on the other, how beaſts can think, know, have ſentiments, and a ſpiritual ſoul, without any way ſtriking at the doctrines of religion. I am no longer ſurpriſed to ſee them have forecaſt, memory, and judgment. I ſhould rather have occaſion to wonder at their having no more, ſince their ſoul very likely is more perfect than ours. But I diſcover the reaſon of this: it is becauſe, in beaſts as well as in ourſelves, the operations of the mind are dependent on the material organs of the machine to which it is united; and thoſe organs being groſſer and leſs perfect than in us, it follows, that the knowledge, the thoughts, and the other ſpiritual operations of the beaſts, muſt of courſe be leſs perfect than ours: And if theſe proud ſpirits know their own diſmal ſtate, what an humiliation muſt it be to them thus to ſee themſelves reduced to the condition of beaſts! But, whether they know it or no, ſo ſhameful a degradation is ſtill, with regard to them, the primary effect of the divine vengeance I juſt mentioned; it is an anticipated Hell."

Having mentioned the prejudices againſt this hypotheſis, ſuch particularly as the pleaſure which people of ſenſe and religion take in beaſts and birds, eſpecially all ſorts of domeſtic animals; he proceeds, "Do we love beaſts for their own ſakes? No. As they are altogether ſtrangers to human ſociety, they can have no other appointment but that of being uſeful and amuſing. And what care we whether it be a devil or any other creature that amuſes us? The thought of it, far from ſhocking, pleaſes me mightily. I with gratitude admire the goodneſs of the Creator, who gave me ſo many little devils to ſerve and amuſe me. If I am told that theſe poor devils are doomed to ſuffer eternal tortures, I admire God's decrees, but I have no manner of ſhare in that dreadful ſentence; I leave the execution of it to the ſovereign Judge; and, notwithſtanding this, I live with my little devils as I do with a multitude of people, of whom religion informs me that a great number ſhall be damned. But the cure of a prejudice is not to be effected in a moment; it is done by time and reflection: give me leave then lightly to touch upon this difficulty, in order to obſerve a very important thing to you.

"Perſuaded as we are that beaſts have intelligence, have we not all of us a thouſand times pitied them for the exceſſive evils which the majority of them are expoſed to, and in reality ſuffer? How unhappy is the condition of horſes! we are apt to ſay upon ſeeing a horſe whom an unmerciful carman is murdering with blows. How miſerable is a dog whom they are breaking for hunting! How diſmal is the fate of beaſts living in woods! they are perpetually expoſed to the injuries of the weather; always ſeized with apprehenſions of becoming the prey of hunters, or of ſome wilder animal; for ever obliged, after long fatigue, to look out for ſome poor inſipid food; often ſuffering cruel hunger; and ſubject, moreover, to illneſs and death! If men are ſubject to a multitude of miſeries that overwhelm them, religion acquaints us with the reaſon of it; viz. the being born ſinners. But what crimes can beaſts have committed by birth to be ſubject to evils ſo very cruel? What are we, then, to think of the horrible exceſſes of miſeries undergone by beaſts? miſeries, indeed, far greater than thoſe endured by men. This is, in any other ſyſtem, an incomprehenſible myſtery; whereas nothing is more eaſy to be conceived from the ſyſtem I propoſe. The rebellious ſpirits deſerve a puniſhment ſtill more rigorous, and happy it is for them that their puniſhment is deferred. In a word, God's goodneſs is vindicated, man himſelf is juſtified: for what right can we have, without neceſſity, and often in the way of mere diverſion, to take away the life of millions of beaſts, if God had not authoriſed us ſo to do? And beaſts being as ſenſible as ourſelves of pain and death, how could a juſt and merciful God have given man that privilege, if they were not ſo many guilty victims of the divine vengeance?

"But hear ſtill ſomething more convincing, and of greater conſequence: beaſts, by nature, are extremely vicious. We know well that they never ſin, becauſe they are not free; but this is the only condition wanting to make them ſinners. The voracious birds and beaſts of prey are cruel. Many inſects of one and the ſame ſpecies devour one another. Cats are perfidious and ungrateful; monkeys are miſchievous; and dogs envious. All beaſts in general are jealous and revengeful to exceſs; not to mention many other vices we obſerve in them: and at the ſame time that they are by nature ſo very vicious, they have, ſay we, neither the liberty nor any helps to reſiſt the bias that hurries them into ſo many bad actions. They are, according to the ſchools, neceſſitated to do evil, to diſconcert the general order, to commit whatever is moſt contrary to the notion we have of natural juſtice and to the principles of virtue. What monſters are theſe in a world originally created for order and juſtice to reign in? This is, in good part, what formerly perſuaded the Manicheans that there were of neceſſity two orders of things, one good, and the other bad; and that the beaſts were not the work of the good principle: a monſtrous error! But how then ſhall we believe that beaſts came out of the hands of their Creator with qualities ſo very ſtrange! If man is ſo very wicked and corrupt, it is becauſe he has himſelf through ſin perverted the happy nature God had given him at his creation. Of two things, then, we muſt ſay one: either that God has taken delight in making beaſts ſo vicious as they are, and of giving us in them models of what is moſt ſhameful in the world; or that they have, like man, original ſin, which has perverted their primitive nature.

"The firſt of theſe propoſitions finds very difficult acceſs to the mind, and is an expreſs contradiction to the holy ſcriptures; which ſay, that whatever came out of God's hands, at the time of the creation of the world, was good, yea very good. What good can there be in a monkey's being ſo very miſchievous, a dog ſo full of envy, a cat ſo malicious? But then many authors have pretended, that beaſts, before man's fall, were different from what they are now; and that it was in order to puniſh man that they became ſo wicked. But this opinion is a mere ſuppoſition of which there is not the leaſt footſtep in Holy Scripture. It is a pitiful ſubterfuge to elude a real difficulty: this at moſt might be ſaid of the beaſts with whom man has a ſort of correſpondence; but not at all of the birds, fiſhes, and inſects, which have no manner of relation to him. We muſt then have recourſe to the ſecond propoſition, That the nature of beaſts has, like that of man, been corrupted by ſome original ſin: Another hypotheſis, void of foundation, and equally inconſiſtent with reaſon and religion, in all the ſyſtems which have been hitherto eſpouſed concerning the ſouls of beaſts. What part are we to take? Why, admit of my ſyſtem, and all is explained. The ſouls of beaſts are refractory ſpirits which have made themſelves guilty towards God. The ſin in beaſts is no original ſin; it is a perſonal crime, which has corrupted and perverted their nature in its whole ſubſtance; hence all the vices and corruption we obſerve in them, though they can be no longer criminal, becauſe God, by irrecoverably reprobating them, has at the ſame time diveſted them of their liberty."

Theſe quotations contain the ſtrength of father Bougeant's hypotheſis, which alſo hath had its followers; but the reply to it is obvious. Beaſts, though remarkably miſchievous, are not completely ſo; they are in many inſtances capable of gratitude and love, which devils cannot poſſibly be. The very ſame paſſions that are in the brutes, exiſt in the human nature; and if we choſe to argue from the exiſtence of thoſe paſſions, and the aſcendency they have over mankind at ſome times, we may ſay with as great juſtice, that the ſouls of men are devils, as that the ſouls of brutes are. All than can be reaſonably inferred from the greater prevalency of the malignant paſſions among the brutes than among men, is, that the former have leſs rationality than men: and accordingly it is found, that among ſavages, who exerciſe their reaſon leſs than other men, every ſpecies of barbarity is practiſed, without being deemed a crime.

On the preſent ſubject there is a very ingenious treatiſe in German, publiſhed by the late profeſſor Bergman, under the title (as tranſlated) of "Reſearches deſigned to ſhow what the brute animals certainly *are not*, and alſo what they probably *are*."—That they are *not* machines, he proves with more detail than ſeemed neceſſary for refuting a hypotheſis which would equally tend to make *us all* machines. It is certain, that the *half-reaſoning* elephant cannot be deemed a machine, by us, from any other conſideration, than that *he* goes upon four feet, while *we* go upon two; and he might as well take us for mere machines becauſe *we* go upon two feet, while *he* goes upon four.

But if animals are not mere machines, what *are* they? Manifeſtly ſenſitive beings, with an immaterial principle; and thinking or reaſoning beings, to a *certain degree*. In certain claſſes of animals this appears evident to our author, who ſeems to have obſerved with great ſagacity and attention their *various* operations and proceedings, their ways and means, &c. He thinks it impoſſible to deduce this variety of action, in any animals (if we except thoſe of the loweſt claſſes in the gradation of intelligence), from a general and uniform inſtinct. For they accommodate their operations to times and circumſtances. They combine; they chooſe the favourable moment; they avail themſelves of the occaſion, and ſeem to receive inſtruction by experience. Many of their operations announce reflection: the bird repairs a ſhattered neſt, inſtead of conſtructing inſtinctively a new one: the hen, who has been robbed of her eggs, changes her place in order to lay the remainder with more ſecurity: the cat diſcovers both care and artifice in concealing her kittens. Again, it is evident, that, on many occaſions, animals know their faults and miſtakes, and correct them; they ſometimes contrive the moſt ingenious methods of obtaining their ends, and when one method fails have recourſe to another; and they have, without doubt, a kind of language for the mutual communication of their ideas. How is all this to be accounted for (ſays our author), unleſs we ſuppoſe them endowed with the powers of perceiving, thinking, remembering, comparing, and judging? They have theſe powers, indeed, in a degree inferior to that in which they are poſſeſſed by the human ſpecies, and form claſſes below them in the graduated ſcale of intelligent beings. But ſtill it ſeems to our author unreaſonable to exclude them from the place which the principles of ſound philoſophy, and facts aſcertained by conſtant obſervation, aſſign to them in the great and diverſified ſphere of life, ſenſation, and intelligence;—he does not, however, conſider them as beings whoſe actions are directed to *moral* ends, nor conſequently as accountable and proper ſubjects for *reward* or *puniſhment* in a future world.

That brute animals poſſeſs reflection and ſentiment, and are ſuſceptible of the kindly as well as the iraſcible paſſions, independently of ſexual attachment and natural affection, is evident from the numerous inſtances of affection and gratitude daily obſervable in different animals, particularly the dog. Of thoſe and other ſentiments, ſuch as pride, and even a ſenſe of glory, the elephant exhibits proofs equally ſurpriſing and indubitable,

table, as the reader may ſee under the article ELEPHAS.

Whites' Natural Hiſtory, &c. of Selborne.

As to the natural affection of brutes, ſays an ingenious writer, "the more I reflect on it, the more I am aſtoniſhed at its effects. Nor is the violence of this affection more wonderful than the ſhortneſs of its duration. Thus every hen is in her turn the virago of the yard in proportion to the helpleſſneſs of her brood; and will fly in the face of a dog or a ſow in defence of thoſe chickens which in a few weeks ſhe will drive before her with relentleſs cruelty. This affection ſublimes the paſſions, quickens the invention, and ſharpens the ſagacity of the brute creation. Thus an hen, juſt become a mother, is no longer that placid bird ſhe uſed to be, but with feathers ſtanding on end, wings hovering, and clocking note, ſhe runs about like one poſſeſſed. Dams will throw themſelves in the way of the greateſt danger in order to avert it from their progeny. Thus a patridge will tumble along before a ſportſman in order to draw away the dogs from her helpleſs covey. In the time of nidification the moſt feeble birds will aſſault the moſt rapacious. All the hirundines of a village are up in arms at the ſight of an hawk, whom they will perſecute till he leaves that diſtrict. A very exact obſerver has often remarked, that a pair of ravens neſtling in the rock of Gibraltar would ſuffer no vulture or eagle to reſt near their ſtation, but would drive them from the hill with an amazing fury: even the blue-thruſh at the ſeaſon of breeding, would daſt out from the clefts of the rocks to chaſe away the keſtril or the ſparrow-hawk. If you ſtand near the neſt of a bird that has young, ſhe will not be induced to betray them by an inadvertant fondneſs, but will wait about at a diſtance with meat in her mouth for an hour together. The fly-catcher builds every year in the vines that grow on the walls of my houſe. A pair of theſe little birds had one year inadvertently placed their neſt on a naked bough, perhaps in a ſhady time, not being aware of the inconvenience that followed; but an hot ſunny ſeaſon coming on before the brood was half fledged, the reflection of the wall became inſupportable, and muſt inevitably have deſtroyed the tender young, had not affection ſuggeſted an expedient, and prompted the parent-birds to hover over the neſt all the hotter hours, while with wings expanded and mouths gaping for breath they ſcreened off the heat from their ſuffering offspring. A farther inſtance I once ſaw of notable ſagacity in a willow-wren, which had built in a bank in my fields. This bird a friend and myſelf had obſerved as ſhe ſat in her neſt; but were particularly careful not to diſturb her, though we ſaw ſhe eyed us with ſome degree of jealouſy. Some days after, as we paſſed that way, we were deſirous of remarking how this brood went on; but no neſt could be found, till I happened to take up a large bundle of long green moſs as it were careleſsly thrown over the neſt, in order to dodge the eye of any impertinent intruder."

A wonderful ſpirit of ſociality in the brute creation, independent of ſexual attachment, has been frequently remarked. Many horſes, though quiet with company, will not ſtay one minute in a field by themſelves: the ſtrongeſt fences cannot reſtrain them. A horſe has been known to leap out of a ſtable window, through which dung was thrown, after company; and yet in other reſpects is remarkably quiet. Oxen and cows will not fatten by themſelves; but will neglect the fineſt paſture that is not recommended by ſociety. It would be needleſs to inſtance in ſheep, which conſtantly flock together But this propenſity ſeems not to be confined to animals of the ſame ſpecies. In the work laſt quoted, we are told of "a doe ſtill alive, that was brought up from a little fawn with a dairy of cows; with them it goes a-field, and with them it returns to the yard. The dogs of the houſe take no notice of this deer, being uſed to her: but if ſtrange dogs come by, a chace enſues; while the maſter ſmiles to ſee his favourite ſecurely leading her purſuers over hedge, or gate, or ſtile, till ſhe returns to the cows, who with fierce lowings and menacing horns drive the aſſailants quite out of the paſture."

Even great diſparity of kind and ſize does not always prevent ſocial advances and mutual fellowſhip. Of this the following remarkable inſtance is given in the ſame work: "A very intelligent and obſervant perſon has aſſured me, that in the former part of his life, keeping but one horſe, he happened alſo on a time to have but one ſolitary hen. Theſe two incongruous animals ſpent much of their time together in a lonely orchard, where they ſaw no creature but each other. By degrees an apparent regard began to take place between theſe two ſequeſtered individuals. The fowl would approach the quadruped with notes of complacency, rubbing herſelf gently againſt his legs; while the horſe would look down with ſatisfaction, and move with the greateſt caution and circumſpection, leſt he ſhould trample on his diminutive companion. Thus by mutual good offices each ſeemed to conſole the vacant hours of the other; ſo that Milton, when he puts the following ſentiment in the month of Adam, ſeems to be ſomewhat miſtaken:

Much leſs can bird with beaſt, or fiſh with fowl,
So well converſe, nor with the ox the ape."

In the Gentleman's Magazine for March 1788 we have the following anecdotes of a raven, communicated by a correſpondent who does not ſign his name, but who ſays it is at the ſervice of the doubtful. The raven alluded to "lives, or did live three years ſince, at the red lion at Hungerford; his name, I think, is *Raſe*. You muſt know then, that coming into that inn, my chaiſe run over or bruiſed the leg of my Newfoundland dog; and while we were examining the injury done to the dog's foot, *Raſe was evidently a concerned ſpectator;* for the minute the dog was tied up nnder the manger with my horſe, Raſe not only viſited but fetched him bones, and attended upon him with particular and repeated marks of kindneſs. The bird's notice of the dog was ſo *marked*, that I obſerved it to the hoſtler; for I had not heard a word *before* of the hiſtory of this benevolent creature. John then told me, that he had been bred from his pin-feather in intimacy with a dog; that the affection between them was mutual; and that all the neighbourhood had often been witneſſes of the innumerable acts of kindneſs they had conferred upon each other. Raſe's poor dog, after a while, unfortunately broke his leg; and during the long time he was confined, Raſe waited upon him conſtantly, carried him his proviſions daily, and never ſcarce left him alone! One night by accident the hoſtler had ſhut the ſtable door, and Rafe was deprived of the company of his friend the whole night; but the hoſtler found in the morning the bottom of the door ſo pecked away, that had it not been opened, Rafe would in another hour have made his own entrance-port. I then enquired of my landlady (a ſenſible woman), and heard what I have related confirmed by her, with ſeveral other ſingular traits of the kindneſſes this bird ſhows to all dogs in general, but particularly to *maimed* or wounded ones. I hope and believe, however, the bird is ſtill living; and the traveller will find I have not *over-rated* this wonderful bird's merit."

To theſe inſtances of attachment between incongruous animals from a ſpirit of ſociality or the feelings of ſympathy, may be added the following inſtance of fondneſs from a different motive, recounted by Mr White in the work already ſo frequently quoted. "My friend had a little helpleſs leveret brought to him, which the ſervants fed with milk in a ſpoon; and about the ſame time his cat kittened, and the young were diſpatched and buried. The hare was ſoon loſt, and ſuppoſed to be gone the way of moſt foundlings, to be killed by ſome dog or cat. However, in about a fortnight, as the maſter was ſitting in his garden in the duſk of the evening, he obſerved his cat, with tail erect, trotting towards him, and calling with little ſhort inward notes of complacency, ſuch as they uſe towards their kittens, and ſomething gambling after, which proved to be the leveret that the cat had ſupported with her milk, and continued to ſupport with great affection. Thus was a graminiverous animal nurtured by a carniverous and predaceous one!

"Why ſo cruel and ſanguinary a beaſt as a cat, of the ferocious genus of *Felis*, the *murium leo*, as Linnæus calls it, ſhould be affected with any tenderneſs towards an animal which is its natural prey, is not ſo eaſy to determine. This ſtrange affection probably was occaſioned by that deſiderium, thoſe tender maternal feelings, which the loſs of her kittens had awakened in her breaſt; and by the complacency and eaſe ſhe derived to herſelf from the procuring her teats to be drawn, which were too much diſtended with milk, till from habit ſhe became as much delighted with this foundling as if it had been her real offſpring.

"This incident is no bad ſolution of that ſtrange circumſtance, which grave hiſtorians as well as the poets aſſert, of expoſed children being ſometimes nurtured by female wild beaſts that probably had loſt their young. For it was not one whit more marvellous that Romulus and Remus, in their infant ſtate, ſhould be nurſed by a ſhe-wolf, than that a poor little ſuckling leveret ſhould be foſtered and cheriſhed by a bloody grimalkin.

———*Viridi fœtam Mavortis in antro*
Procubuiſſe lupam: geminos huic ubera circum
Ludere pendentes pueros, et lambere matrem
Impavidos: illam tereti cervice reflexam
Mulcere alternos, et corpora fingere lingua."

But beſides the different qualities enumerated, beſides reflection and ſagacity often in an aſtoniſhing degree, and beſides the ſentiments and actions prompted by ſocial or natural attachments, certain brutes ſeem on many occaſions inſpired with a ſuperior faculty, a kind of preſentiment or ſecond-ſight, as it were, with regard to events and deſigns altogether unforeſeen by the rational beings whom they concern. Of the faculty alluded to, various inſtances will probably conſiſt with the knowledge or the recollection of moſt of our readers: We ſhall therefore only recite the following on account of its unqueſtionable authenticity. At the ſeat of the late earl of Lichfield, three miles from Blenheim, there is a portrait in the dining-room of Sir Henry Lee, by Johnſton, with that of a maſtiff dog which ſaved his life. It ſeems a ſervant had formed the deſign of aſſaſſinating his maſter, and robbing the houſe; but the night he had fixed on, the dog, which had never been much noticed by Sir Henry, for the firſt time followed him up ſtairs, got under his bed, and could not be got from thence by either maſter or man; in the dead of night, the ſame ſervant entered the room to execute his horrid deſign; but was inſtantly ſeized by the dog, and being ſecured confeſſed his intentions. There are ten quaint lines in one corner of the picture, which conclude thus:

But in my dog, whereof I made no ſtore,
I find more love than thoſe I truſted more.

Upon what hypotheſis can we account for a degree of foreſight and penetration ſuch as this? Or will it be ſuggeſted, as a ſolution of the difficulty, that a dog may poſſibly become capable in a great meaſure of underſtanding human diſcourſe, and of reaſoning and acting accordingly; and that, in the preſent inſtance, the villain had either uttered his deſign in ſoliloquy, or imparted it to an accomplice, in the hearing of the animal?

It has been much diſputed whether the brutes have any language whereby they can expreſs their minds to each other; or whether all the noiſe they make conſiſts only of cries inarticulate, and unintelligible even to themſelves. We are, however, too little acquainted with the intellectual faculties of theſe creatures to be able to determine this point. Certain it is, that their paſſions, when excited, are generally productive of ſome peculiar cry; but whether this be deſigned as an expreſſion of the paſſion to others, or only a mechanical motion of the muſcles of the larynx occaſioned by the paſſion, is what we have no means of knowing. We may indeed, from analogy, conclude, with great reaſon, that ſome of the cries of beaſts are really expreſſions of their ſentiments; but whether one beaſt is capable of forming a deſign, and communicating that deſign by any kind of language to others, is what we ſubmit to the judgment of the reader, after giving the following inſtance which among others is brought as a proof of it by father Bougeant. "A ſparrow finding a neſt that a martin had juſt built, ſtanding very conveniently for him, poſſeſſed himſelf of it. The martin, ſeeing the uſurper in her houſe, called for help to expel him. A thouſand martins came full ſpeed, and attacked the ſparrow; but the latter being covered on every ſide, and preſenting only his large beak at the entrance of the neſt, was invulnerable, and made the boldeſt of them who durſt approach him repent of their temerity. After a quarter of an hour's combat, all the martins diſappeared. The ſparrow thought he had got the better, and the ſpectators judged that the martins had abandoned their undertaking. Not in the leaſt. Immediately they returned to the charge; and each of them having procured a little of that tempered earth with which they make their neſts, they all at once fell upon the ſparrow, and incloſed him in the neſt to periſh there, though they could not drive him thence. Can it be imagined that the martins could have been able to hatch and concert this deſign all of them together, without ſpeaking to each other, or without ſome medium of communication equivalent to language?

BRUTTII (anc. geog.), one of the two peninſulas of Italy, the ancient Calabria being the other; ſtretching to the ſouth towards Sicily; bounded by the ſea on every ſide except by the iſthmus, between the river Laus and the Thurii, where it is terminated by Lucania; inhabited by the Brutii, for whoſe country the ancient Romans had no peculiar name, calling both the people and the country indiſcriminately *Brutii*. This and a part of Lucania was the ancient Italia, (Stephanus). It was called Βρέττια, which in Greek ſignifies *pitch*, from the great quantity of it produced there, (Bochart). It is divided into two coaſts by the Appennine; that on the Tuſcan and that on the Ionian Sea. Now called *Calabria Ultra*. Different from the ancient Calabria or Meſſapia, to the eaſt on the Adriatic or Ionian ſea, and which formed the other peninſula or heel of the leg now called *Calabria Citra*, the Bruttii forming the foot.

BRUTTON, a town of Somerſetſhire, in England. It is ſituated on the river Brew; and is a good place, and well inhabited. It is adorned with a very beautiful church; has a free-ſchool founded by Edward I.; and the alms-houſe or hoſpital is ſo good, that it has the appearance of a college. They have a woollen-manufactory of cloth and ſerges, and they are likewiſe noted for their malt. W. Long. 2. 30. N. Lat. 51. 15.

BRUTUS, or **BRUTE**, according to the old exploded hiſtory of this country by Geoffroy of Monmouth, was the firſt king of Britain. He is ſaid to have been the ſon of Sylvius, and he of Aſcanius the ſon of Æneas, and born in Italy: killing his father by chance, he fled into Greece, where he took king Pandraſus priſoner, who kept the Trojans in ſlavery, whom he releaſed on condition of providing ſhips, &c. for the Trojans to forſake the land. Being adviſed by the oracle to ſail weſt beyond Gaul, he, after ſome adventures, landed at Totneſs in Devonſhire. Albion was then inhabited by a remnant of giants, whom Brutus deſtroyed, and called the iſland after his own name, *Britain*. He built a city called *New Troy*, ſince London; and having reigned here 24 years, at his death parcelled the iſland among his three ſons: Locrine had the middle, called *Loegria;* Camber had Wales, and Albanact Scotland.

BRUTUS (Lucius Junius), the avenger of the rape of Lucretia, and founder of the Roman republic, flouriſhed 509 years before Chriſt. See *(Hiſtory of)* ROME.

BRUTUS (Marcus) the paſſionate lover of his country, and chief conſpirator againſt Cæſar, ſlew himſelf on loſing the battle of Philippi, 42 years before Chriſt. See *(Hiſtory of)* ROME.

BRUTUS (John Michael), a man of learning, and a polite writer in the 16th century. He was a native of Venice; and having ſtudied at Padua, ſpent great part of his life in travelling, and became hiſtoriographer to his imperial majeſty. He wrote, 1. A hiſtory of Hungary. 2. A hiſtory of Florence. 3. Notes on Horace, Cæſar, Cicero, &c.; and other works. He was living in the year 1590.

BRUTUS (Stephen Junius), the diſguiſed author of a political work intitled, *Vindiciæ contra tyrannos*. See LANGUET.

BRUYERE (John de la), a celebrated French author, was born at Dourdan in the year 1664. He wrote Characters, deſcribing the manners of his age, in imitation of Theophraſtus; which characters were not always imaginary or general, but deſcriptive, as was well known, of perſons of conſiderable rank. In the year 1693, he was by an order of the king choſen a member of the French academy; and died in the year 1696.—"The Characters of Bruyere (ſays Voltaire) may juſtly be ranked among the extraordinary productions of this age. Antiquity furniſhes no examples of ſuch a work. A ſtyle rapid, conciſe, and nervous; expreſſions animated and picturеſque; an uſe of language altogether new, without offending againſt its eſtabliſhed rules, ſtruck the public at firſt; and the alluſions, which are crowded in almoſt every page, completed its ſucceſs. When La Bruyere ſhowed his work in manuſcript to Maleſieux, this laſt told him, that the book would have many readers, and its author many enemies. It ſomewhat ſunk in the opinion of men, when that whole generation whoſe follies it attacked were paſſed away; yet, as it contains many things applicable to all times and places, it is more than probable that it will never be forgotten."

BRUYIERS, a town of Lorrain in Voſque, with a provoſtſhip. E. Long. 6. 45. N. Lat. 48. 15.

BRYANS-BRIDGE, a town of Ireland, in the county of Clare and province of Connaught, ſeated on the river Shannon, eight miles north of Limeric. W. Long. 8. 30. N. Lat. 52. 31.

BRYANT (Sir Francis), a ſoldier, ſtateſman, and a poet of no inconſiderable fame in his time, was born of a genteel family, educated at Oxford, and afterwards ſpent ſome time in travelling abroad. In the year 1522, the 14th of Henry VIII. he attended, in a military capacity, the earl of Surrey on his expedition to the coaſt of Brittany; and commanded the troops in the attack of the town of Morlaix, which he took and burnt. For this ſervice he was knighted on the ſpot by the earl. In 1528, he was in Spain; but on what ſervice is doubtful. In 1529, he was ſent ambaſſador to France; and, the year following, to Rome on account of the king's divorce. He had alſo been there in 1522, in the ſame capacity, when cardinal Woolſey's election to the holy ſee was in agitation. He was gentleman of the privy chamber to king Henry VIII. and to his ſucceſſor Edward VI. in the beginning of whoſe reign he marched with the protector againſt the Scots; and after the battle of Muſſelburgh, in which he commanded the light horſe, was made banneret. In 1548, he was appointed chief governor of Ireland, where he married the counteſs of Ormond. He died ſoon after, and was buried at Waterford. He wrote, 1. Songs and ſonnets; ſome of which were printed with thoſe of the earl of Surrey and Sir Thomas Wyatt. Lond. 1565. 2. Letters written from Rome concerning the king's divorce; manuſcript. 3. Various letters of ſtate; which Ant. Wood ſays he had ſeen. 4. A diſpraiſe of the life of a courtier, &c. Lond. 1548, 8vo. from the French of Alaygri, who tranſlated it from the Caſtilian language, in which it was originally written by Guevara.

BRYE (John Theodore de), an excellent engraver, was a native of Leige; but he reſided chiefly at Franckfort, where he carried on a conſiderable commerce in prints. It does not appear when he was born, nor to what maſter he owed his inſtructions in the art of deſigning and engraving. He worked almoſt entirely with the graver, and ſeldom called in the aſſiſtance of the point. He acquired a neat, free ſtyle of engraving, excellently well adapted to ſmall ſubjects, in which many figures were to be repreſented; as *funeral parades, proceſſions*, and the like, which he executed in a charming manner. He alſo drew very correctly. His heads in general are ſpirited and expreſſive, and the other extremity of his figures well marked. His back-grounds, though frequently very ſlight, are touched with a maſterly hand. He died, as his ſons inform us in the third part of Boiſſard's collection of portraits, on March 27th, 1598; the two firſt parts of which collection were engraved by himſelf, aſſiſted by his ſons, who afterwards continued it.

BRYENNIUS (Manuel), a Greek writer on muſic, is ſuppoſed to have flouriſhed under the elder Paleologus, viz. about the year of Chriſt 1120. He wrote three books on Harmonics; the firſt whereof is a kind of commentary on Euclid, as the ſecond and third are on Ptolemy. He profeſſes to have ſtudied perſpicuity for the ſake of young men. Meibomius had given the public expectations of a tranſlation of this work: but not living to complete it, Dr Wallis undertook it; and it now makes a part of the third volume of his works, publiſhed at Oxford in three volumes folio, 1699.

BRYENNIUS (Nicephorus), a prince diſtinguiſhed by his courage, probity, and learning, was born at Oreſtia in Macedonia; where his father by rebellion provoked the emperor to ſend his general Alexis Comnenus againſt him, who ordered his eyes to be pulled out; but being charmed with his ſon Bryennius, he married him to Anne Comnenus his daughter, ſo famous by her writings. When Alexis came to the throne, he gave Bryennius the title of *Cæſar;* but would not declare him his ſucceſſor, though ſolicited to it by the empreſs Irene; and was therefore ſucceeded by his ſon John Comnenus, to whom Bryennius behaved with the utmoſt fidelity. Being ſent, about the year 1137, to beſiege Antioch, he fell ſick; and, returning, died at Conſtantinople. This prince wrote the *Hiſtory of Alexis Comnenus*, which he compoſed at the requeſt of his mother-in-law the empreſs Irene.

BRYGMUS, among phyſicians, a grating noiſe made by the gnaſhing of the teeth.

BRYONIA, BRYONY: A genus of the ſyngeneſia order, belonging to the monœcia claſs of plants; and in the natural method ranking under the 34th order, *Cucurbitaceæ*. The calyx of the male is five-toothed, with a quinquefid corolla, and three filaments. In the female the calyx is dentated, the corolla quinquefid, the ſtyle trifid, with a roundiſh many-ſeeded berry.

Species. 1. The alba, rough, or white bryony with red flowers, is a native of dry banks under hedges in many parts of Britain. The roots of this plant have by impoſtors been brought into a human ſhape, and ſhown for mandrakes. The method practiſed by theſe people was to find a young thriving plant of bryony; then they opened the earth all round, being careful not to diſturb the lower fibres; and being provided with ſuch a mould as is uſed for making plaſter figures, they fixed the mould cloſe to the root, faſtening it with wire to keep it in its proper ſituation: then they filled the earth about the root, leaving it to grow to the ſhape of the mould; which in one ſummer it will do; ſo that if this is done in March, by September it will have the ſhape. The leaves of this plant are alſo impoſed on people for mandrake-leaves; although there is no reſemblance between them, nor any agreement in quality. 2. The africana, or African tuberous rooted bryony. 3. The racemoſa, or bryony with a red olive-ſhaped fruit. Theſe are natives of warm climates; and are perennial: but their branches decay every winter. They flower in July, and in warm ſummers will perfect their ſeeds in Britain. 4. The cretica, or ſpotted bryony of Crete. 5. The variegata, or American bryony with a variegated fruit. 6. The bonarienſis, or bryony with hairy palmated leaves, divided into five parts, and obtuſe ſegments. Theſe are likewiſe natives of warm countries; but merit cultivation on account of the pretty appearance they make when the plants are full of fruit.

Culture. The ſecond and third ſorts are to be planted in pots filled with freſh light earth; and in winter muſt be placed in the green-houſe to protect them from froſts and great rains, which would deſtroy them if they were expoſed thereto. In ſummer, they may be expoſed to the open air, and muſt be frequently refreſhed with water in dry weather. The three laſt ſorts are annual plants: they muſt be raiſed on a hot-bed early in the ſpring, and when the plants are about three inches high, they ſhould be each tranſplanted into a ſmall pot, and plunged into a hot-bed of tanner's bark. When the plants are grown ſo large as to ramble about on the ſurface of the bed, and begin to entangle with other plants, they ſhould be ſhifted into larger pots, and placed in the bark-ſtove; where their branches may be trained to the wall, or againſt an eſpalier, that they may have ſun and air, which is abſolutely neceſſary for their producing fruit.

Medicinal Uſes, &c. The roots of the firſt ſpecies are uſed in medicine. Theſe are very large, ſometimes as thick as a man's thigh: their ſmell, when freſh, is ſtrong and diſagreeable; the taſte nauſeouſly bitter, acrid, and biting; the juice is ſo ſharp, as in a little time to excoriate the ſkin; in drying, they loſe great part of their acrimony, and almoſt their whole ſcent.— Bryony-root is a ſtrong irritating cathartic; and as ſuch has ſometimes been ſucceſsfully exhibited in maniacal caſes, in ſome kinds of dropſies, and in ſeveral chronical diſorders, where a quick ſolution of viſcid juices and a ſudden ſtimulus on the ſolids were required. An extract prepared by water acts more mildly, and with greater ſafety, than the root in ſubſtance: given from half a dram to a dram, it is ſaid to prove a gentle purgative, and likewiſe to operate powerfully by urine.— Byrony-root, applied externally, is ſaid to be a powerful diſcutient.

Black-Bryony. See TAMUS.

BRYUM, in botany: A genus of the 56th natural order, viz. *Muſci*, belonging to the cryptogamia claſs of plants. The anthera is operculated, or covered with a lid, the calyptra poliſhed; and there is a filament ariſing from the terminal tubercle. There are 41 ſpecies, moſt of them natives of Britain.

BUA, an iſland of the gulph of Venice, on the coaſt of Dalmatia, near the town of Trau; called likewiſe the *Partridge-iſland*, becauſe frequented by thoſe birds. It is called *Bubus* by Pliny. In the times of the decay of the empire it was called *Boas*; and ſeveral illuſtrious men that fell under diſgrace at court were baniſhed to this iſland; among whom were Florentius, maſter of the offices of the emperor Julian, Immentius de Valenti, and the heretic Jovinian. The emperors of Conſtantinople either were not much acquainted with this pretended Siberia, or were willing to treat the baniſhed with great clemency. It is certain that the climate of this iſland is exceeding mild; the air perfectly good; the oil, grapes, and fruit excellent; and the ſea around it abounds in fiſh, and the port is large and ſecure. Neither is it ſo ſmall that a man has not room to walk and ride about as much as he pleaſes; for it is ten miles in length, and about twenty-five in circuit; nor can it be ſaid to be rugged, though rather high and mountainous.

BUANES, a town of France, in Gaſcony, and in the dioceſe of Aire, ſeated on the river Bahus, in E. Long. 0. 5. N. Lat. 43. 47.

BUARCOS, a town of Portugal, in the province of Beira. W. Long. 8. 5. N. Lat. 40. 3.

BUBALIS, in zoology, the trivial name of the buffalo, a ſpecies of the bos. See Bos.

BUBASTIS, in the Egyptian mythology, one of the names of Iſis or the moon. The Egyptians beſtowed different names on the ſun, either to characterize his effects or his relations with reſpect to the earth; they followed the ſame method reſpecting the moon. Chæremon, a ſacred writer of Egypt, leaves no doubt on this ſubject. "Every thing which is publiſhed of Oſiris and Iſis, all the ſacerdotal fables, allude only to the phaſes of the moon, and the courſe of the ſun." Bubaſtis was one of the principal attributes of Iſis. Theology having perſonified her, formed of her a divinity, in whoſe honour a city of that name was built, as deſcribed by Herodotus, and where the people collected from all parts of Egypt, at a certain period of the year. A cat was the ſymbol of this deity. The prieſts fed it with ſacred food; and when it died, they embalmed its body, and carried it in pomp to the tomb prepared for it. The ancients have explained this worſhip variouſly. The Greeks pretend that when Typhon declared war againſt the gods, Apollo transformed himſelf into a vulture, Mercury into an ibis, and Bubaſtis into a cat, and that the veneration of the people for the latter animal took riſe from that fable; but they aſcribe their own ideas to the Egyptians, who thought very differently. However that may be, the cat was greatly honoured in Egypt, and a Roman ſoldier having imprudently killed one, was immediately put to death by the populace.

Bubaſtis, in the language of the prieſts, was deemed the daughter of Iſis, and even repreſented her in certain circumſtances. It is for this reaſon that the Greeks, who honoured the moon by the name of *Diana*, beſtowed it alſo on this Egyptian divinity. Bubaſtis, ſays Herodotus, is called *Diana* by the Greeks. The Egyptians attributed to her the virtue of aſſiſting pregnant women. The Greeks and Latins, diſciples of the Egyptians, aſcribed the ſame power to Diana; and Horace does not think it unworthy of his pen to addreſs the following ſtrophe to her:

Montium cuſtos nemorumque, Virgo,
Quæ laborantes utero puellas
Ter vocata audis, adimiſque letho,
Diva Triformis.

The philoſopher will ſeek for the origin of this ancient worſhip in the laws impoſed by nature on women, and which in ſome meaſure follow the lunar revolutions. The natural philoſophers and the poets buried it under allegories unintelligible to the people.

A perfect reſemblance, however, does not exiſt between the two deities we have been ſpeaking of. The Greeks conſtituted Diana goddeſs of the chace and of the foreſts; an attribute the Egyptians did not acknowledge in Bubaſtis. The former added, that ſhe was the daughter of Jupiter and Latona, and Bubaſtis was produced by Oſiris and Iſis.

A barbarous cuſtom was introduced at the feſtivals celebrated in honour of Bubaſtis, called by the Greeks alſo *Ilithyia* or *Lucina*, to mark her preſiding over childbed. The Egyptians adored her under this name in the city of Ilithyia, ſituated near Latopolis.

It remains to reſolve a queſtion which naturally ariſes here: How could Bubaſtis be called the daughter of Iſis, ſince ſhe was alſo a ſymbol of the moon? The Egyptian theology eaſily explains theſe apparent contradictions. Iſis was the general appellation of the moon, Bubaſtis a particular attribute. The ſun, in conjunction with the ſtar of the night, formed the celeſtial marriage of Oſiris and Iſis; the creſcent which appears three days after was allegorically called their daughter. It is in this ſenſe that the Hebrews called this ſame phenomenon, *the birth of the moon*, and that Horace ſays,

Cœlo ſupinas ſi tuleris manus,
Naſcente lunâ, ruſtica Phidyle, &c. &c.

Theſe obſervations inform us, why in the city of Ilithyia, where Bubaſtis was adored, the third day of the lunar month was conſecrated by a particular worſhip. In fact, it is three days after the conjunction, that the moon, diſengaged from the rays of the ſun, appears as a creſcent, and is viſible to us. The Egyptians celebrated therefore a ſolemnity in honour of Bubaſtis, which in their tongue ſignified *new moon*. The creſcent with which her head was crowned, expreſſes palpably the intention of the prieſts in creating this ſymbolical divinity.

BUBBLE, in philoſophy, ſmall drops or veſicles of any fluid filled with air; and formed either on its ſurface by an addition of more of the fluid, as in raining, &c.; or in its ſubſtance, by an inteſtine motion of its component particles. Bubbles are dilatable or compreſſible, *i. e.* they take up more or leſs room as the included air is more or leſs heated, or more or leſs preſſed from without; and are round, becauſe the included air acts equally from within all around.

Bubble, in commerce, a cant term given to a kind of project for raiſing money on imaginary grounds, much practiſed in France and England in the years 1719, 1720, and 1721.

The pretence of thoſe ſchemes was the raiſing a capital for retrieving, ſetting on foot, or carrying on, ſome promiſing and uſeful branch of trade, manufacture, machinery, or the like. To this end propoſals were made out, ſhowing the advantages to be derived from the undertaking, and inviting perſons to be engaged in it. The ſum neceſſary to manage the affair, together with the profits expected from it, were divided into ſhares or ſubſcriptions, to be purchaſed by any diſpoſed to adventure therein.

Bubbles, by which the public have been tricked, are of two kinds, viz. 1. Thoſe which we may properly enough term *trading-bubbles*; and, 2. Stock or fund bubbles. The former have been of various kinds; and the latter at different times.

BUBO, in ornithology, the trivial name of a ſpecies of ſtrix. See STRIX.

BUBO, or *Buboe*, in ſurgery, a tumour which ariſes with inflammation, only in certain or particular parts to which they are proper, as in the arm-pits and in the groins. See MEDICINE-*Index*.

BUBON, MACEDONIAN PARSLEY: A genus of the digynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 45th order, *Umbellatæ*. The fruit is ovated, ſtriated, and villous.

Species. 1. The macedonicum ſends out many leaves from the root; the loweſt of which grow almoſt horizontally, ſpreading near the ſurface of the ground: the foot-ſtalk of each leaf divides into ſeveral ſmaller; which are garniſhed with ſmooth rhomb-ſhaped leaves, which are of a bright pale-green colour, and ſawed on their edges. In the centre of the plant ariſes the flower-ſtem, which is little more than a foot high, dividing into many branches, each being terminated by an umbel of white flowers, which are ſucceeded by oblong hairy ſeeds. This plant, in warm countries, is biennial; the plants, which riſe from ſeeds, one year produce flowers, and ſeeds the next, and then periſh; but in Britain they ſeldom flower till the third or fourth year from the ſeed; but whenever the plant flowers, it always dies. 2. The rigidus, hard or rigid ferula, is a native of Sicily. It is a low perennial plant, having ſhort, ſtiff, and very narrow leaves: the flower-ſtalk riſes a foot high, which is terminated by an umbel of ſmall white flowers; which are ſucceeded by ſmall, oblong, channelled ſeeds. It is a plant of little beauty or uſe, ſo is only cultivated for the ſake of variety. 3. The galbanum or African ferula, riſes with an upright ſtalk to the height of eight or ten feet, which at bottom is woody, having a purpliſh bark covered with a whitiſh powder that comes off when handled. The upper part of the ſtalk is garniſhed with leaves at every joint, the foot-ſtalks half-embracing them at their baſe, and are ſet with leaves like thoſe of the lovage, but ſmaller, and of a grey colour: the top of the ſtalk is terminated by an umbel of yellow flowers; which are ſucceeded by oblong channelled ſeeds, which have a thin membrane or wing on their border. When any part of the plant is broken, there iſſues out a little thin milk of a cream colour, which hath a ſtrong ſcent of galbanum. 4. The gummiferum, with a mock chervil leaf, riſes with a ligneous ſtalk about the ſame height; and is garniſhed with leaves at each joint, which branch out like the former; but the ſmall leaves or lobes are narrow and indented like thoſe of baſtard hemlock. The ſtalk is terminated by an umbel of ſmall yellow flowers, which are ſucceeded by ſeeds like thoſe of the former ſort.—Theſe plants are all propagated by ſeeds, and require the common culture of other exotic vegetables. The galbanum of the ſhops is ſuppoſed to be procured from the third and fourth ſorts.

BUBONOCELE, or HERNIA INGUINALIS, in ſurgery, a tumor in the inguen, formed by a prolapſus of the inteſtines, omentum, or both, through the proceſſes of the peritoneum and rings of the abdominal muſcles. See SURGERY.

BUBONIUM, in botany, a ſynonyme of the INULA.

BUC (George), a learned Engliſh antiquarian, flouriſhed in the beginning of the 17th century. In the reign of king James I. he was made one of the gentlemen of his majeſty's privy-chamber, and knighted: he was alſo conſtituted maſter of the revels. What he moſtly diſtinguiſhed himſelf by was his writing, 1. The hiſtory of the reign of Richard III.; in which he takes great pains to wipe off the bloody ſtains that have blotted his character, and repreſents the perſon and actions of that prince in a much leſs odious light than other hiſtorians have done. He alſo wrote, 2. A treatiſe of the art of revels; and, 3. a work entitled The third univerſitie of England.

BUCANEER, one who dries and ſmokes fleſh or fiſh after the manner of the Indians. The name was particularly given to the firſt French ſettlers on the iſland of St Domingo, whoſe ſole employment conſiſted in hunting bulls or wild boars, in order to ſell their hides and fleſh. The name has alſo been applied to thoſe famous piratical adventurers, chiefly Engliſh and French, who joined together to make depredations on the Spaniards of America. Of both theſe we ſhall give an account.

I. *The Bucaneers of St Domingo*. The Spaniards had not been long in the poſſeſſion of the Weſt-Indies and the continent of America, when other nations, eſpecially the Engliſh and French, began to follow them there. But though the Spaniards were unable to people ſuch extenſive countries themſelves, they were reſolved that no others ſhould do it for them; and therefore made a moſt cruel war on all thoſe of any other nation who attempted to ſettle in any of the Antilles or Caribbee iſlands. The French, however, were at laſt lucky enough to acquire ſome footing in the iſland of St Chriſtopher's; but by the time they began to ſubſide into a regular form of government, the Spaniards found means to diſlodge them. Upon this the wretched fugitives, conſidering at how great a diſtance they were from their mother-country, and how near to the iſland of Hiſpaniola or St Domingo, the northern parts of which were then uninhabited and full of ſwine and black cattle, immediately reſolved to take poſſeſſion of that country, in conjunction with ſeveral other adventurers of their own and the Engliſh nation; eſpecially as the Dutch, who now began to appear in theſe ſeas, promiſed to ſupply them plentifully with all kinds of neceſſaries they might require, in exchange for the hides and tallow they ſhould procure by hunting.

Theſe new ſettlers obtained the name of *bucaneers*, from their cuſtom of bucanning their beef and pork in order to keep it for ſale, or for their own conſumption, the method of which will be preſently deſcribed. But ſome of them ſoon grew tired of this new way of life, and took to planting; while many more choſe to turn pirates, truſting to find among thoſe who remained on ſhore a quick ſale for all the plunder they could make at ſea. This new body of adventurers were called *free-booters*, from their making free prey or booty of whatever came in their way.

The colony now began to thrive at a great rate, by the cheap and eaſy manner in which the free-booters acquired the greateſt riches, and the profuſion with which they diſtributed them among their old companions the bucaneers and planters for the meereſt trifles. This brought numbers of ſettlers from Old France in quality of indented ſervants, though they toiled rather like ſlaves during the three years for which they generally bound themſelves. One of theſe men preſuming to repreſent to his maſter, who always fixed upon a Sunday for ſending him with ſkins to the port, that God had forbidden ſuch a practice, when he had declared, "Six days ſhalt thou labour, and on the ſeventh day ſhalt thou reſt:" "And I (replied the brutal bucaneer) ſay to thee, Six days ſhalt thou kill bulls, and ſtrip them of their ſkins, and on the ſeventh day ſhalt thou carry their hides to the ſea-ſhore." This command was followed by blows, which ſometimes enforce obedience, ſometimes diſobedience, to the laws of God.

Thus the colony conſiſted of four claſſes: bucaneers; freebooters; planters; and indented ſervants, who generally remained with the bucaneers or planters. And theſe four orders compoſed what they now began to call the *body of adventurers*. Theſe people lived together in a perfect harmony under a kind of democracy: every freeman had a deſpotic authority over his own family; and every captain was a ſovereign in his own ſhip, tho' liable to be diſcarded at the diſcretion of the crew.

The planters ſettled chiefly in the little iſland of Tortuga on the northern coaſt of Hiſpaniola: but it was not long before ſome of them going to the great iſland to hunt with the bucaneers, the reſt were ſurpriſed by the Spaniards; and all, even thoſe who had ſurrendered at diſcretion in hopes of mercy, were put to the ſword or hanged.

The next care of the Spaniards was to rid the great iſland of the bucaneers; and for this reaſon they aſſembled a body of 500 lance-men, who, by their ſeldom going fewer than 50 in a company, obtained the name of *the Fifties* from their enemies, whoſe manners and cuſtoms we ſhall now enter upon.

The bucaneers lived in little huts built on ſome ſpots of cleared ground, juſt large enough to dry their ſkins on, and contain their bucanning houſes. Theſe ſpots they called *Boucans*, and the huts they dwelt in *Ajoupas*, a word which they borrowed from the Spaniards, and the Spaniards from the natives. Though theſe ajoupas lay open on all ſides, they were very agreeable to the hardy inhabitants, in a climate where wind and air are ſo very deſirable things. As the bucaneers had neither wife nor child, they aſſociated by pairs, and mutually rendered each other all the ſervices a maſter could reaſonably expect from a ſervant, living together in ſo perfect a community, that the ſurvivor always ſucceeded his deceaſed partner. This kind of union or fellowſhip they called *ſ'emateloter* [inſailoring], and each other *matelot*, [ſailor], whence is derived the cuſtom of giving, at leaſt in ſome parts of the French Antilles, the name *matelotage* [ſailorage], to any kind of ſociety formed by private perſons for their mutual advantage. They behaved to each other with the greateſt juſtice and openneſs of heart: it would have been a crime to keep any thing under lock and key; but, on the other hand, the leaſt pilfering was unpardonable, and puniſhed with expulſion from the community. And indeed there could be no great temptation to ſteal, when it was reckoned a point of honour, never to refuſe a neighbour what he wanted; and where there was ſo little property, it was impoſſible there ſhould be many diſputes. If any happened, the common friends of the parties at variance interpoſed, and ſoon put an end to the difference.

As to laws, the bucaneers acknowledged none but an odd jumble of conventions made between themſelves, which, however, they regarded as the ſovereign rule. They ſilenced all objections by coolly anſwering, that it was not the cuſtom of the coaſt; and grounded their right of acting in this manner, on their baptiſm under the tropic, which freed them, in their opinion, from all obligations antecedent to that marine ceremony. The governor of Tortuga, when that iſland was again ſettled, though appointed by the French court, had very little authority over them; they contented themſelves with rendering him from time to time ſome ſlight homage. They had in a manner entirely ſhaken off the yoke of religion, and thought they did a great deal in not wholly forgetting the God of their fathers. We are ſurpriſed to meet with nations, among whom it is a difficult matter to diſcover any trace of a religious worſhip: and yet it is certain, that had the bucaneers of St Domingo been perpetuated on the ſame footing they ſubſiſted at the time we are ſpeaking of, the third or fourth generation of them would have as little religion as the Caffres and Hottentots of Africa, or the Topinambous and Cannibals of America.

They even laid aſide their ſurnames, and aſſumed nick-names, or martial names, moſt of which have continued in their families to this day. Many, however, on their marrying, which ſeldom happened till they turned planters, took care to have their real ſurnames inſerted in the marriage-contract; and this practice gave occaſion to a proverb, ſtill current in the French Antilles, *a man is not to be known till he takes a wife*.

Their dreſs conſiſted of a filthy greaſy ſhirt, dyed with the blood of the animals they killed; a pair of trouſers ſtill more naſty: a thong of leather by way of belt, to which they hung a caſe containing ſome Dutch knives, and a kind of very ſhort ſabre called *Manchette*; a hat without any brim, except a little flap on the front to take hold of it by; and ſhoes of hogſkin all of a piece. Their guns were four feet and a half in the barrel, and of a bore to carry balls of an ounce. Every man had his contract ſervants, more or fewer according to his abilities; beſides a pack of 20 or 30 dogs, among which there was always a couple of beagles. Their chief employment at firſt was ox-hunting; and, if at any time they chaſed a wild hog, it was rather for paſtime, or to make proviſion for a feaſt, than for any other advantage. But, in proceſs of time, ſome of them betook themſelves entirely to hunting of hogs, whoſe fleſh they bucanned in the following manner: Firſt, they cut the fleſh into long pieces, an inch and an half thick, and ſprinkled them with ſalt, which they rubbed off after 24 hours. Then they dried theſe pieces in ſtoves over the fire made of the ſkin and bones of the beaſt, till they grew as hard as a board, and aſſumed a deep brown colour. Pork prepared in this manner will keep in caſks a twelvemonth and longer; and when ſteeped but a little while in luke warm water, become plump and roſy, and yield moreover a moſt grateful ſmell, either broiled or boiled or otherwiſe dreſſed, enough to tempt the moſt languid appetite and pleaſe the moſt delicate palate. Thoſe who hunt the wild boar, have of late been called ſimply *hunters*.

In hunting, they ſet out at day-break, preceded by the beagles, and followed by their ſervants with the reſt of the dogs; and they made it a point never to balk their beagles, they were often led by them over the moſt frightful precipices, and through places which any other mortal would have deemed abſolutely impaſſable. As ſoon as the beagles had rouſed the game, the reſt of the dogs ſtruck up and ſurrounded the beaſt, ſtopping it, and keeping a conſtant barking till the bucaneer could get near enough to ſhoot it; in doing this, he commonly aimed at the pit of the breaſt; when the beaſt fell, he hamſtrung it, to prevent its riſing again. But it has ſometimes happened that the creature, not wounded enough to tumble to the ground, has run furiouſly at his purſuer, and ripped him open. But, in general, the bucaneer ſeldom miſſed his aim; and when he did, was nimble enough to get up the tree behind which he had the precaution to place himſelf. What is more; ſome of them have been ſeen to overtake the beaſt in chace, and hamſtring it without any further ceremony.

As ſoon as the prey was half ſkinned, the maſter cut out a large bone, and ſucked the marrow for breakfaſt. The reſt he left to his ſervants, one of whom always remained behind to finiſh the ſkinning, and bring the ſkin with a choice piece of meat for the huntſmens dinner. They then coninued the chace till they had killed as many beaſts as there were heads in the company. The maſter was the laſt to return to the boucan, loaded like the reſt with a ſkin and piece of meat. Here the bucaneers found their tables ready: for every one had his ſeparate table; which was the firſt thing, any way fit for the purpoſe, that came in their way, a ſtone, the trunk of a tree, and the like. No table-cloth, no napkin, no bread or wine, graced their board; not even potatoes or bananas, unleſs they found them ready to their hands. When this did not happen, the fat and lean of the game, taken alternately ſerved to ſupply the place. A little pimento, and the ſqueeze of an orange, their only ſauce; contentment, peace of mind, a good appetite, and abundance of mirth, made every thing agreeable. Thus they lived and ſpent their time, till they had completed the number of hides for which they had agreed with the merchants; which done, they carried them to Tortuga, or ſome port of the great iſland.

As the bucaneers uſed much exerciſe, and fed only on fleſh meat, they generally enjoyed a good ſtate of health. They were indeed ſubject to fevers, but either ſuch as laſted only a day, and left no ſenſible impreſſion the day following; or little ſlow fevers, which did not hinder them from action, and were of courſe ſo little regarded, that it was uſual with the patient, when aſked how he did, to anſwer, "Very well, nothing ails me but the fever." It was impoſſible, however, they ſhould not ſuffer conſiderably by ſuch fatigues under a climate to the heat of which few of them had been early enough inured. Hence the moſt conſiderate among them, after they had got money enough for that purpoſe, turned planters. The reſt ſoon ſpent the fruits of their labour in taverns and tippling-houſes; and many had ſo habituated themſelves to this kind of life, as to become incapable of any other. Nay, there have been inſtances of young men, who having early embarked through neceſſity in this painful and dangerous profeſſion, perſiſted in it afterwards, merely through a principle of libertiniſm, rather than return to France and take poſſeſſion of the moſt plentiful fortunes.

Such were the bucaneers of St Domingo, and ſuch their ſituation, when the Spaniards undertook to extirpate them. And at firſt they met with great ſucceſs; for as the bucaneers hunted ſeparately, every one attended by his ſervants, they were eaſily ſurpriſed. Hence the Spaniards killed numbers, and took many more, whom they condemned to a moſt cruel ſlavery. But whenever the bucaneers had time to put themſelves into a ſtate of defence, they fought like lions, to avoid falling into the hands of a nation from whom they were ſure to receive no quarter; and by this means they often eſcaped: nay, there are many inſtances of ſingle men fighting their way through numbers. Theſe dangers, however, and the ſucceſs of the Spaniards in diſcovering their boucans, where they uſed to ſurpriſe and cut the throats of them and their ſervants in their ſleep, engaged them to cohabit in greater numbers, and even to act offenſively, in hopes that by ſo doing they might at laſt induce the Spaniards to let them live in peace. But the fury with which they behaved whenever they met any Spaniards, ſerved only to make their enemies more intent on their deſtruction; and aſſiſtance coming to both parties, the whole iſland was turned into a ſlaughter-houſe, and ſo much blood ſpilt on both ſides, that many places, on account of the carnage of which they had been the theatres, were intitled, *of the maſſacre*: ſuch as *the hill of the maſſacre*; *the plain of the maſſacre*; *the valley of the maſſacre*; which names they retain to this day.

At length the Spaniards grew tired of this way of proceeding, and had recourſe to the old method of ſurpriſe, which againſt enemies of more courage than vigilance, was like to ſucceed better. This put the bucaneers under a neceſſity of never hunting but in large parties, and fixing their boucans in the little iſlands on the coaſt where they retired every evening. This expedient ſucceeded; and the boucans, by being more fixed, ſoon acquired the air and conſiſtency of little towns.

When the bucaneers had once fixed themſelves, as related, each boucan ordered ſcouts every morning to the higheſt part of the iſland, in order to reconnoitre the coaſt, and ſee if any Spaniſh parties were abroad. If no enemy appeared, they appointed a place and hour of rendezvous in the evening, and were never abſent if not killed or priſoners. When therefore any one of the company was miſſing, it was not lawful for the reſt to hunt again till they had got intelligence of him if taken, or avenged his death if killed.

Things continued in this ſituation for a long time, till the Spaniards made a general hunt over the whole

iſlands;

iſland; and, by deſtroying their game, put the bucaneers under a neceſſity of betaking themſelves to another courſe of life. Some of them turned planters; and thereby increaſed ſome of the French ſettlements on the coaſt, and formed others. The reſt, not reliſhing ſo confined and regular a life, entered among the free-booters, who thereby became a very powerful body.

France, who had hitherto diſclaimed for her ſubjects theſe ruffians whoſe ſucceſſes were only temporary, acknowledged them, however, as ſoon as they formed themſelves into ſettlements; and took proper meaſures for their government and defence. See the articles St DOMINGO.

Savary's Dict. of Com.

The hunting both of the bull and boar is at this day carried on, and proves of conſiderable importance. That of the former furniſhes France with the fineſt hides brought from America. The bucaneers put the hides in packs which they call loads, mixing together hides of full grown bulls, of young bullocks, and of cows. Each of theſe loads is compoſed of two bull-hides, or of an equivalent; that is to ſay, either of two real bull-hides, or of one bull-hide and two cow-hides, or of four cow-hides, or of three young bullocks hides; three bullock hides being reckoned equivalent to two full-grown bulls hides, and two cows hides equivalent to one bull's hide. Theſe bulls they commonly call *oxen* in France, though they be not gelt. Each load is commonly ſold for ſix pieces of eight rials, which is a Spaniſh coin, the French coin being but little current, or not at all, in the iſland of St Domingo.

The boar meat bucanned in the manner above mentioned is ſold by the bundle or pack, weighing commonly 60 pounds at the rate of ſix pieces of eight per pack. The palmetto leaves ſerve to pack it up in; but their weight is deducted, ſo that there muſt be in each pack 60 pounds of net fleſh. Theſe bucaneers have alſo a great trade of the lard of boars, which they melt, and gather in large pots called *potiches*. This lard, which is called *mantegua*, is alſo ſold for about eight pieces of eight per pot. There is great trade, and a great conſumption of each of theſe merchandizes in the French ſettlements of the iſland of St Domingo, and in thoſe of Tortuga: beſides which, they uſed to ſend great quantities of them to the Antilles, and even into the continent of French America. There is alſo a great deal of it ſold for the ſupport of the crews of the ſhips that come from France for trading, or which the privateers of Tortuga fit out for cruiſing againſt the Spaniards.

The Spaniards, who have large ſettlements in the iſlands of St Domingo, have alſo their bucaneers there, whom they call *matadores* or *monteros*. Their chace has ſomething noble, which ſavours of the Spaniſh pride: the huntſman being on horſeback, uſes the lance to ſtrike the bull, thinking it beneath his courage to ſhoot him at a diſtance. When the ſervants, who are on foot, have diſcovered the beaſt, and with their dogs have driven it into ſome ſavannah or meadow, in which the maſter waits for them on horſeback, armed with two lances, that matadore goes and hamſtrings it with the firſt lance, the head of which is made like a creſcent or half-moon, and extremely ſharp, and kills it afterwards with the other lance, which is a common one. This chace is very agreeable; the huntſman making commonly, in order to attack the bull, the ſame turns and the ſame ceremonies which are practiſed in thoſe feſtivals ſo famous in Spain, wherein the greateſt lords expoſe themſelves ſometimes to the view of the people, to make them admire their dexterity and intrepidity in attacking thoſe furious animals: but then it is a very dangerous chace; thoſe bulls, in their fury, often running directly againſt the huntſman, who may think himſelf very happy if he comes off only with the loſs of his horſe, and if he himſelf is not mortally wounded.

The Spaniards dreſs their hides like the French, who have learned it from them; and theſe hides being carried to the Havannah, a famous harbour in the iſland of Cuba, are part of the trade of that celebrated town. The flota and the galleons ſcarce ever fail touching there, on their return from Vera Cruz and Porto Bello, and load there thoſe hides which they carry into Spain, where they are ſold for Havannah hides, the moſt eſteemed of any that are brought from America into Europe.

Raynal's Hiſt. of the Indies.

II. BUCANEERS, *the Pirates*. Before the Engliſh had made any ſettlement at Jamaica, and the French at St Domingo, ſome pirates of both nations, who have ſince been ſo much diſtinguiſhed by the name of *Bucaneers*, had driven the Spaniards out of the ſmall iſland of Tortuga; and fortifying themſelves there, had with an amazing intrepidity made excurſions againſt the common enemy. They formed themſelves into ſmall companies, conſiſting of 50, 100, or 150 men each. A boat, of a greater or ſmaller ſize, was their only armament. Here they were expoſed night and day to all the inclemencies of the weather, having ſcarce room enough to lie down. A love of abſolute independence, the greateſt bleſſing to thoſe who are not proprietors of land, rendered them averſe from thoſe mutual reſtraints which the members of ſociety impoſe upon themſelves for the common good; ſome of them choſe to ſing, while others were deſirous of going to ſleep. As the authority they had conferred on their captain was confined to his giving orders in battle, they lived in the greateſt confuſion. Like the ſavages, having no apprehenſion of want, nor any care to preſerve the neceſſaries of life, they were conſtantly expoſed to the ſevereſt extremities of hunger and thirſt. But deriving, even from their very diſtreſſes, a courage ſuperior to every danger, the ſight of a ſhip tranſported them to a degree of frenzy. They never deliberated on the attack, but it was their cuſtom to board the ſhip as ſoon as poſſible. The ſmallneſs of their veſſels, and the ſkill they ſhowed in the management of them, ſcreened them from the fire of the greater ſhips; and they only preſented the fore part of their little veſſel filled with fuſileers; who fired at the port-holes with ſo much exactneſs, that it entirely confounded the moſt experienced gunners. As ſoon as they threw out the grappling, the largeſt veſſel ſeldom eſcaped them.

In caſes of extreme neceſſity, they attacked the people of every nation, but fell upon the Spaniards at all times. They thought that the cruelties the latter had exerciſed on the inhabitants of the new world juſtified the implacable averſion they had ſworn againſt them. But this was heightened by a perſonal pique, from the mortification they felt in ſeeing themſelves debarred from the privilege of hunting and fiſhing, which they conſidered as natural rights. Such were their principles of juſtice and religion, that, whenever they embarked on any expedition, they uſed to pray to heaven for the ſucceſs of it; and they never came back from the plunder, but they conſtantly returned thanks to God for their victory.

The ſhips that ſailed from Europe into America ſeldom tempted their avidity. The merchandiſe they contained would not have eaſily been ſold, nor been very profitable to theſe barbarians in thoſe early times. They always waited for them on their return, when they were certain that they were laden with gold, ſilver, jewels, and all the valuable productions of the new world. If they met with a ſingle ſhip they never failed to attack her. As to the fleets, they followed them till they ſailed out of the gulph of Bahama; and as ſoon as any one of the veſſels was ſeparated by accident from the reſt, it was taken. The Spaniards, who trembled at the approach of the bucaneers, whom they called *devils*, immediately ſurrendered. Quarter was granted, if the cargo proved to be a rich one; if not, all the priſoners were thrown into the ſea.

The bucaneers, when they had got a conſiderable booty, at firſt held their rendezvous at the iſland of Tortuga, in order to divide the ſpoil; but afterwards the French went to St Domingo and the Engliſh to Jamaica. Each perſon holding up his hand, ſolemnly proteſted that he had ſecreted nothing of what he had taken. If any one among them was convicted of perjury, a caſe that ſeldom happened, he was left, as ſoon as an opportunity offered, upon ſome deſert iſland, as a traitor unworthy to live in ſociety. Such brave men among them as had been maimed in any of their expeditions, were firſt provided for. If they had loſt a hand, an arm, a leg, or a foot, they received 26l. An eye, a finger, or a toe, loſt in fight, was valued only at half the above ſum. The wounded were allowed 2s. 6d. a day for two months, to enable them to have their wounds taken care of. If they had not money enough to anſwer theſe ſeveral demands, the whole company were obliged to engage in ſome freſh expedition, and continue it till they had acquired a ſufficient ſtock to enable them to ſatisfy ſuch honourable contracts.

After this act of juſtice and humanity, the remainder of the booty was divided into as many ſhares as there were bucaneers. The commander could only lay claim to a ſingle ſhare as the reſt; but they complimented him with two or three, in proportion as he had acquitted himſelf to their ſatisfaction. Favour never had any influence in the diviſion of the booty; for every ſhare was determined by lot. Inſtances of ſuch rigid juſtice as this are not eaſily met with; and they extended even to the dead. Their ſhare was given to the man who was known to be their companion when alive, and therefore their heir. If the perſon who had been killed had no intimate, his part was ſent to his relations when they were known. If there were no friends or relations, it was diſtributed in charity to the poor and to churches, which were to pray for the perſon in whoſe name the benefactions were given.

When theſe duties had been complied with, they then indulged themſelves in all kinds of profuſion. Unbounded licentiouſneſs in gaming, wine, women, every kind of debauchery, was carried to the utmoſt pitch of exceſs, and was ſtopt only by the want which ſuch profuſions brought on. Thoſe men who were enriched with ſeveral millions, were in an inſtant totally ruined, and deſtitute of clothes and proviſions. They returned to ſea; and the new ſupplies they acquired were ſoon laviſhed in the ſame manner.

The Spaniſh colonies, flattering themſelves with the hopes of ſeeing an end to their miſeries, and reduced almoſt to deſpair in finding themſelves a perpetual prey to theſe ruffians, grew weary of navigation. They gave up all the power, conveniences, and fortune, which their connections procured them, and formed themſelves almoſt into ſo many diſtinct and ſeparate ſtates. They were ſenſible of the inconveniences ariſing from ſuch a conduct, and avowed them; but the dread of falling into the hands of rapacious and ſavage men, had greater influence over them than the dictates of honour, intereſt, and policy. This was the riſe of that ſpirit of inactivity which continues to this time.

This deſpondency ſerved only to increaſe the boldneſs of the bucaneers. As yet they had only appeared in the Spaniſh ſettlements, in order to carry off ſome proviſions when they were in want of them. They no ſooner found their captures begin to diminiſh, than they determined to recover by land what they had loſt at ſea. The richeſt and moſt populous countries of the continent were plundered and laid waſte. The culture of lands was equally neglected with navigation; and the Spaniards dared no more appear in their public roads, than ſail in the latitudes which belonged to them.

Among the bucaneers who ſignalized themſelves in this new ſpecies of excurſions, Montbar, a gentleman of Languedoc, particularly diſtinguiſhed himſelf. Having by chance, in his infancy, met with a circumſtantial account of the cruelties practiſed in the conqueſt of the new world, he conceived an averſion which he carried to a degree of frenzy againſt that nation which had committed ſuch enormities. The enthuſiaſm this ſpirit of humanity worked him up to, was turned into a rage more cruel than that of religious fanaticiſm, to which ſo many victims had been ſacrificed. The names of theſe unhappy ſufferers ſeemed to rouze him, and call upon him for vengeance. He had heard ſome account of the bucaneers, who were ſaid to be the moſt inveterate enemies to the Spaniſh name: he therefore embarked on board a ſhip, in order to join them.

In the paſſage, they met with a Spaniſh veſſel; attacked it; and, as it was uſual in thoſe times, immediately boarded it. Montbar, with a ſabre in his hand, fell upon the enemy; broke through them; and, hurrying twice from one end of the ſhip to the other, levelled every thing that oppoſed him. When he had compelled the enemy to ſurrender, leaving to his companions the happineſs of dividing ſo rich a booty, he contented himſelf with the ſavage pleaſure of contemplating the dead bodies of the Spaniards, lying in heaps together, againſt whom he had ſworn a conſtant and deadly hatred.

Freſh opportunities ſoon occured, that enabled him to exert this ſpirit of revenge, without extinguiſhing it. The ſhip he was in arrived at the coaſt of St Domingo; where the bucaneers on land immediately applied to barter ſome proviſions for brandy. As the articles they offered were of little value, they alleged in excuſe, that their enemies had over-run the country, laid waſte their ſettlements, and carried off all they could. "Why (replied Montbar) do you tamely ſuffer ſuch inſults?" "Neither do we (anſwered they in the ſame tone); the Spaniards have experienced what kind of men we are, and have therefore taken advantage of the time when we were engaged in hunting. But we are going to join ſome of our companions, who have been ſtill more ill treated than we; and then we ſhall have warm work." "If you approve of it (anſwered Montbar), I will head you, not as your commander, but as the foremoſt to expoſe myſelf to danger." The bucaneers, perceiving from his appearance that he was ſuch a man as they wanted, cheerfully accepted his offer. The ſame day they overtook the enemy, and Montbar attacked them with an impetuoſity that aſtoniſhed the braveſt. Scarce one Spaniard eſcaped the effects of his fury. The remaining part of his life was equally diſtinguiſhed as on this day. The Spaniards ſuffered ſo much from him, both by land and at ſea, that he acquired the name of the *Exterminator*.

His ſavage diſpoſition, as well as that of the other bucaneers who attended him, having obliged the Spaniards to confine themſelves within their ſettlements, theſe free-booters reſolved to attack them there. This new method of carrying on the war required ſuperior forces; and their aſſociations in conſequence became more numerous. The firſt that was conſiderable was formed by Lolonois, who derived his name from the ſands of Olones the place of his birth. From the abject ſtate of bondſman, he had gradually raiſed himſelf to the command of two canoes, with 22 men. With theſe he was ſo ſucceſsful as to take a Spaniſh frigate on the coaſt of Cuba. He then repaired to the Port-au-Prince, in which were four ſhips, fitted out purpoſely to ſail in purſuit of him. He took them, and threw all the crew into the ſea, except one man, whom he ſaved, in order to ſend him with a letter to the governor of the Havannah, acquainting him with what he had done, and aſſuring him that he would treat in the ſame manner all the Spaniards that ſhould fall into his hands, not excepting the governor himſelf, if he ſhould be ſo fortunate as to take him. After this expedition, he ran his canoes and prize-ſhips aground, and ſailed with his frigate only to the Iſland of Tortuga.

Here he met with Michael de Baſco, who had diſtinguiſhed himſelf by having taken, even under the cannon of Porto-Bello, a Spaniſh ſhip, eſtimated at 218,500l. and by other actions equally brave and daring. Theſe two gave out, that they were going to embark together on an expedition equally glorious and profitable; in conſequence of which they ſoon collected together 440 men. This body of men, the moſt numerous the bucaneers had yet been able to muſter, ſailed to the bay of Venezuela, which runs up into the country for the ſpace of 50 leagues. The fort that was built at the entrance of it for its defence was taken; the cannon were nailed up; and the whole garriſon, conſiſting of 250 men, put to death. They then reimbarked, and came to Maracaybo, built on the weſtern coaſt of the lake of the ſame name, at the diſtance of ten leagues from its mouth. This city, which had become flouriſhing and rich by its trade in ſkins, tobacco, and cocoa, was deſerted. The inhabitants had retired with their effects to the other ſide of the bay. If the bucaneers had not loſt a fortnight in riot and debauch, they would have found at Gibraltar, near the extremity of the lake, every thing that the inhabitants had ſecreted to ſecure it from being plundered. On the contrary, they met with fortifications lately erected, which they had the uſeleſs ſatisfaction of making themſelves maſters of, at the expence of a great deal of blood; for the inhabitants had already removed at a diſtance the moſt valuable part of their property. Exaſperated at this diſappointment, they ſet fire to Gibraltar. Maracaybo would have ſhared the ſame fate, had it not been ranſomed. Beſides the ſum they received for its ranſom, they alſo carried off with them all the croſſes, pictures, and bells of the churches; intending, as they ſaid, to build a chapel in the iſland of Tortuga, and to conſecrate this part of their ſpoils to ſacred purpoſes. Such was the religion of theſe barbarous people, who could make no other offering to heaven than that which aroſe from their robberies and plunder.

While they were idly diſſipating the ſpoils they had made on the coaſt of Venezuela, Morgan, the moſt renowned of the Engliſh bucaneers, ſailed from Jamaica to attack Porto-Bello. His plan of operations was ſo well contrived, that he ſurpriſed the city, and took it without oppoſition.

The conqueſt of Panama was an object of much greater importance. To ſecure this, Morgan thought it neceſſary to ſail in the latitudes of Coſta-Ricca, to procure ſome guides in the iſland of St Catharine's, where the Spaniard's confined their malefactors. This place was ſo ſtrongly fortified, that it ought to have held out for ten years againſt a conſiderable army. Notwithſtanding this, the governor, on the firſt appearance of the pirates, ſent privately to concert meaſures how he might ſurrender himſelf without incurring the imputation of cowardice. The reſult of this conſultation was, that Morgan, in the night-time, ſhould attack a fort at ſome diſtance, and the governor ſhould ſally out of the citadel to defend a poſt of ſo much conſequence; that the aſſailants ſhould then attack him in the rear, and take him priſoner, which would conſequently occaſion a ſurrender of the place. It was agreed that a ſmart firing ſhould be kept on both ſides, without doing miſchief to either. This farce was admirably carried on. The Spaniards, without being expoſed to any danger, appeared to have done their duty; and the bucaneers, after having totally demoliſhed the fortifications, and put on board their veſſels a prodigious quantity of warlike ammunitions which they found at St Catharine's, ſteered their courſe towards the river Chagre, the only channel that was open to them to arrive at the place which was the object of their utmoſt wiſhes.

At the entrance of this conſiderable river, a fort was built upon a ſteep rock, which the waves of the ſea conſtantly beat againſt. This bulwark, very difficult of acceſs, was defended by an officer whoſe extraordinary abilities were equal to his courage, and by a garriſon that deſerved ſuch a commander. The bucaneers, for the firſt time, here met with a reſiſtance that could only be equalled by their perſeverance: it was a doubtful point, whether they would ſucceed or be obliged to raiſe the ſiege, when a lucky accident happened that proved favourable to their glory and their

their fortune. The commander was killed, and the fort accidentally took fire: the beſiegers then taking advantage of this double calamity, made themſelves maſters of the place.

Morgan left his veſſels at anchor, with a ſufficient number of men to guard them; and ſailed up the river in his ſloops for 33 miles, till he came to Cruces, where it ceaſes to be navigable. He then proceeded by land to Panama, which was only five leagues diſtant. Upon a large and extenſive plain that was before the city, he met with a conſiderable body of troops, whom he put to flight with the greateſt eaſe, and entered into the city, which was now abandoned. Here were found prodigious treaſures concealed in the wells and caves. Some valuable commodities were alſo taken upon the boats that were left a ground at low water; and in the neighbouring foreſts were alſo found ſeveral rich depoſits.

Having burnt the city, they ſet ſail with a great number of priſoners, who were ranſomed a few days after; and came to the mouth of the Chagre with a prodigious booty.

In 1603, an expedition of the greateſt conſequence was formed by Van Horn, a native of Oſtend, but who had ſerved all his life among the French. His intrepidity would never let him ſuffer the leaſt ſigns of cowardice among thoſe who aſſociated with him. In the heat of an engagement, he went about his ſhip; ſucceſſively obſerved his men; and immediately killed thoſe who ſhrank at the ſudden report of a piſtol, gun, or cannon. This extraordinary diſcipline had made him become the terror of the coward, and the idol of the brave. In other reſpects, he readily ſhared with the men of ſpirit and bravery the immenſe riches that were acquired by ſo truly warlike a diſpoſition. When he went upon theſe expeditions, he generally ſailed in his frigate, which was his own property. But theſe new deſigns requiring greater numbers to carry them into execution, he took to his aſſiſtance Gramont, Godfrey, and Jonqué, three Frenchmen diſtinguiſhed by their exploits; and Lawrence de Graff, a Dutchman, who had ſignalized himſelf ſtill more than they. Twelve hundred bucaneers joined themſelves to theſe famous commanders, and ſailed in ſix veſſels for Vera Cruz.

The darkneſs of the night favoured their landing, which was effected at three leagues from the place, when they arrived without being diſcovered. The governor, the fort, the barracks, and the poſts of the greateſt conſequence; every thing, in ſhort, that could occaſion any reſiſtance, was taken by the break of day. All the citizens, men, women, and children, were ſhut up in the churches, whither they had fled for ſhelter. At the door of each church were placed barrels of gunpowder to blow up the building. A bucaneer, with a lighted match, was to ſet fire to it upon the leaſt appearance of an inſurrection.

While the city was kept in ſuch terror, it was eaſily pillaged; and after the bucaneers had carried off what was moſt valuable, they made a propoſal to the citizens who were kept priſoners in the churches, to ranſom their lives and liberties by the contribution of 437,500l. Theſe unfortunate people who had neither ate nor drank for three days, cheerfully accepted the terms that were offered them. Half of the money was paid the ſame day: the other part was expected from the internal parts of the country; when there appeared on an eminence a conſiderable body of troops advancing, and near the port a fleet of 17 ſhips from Europe. At the ſight of this armament, the bucaneers, without any marks of ſurprize, retreated quietly, with 1500 ſlaves they had carried off with them as a trifling indemnification for the reſt of the money they expected, the ſettling of which they referred to a more favourable opportunity.

Their retreat was equally daring. They boldly ſailed through the midſt of the Spaniſh fleet; which let them paſs without firing a ſingle gun, and were in fact rather afraid of being attacked and beaten. The Spaniards would not probably have eſcaped ſo eaſily, and with no other inconvenience but what aroſe from their fears, if the veſſels of the pirates had not been laden with ſilver, or if the Spaniſh fleet had been freighted with any other effects but ſuch merchandiſe as were little valued by theſe pirates.

A year had ſcarce elapſed ſince their return from Mexico, when on a ſudden they were all ſeized with the rage of going to plunder the country of Peru. It is probable, that the hope of finding greater treaſures upon a ſea little frequented, than on one long expoſed to piracies of this kind, was the cauſe of this expedition. But it is ſomewhat remarkable, that both the Engliſh and French, and the particular aſſociations of theſe two nations, had projected this plan at the ſame time, without any communication, intercourſe, or deſign of acting in concert with each other. About 4000 men were employed in this expedition. Some of them came by Terra-Firma, others by the ſtraits of Magellan, to the place that was the object of their wiſhes. If the intrepidity of theſe barbarians had been directed, under the influence of a ſkilful and reſpectable commander, to one ſingle uniform end, it is certain that they would have deprived the Spaniards of this important colony. But their natural character was an invincible obſtacle to ſo rare an union; for they always formed themſelves into ſeveral diſtinct bodies, ſometimes even ſo few in number as ten or twelve, who acted together, or ſeparated, as the moſt trifling caprice directed. Grognier, Lécuyer, Picard, and Le Sage, were the moſt diſtinguiſhed officers among the French: David, Samms, Peter, Wilner, and Towley, among the Engliſh.

Such of thoſe adventures as had got into the South Sea by the ſtraits of Darien, ſeized upon the firſt veſſels they found upon the coaſt. Their aſſociates, who had ſailed in their own veſſels, were not much better provided. Weak however as they were, they beat ſeveral times the ſquadrons that were fitted out againſt them. But theſe victories were prejudicial to them, as they interrupted their navigation. When there were no more ſhips to be taken, they were continually obliged to make deſcents upon the coaſts to get proviſions, or to go by land in order to plunder thoſe cities where the booty was ſecured. They ſucceſſively attacked Seppa, Puebla-Nuevo, Leon, Realejo, Puebla-Viejo, Chiriquita, Leſparſo, Granada, Villia, Nicoya, Tecoanteca, Mucmeluna, Chiloteca, New-Segovia, and Guayaquil, the moſt conſiderable of all theſe places.

Many of them were taken by ſurprize; and moſt of them deſerted by their inhabitants, who fled at the ſight of the enemy. As ſoon as they took a town, it was directly ſet on fire, unleſs a ſum proportioned to its value was given to ſave it. The priſoners taken in battle were maſſacred without mercy, if they were not ranſomed by the governor or ſome of the inhabitants: gold, pearls, or precious ſtones, were the only things accepted of for the payment of their ranſom. Silver being too common, and too weighty for its current value, would have been troubleſome to them. The chances of fortune, that ſeldom leave guilt unpuniſhed, nor adverſity without a compenſation for its ſuffering, atoned for the crimes committed in the conqueſt of the new world, and the Indians were amply revenged of the Spaniards.

While ſuch piracies were committed on the ſouthern ocean, the northern was threatened with the ſame by Gramont. He was a native of Paris, by birth a gentleman, and had diſtinguiſhed himſelf in a military capacity in Europe: but his paſſion for wine, gaming, and women, had obliged him to join the pirates. He was however, affable, polite, generous, and eloquent: he was endued with a ſound judgment, and was a perſon of approved valour; which ſoon made him be conſidered as the chief of the French bucaneers. As ſoon as it was known that he had taken up arms, he was immediately joined by a number of brave men. The governor of St Domingo, who had at length prevailed upon his maſter to approve of the project, equally wiſe and juſt, of fixing the pirates to ſome place, and inducing them to become cultivators, was deſirous of preventing the concerted expedition, and forbad it in the king's name. Gramont, who had a greater ſhare of ſenſe than his aſſociates, was not on that account more inclined to comply, and ſternly replied: "How can Louis diſapprove of a deſign he is unacquainted with, and which has been planned only a few days ago?" This anſwer highly pleaſed all the bucaneers; who directly embarked, in 1685, to attack Campeachy.

They landed without oppoſition. But at ſome diſtance from the coaſt, they were attacked by 800 Spaniards, who were beaten and purſued to the town; where both parties entered at the ſame time. The cannon they found there was immediately levelled againſt the citadel. As it had very little effect, they were contriving ſome ſtratagem to enable them to become maſters of the place, when intelligence was brought that it was abandoned. There remained in it only a gunner, an Engliſhman; and an officer of ſuch ſignal courage, that he choſe rather to expoſe himſelf to the greateſt extremities, than baſely to fly from the place with the reſt. The commander of the bucaneers received him with marks of diſtinction, generouſly releaſed him, gave him up all his effects, and beſides complimented him with ſome valuable preſents: ſuch influence have courage and fidelity even on the minds of thoſe who ſeem to violate all the rights of ſociety.

The conquerors of Campeachy ſpent two months in ſearching all the environs of the city, for 12 or 15 leagues, carrying off every thing that the inhabitants, in their flight, thought they had preſerved. When all the treaſure they had collected from every quarter was depoſited in the ſhips, a propoſal was made to the governor of the province, who ſtill kept the field with 900 men, to ranſom his capital city. His refuſal determined them to burn it, and demoliſh the citadel. The French, on the feſtival of St Louis, were celebrating the anniverſary of their king; and in the tranſports of their patriotiſm, intoxication, and national love of their prince, they burnt to the value of a million of logwood; a part, and a very conſiderable one too, of the ſpoil they had made. After this ſingular and extravagant inſtance of folly, of which Frenchmen only could boaſt, they returned to St Domingo.

In 1697, 1200 bucaneers were induced to join a ſquadron of ſeven ſhips that ſailed from Europe under the command of Pointis, to attack the famous city of Carthagena. This was the moſt difficult enterpriſe that could be attempted in the new world. The ſituation of the port, the ſtrength of the place, the badneſs of the climate, were ſo many obſtacles that ſeemed inſurmountable to any but ſuch men as the bucaneers were. But every obſtacle yielded to their valour and good fortune: the city was taken, and booty gained to the amount of 1,750,000 l. The rapacious commander, however, deprived them of the advantages reſulting from their ſucceſs. He ſcrupled not, as ſoon as they ſet ſail, to offer 5250 l. for the ſhare of thoſe who had been the chief inſtruments in procuring him ſo conſiderable a ſpoil.

The bucaneers, exaſperated at this treatment, reſolved immediately to board the veſſel called the *Sceptre*, where Pointis himſelf was, and which at that time was too far diſtant from the reſt of the ſhips to expect to be aſſiſted by them. This avaricious commander was upon the point of being maſſacred, when one of the malecontents cried out: "Brethren, why ſhould we attack this raſcal? he has carried off nothing that belongs to us. He has left our ſhare at Carthagena, and there we muſt go to recover it." This propoſal was received with general applauſe. A ſavage joy at once ſucceeded that gloomy melancholy which had ſeized them; and without further deliberation, all their ſhips ſailed towards the city.

As ſoon as they had entered the city without meeting with any reſiſtance, they ſhut up all the men in the great church; and exacted payment of 218,750 l. the amount of their ſhare of booty which they had been defrauded of; promiſing to retreat immediately upon their compliance, but threatening the moſt dreadful vengeance if they refuſed. Upon this, the moſt venerable prieſt in the city mounted the pulpit, and made uſe of the influence his character, his authority, and his eloquence gave him, to perſuade his hearers to yield up without reſerve all the gold, ſilver, and jewels they had. The collection, which was made after the ſermon, not furniſhing the ſum required, the city was ordered to be plundered.

At length, after amaſſing all they could, theſe adventurers ſet ſail; when unfortunately they met with a fleet of Dutch and Engliſh ſhips, both which nations were then in alliance with Spain. Several of the pirates were either taken or ſunk, with all the cargo they had on board their ſhips; the reſt eſcaped to St Domingo.

Such was the laſt memorable event in the hiſtory of the bucaneers. The ſeparation of the Engliſh and French, when the war, on account of the prince of Orange, divided the two nations: the ſucceſsful means they both made uſe of to promote the cultivation of land among their colonies, by the aſſiſtance of theſe enterpriſing men; and the prudence they ſhowed in fixing the moſt diſtinguiſhed among them, and entruſting them with civil and military employments; the protection they were both under a neceſſity of affording to the Spaniſh ſettlements, which till then had been a general object of plunder: all theſe circumſtances, and various others, beſides the impoſſibility there was of ſupplying the place of theſe remarkable men, who were continually dropping off, concurred to put an end to a ſociety as extraordinary as ever exiſted. Without any regular ſyſtem, without laws, without any degree of ſubordination, and even without any fixed revenue, they became the aſtoniſhment of that age in which they lived, as they will be alſo of poſterity.

BUCCELLARII, an order of ſoldiery under the Greek emperors, appointed to guard and diſtribute the ammunition bread; though authors are ſomewhat divided as to their office and quality. Among the Viſigoths, buccellarius was a general name for a client or vaſſal who lived at the expence of his lord. Some give the denomination to paraſites in the courts of princes, ſome make them the body-guards of emperors, and ſome fancy they were only ſuch as emperors employed in putting perſons to death privately.

BUCCELLATUM, among ancient military writers, denotes camp-bread, or biſcuit baked hard and dry, both for lightneſs and keeping. Soldiers always carried with them enough for a fortnight, and ſometimes much longer, during the time that military diſcipline was kept up.

BUCCINA, an ancient muſical and military inſtrument. It is uſually taken for a kind of trumpet; which opinion is confirmed by Feſtus, by his defining it a crooked horn, played on like a trumpet. Vegetius obſerves, that the buccina bent in a ſemicircle, in which reſpect it differed from the tuba or trumpet. It is very hard to diſtinguiſh it from the cornu or horn, unleſs it was ſomething leſs, and not quite ſo crooked; yet it certainly was of a different ſpecies, becauſe we never read of the cornu in uſe with the watch, but only the buccina. Beſides, the ſound of the buccina was ſharper, and to be heard much farther than either the cornu or the tuba. In Scripture, the like inſtrument, uſed both in war and in the temple, was called *rams-horns*, *kiren jobel*, and *ſopheroth hagijobelim*.

This inſtrument was in uſe among the Jews to proclaim their feaſt-days, new-moons, jubilees, ſabbatic years, and the like. At Lacedæmon, notice was given by the buccina when it was ſupper-time; and the like was done at Rome, where the grandees had a buccina blown both before and after they ſat down to table. The ſound of the buccina was called *buccinus*, or *bucinus*; and the muſician who played upon it was called *buccinator*.

BUCCINUM, or WHELK, a genus of ſhell-fiſh belonging to the order of vermes teſtaceæ. This animal is one of the ſnail kind. The ſhell is univalve, ſpiral, and gibbous. The aperture is oval, ending in a ſmall ſtrait canal. Linnæus enumerates about 60 ſpecies, moſt of which are found in the ſouthern ſeas. The ſix following are found in the Britiſh ſeas.

1. The pullus, or brown whelk, with five ſpires ſtriated, waved, and tuberculated. Aperture wrinkled; upper part replicated. Length five-eighths of an inch.

2. The undatum, or waved whelk, with ſeven ſpires, is ſpirally ſtriated, and deeply and tranſverſely undulated. Length three inches. Inhabits deep water.

3. The ſtriatum has eight ſpires, with elevated ſtriæ, undulated near the apex. Length near four inches.

4. The reticulatum, with ſpires ſcarcely raiſed, and ſtrongly reticulated, is of a deep brown colour, and of an oblong form. The aperture white, gloſſy, and denticulated. Size of a hazel nut.

5. The minutum, or ſmall whelk, with five ſpires, ſtriated ſpirally, ribbed tranſverſely. Size leſs than a pea. Found alſo in Norway.

6. The lappillus, or maſſy whelk, with about five ſpires; ſide of the mouth ſlightly toothed: a very ſtrong thick ſhell, of a whitiſh colour. A variety yellow, or faſciated with yellow, on a white ground; or fulcated ſpirally, and ſometimes reticulated. Length near an inch and an half. Inhabits, in a vaſt abundance, rocks near low-water mark. This is one of the Britiſh ſhells that produce the purple dye analogous to the *purpura* of the ancients. See MUREX.

Phil. Tranſ. abr. ii. 826.

The proceſs of obtaining the Engliſh purpura is well deſcribed by Mr. William Cole of Briſtol, in 1684, in the following words: "The ſhells, being harder than moſt other kinds, are to be broken with a ſmart ſtroke of a hammer, on a plate of iron or firm piece of timber (with their mouths downwards) ſo as not to cruſh the body of the fiſh within; the broken pieces being picked off, there will appear a white vein lying tranſverſely in a little furrow or cleft next to the head of the fiſh, which muſt be digged out with the ſtiff point of a horſe-hair pencil, being made ſhort and tapering. The letters, figures, or what elſe ſhall be made on the linen, (and perhaps ſilk too), will preſently appear of a pleaſant light green colour; and if placed in the ſun, will change into the following colours; (*i. e.* if in winter, about noon; if in ſummer, an hour or two after ſun-riſing, and ſo much before ſetting; for in the heat of the day in ſummer, the colours will come on ſo faſt, that the ſucceſſion of each colour will ſcarcely be diſtinguiſhed.) Next to the light green, it will appear a deep green; and in a few minutes, change into a ſea-green; after which, in a few minutes more, it will alter to a wotchet-blue; from that, in a little time more, it will be of a purple-red; after which (ſuppoſing the ſun ſtill ſhining), it will be of a very deep purple-red, beyond which the ſun can do no more. But then, the laſt and moſt beautiful colour, after waſhing in ſcalding water and ſoap, will (the matter being again put into the wind or ſun to dry) be of a fair bright crimſon, or near to the prince's colour; which afterwards, notwithſtanding there is no uſe of any ſtyptic to bind the colour, will continue the ſame if well ordered; as I have found in handkerchiefs, that have been waſhed more than 40 times; only it will be ſomewhat allayed from what it was after the firſt waſhing. While the cloth ſo writ upon lies in the ſun, it will yield a very ſtrong and fetid ſmell, as if garlic and aſafœtida were mixed together."

BUCCLEUGH, a village in the county of Selkirk in Scotland, from which the noble family of Scott have the title of Duke; and would likewiſe have been duke of Monmouth, had it not been for the attainder, they being the lineal deſcendants of his Grace: they are now alſo heirs to the noble family of Montague in England.

BUCCO, the Barbet, in ornithology, a genus belonging to the order of picæ. The beak is cultrated, turned inwards, compreſſed on the ſides, and emarginated on each ſide at the apex; and there is a long ſlit below the eyes. The noſtrils are covered with feathers. The feet have four toes, two before and two behind Linnæus mentions only one ſpecies, the capenſis; but ornithologiſts enumerate ſeveral, either as ſuch, or as individuals, differing only in age or ſex, all found in Aſia, Africa, or the ſouthern parts of America.

BUCENTAUR, a galeas, or large galley of the doge of Venice, adorned with fine pillars on both ſides, and gilt over from the prow to the ſtern. This veſſel is covered over head with a kind of tent, made of purple ſilk. In it the doge receives the great lords and perſons of quality that go to Venice, accompanied with the ambaſſadors and counſellors of ſtate, and all the ſenators ſeated on benches by him. The ſame veſſel ſerves alſo in the magnificent ceremony of aſcenſion-day, on which the doge of Venice throws a ring into the ſea to eſpouſe it, and to denote his dominion over the gulph of Venice.

Bucentaur is alſo the name of a ſhip, as great and as magnificent as that of the Venetians, built by order of the elector of Bavaria, and launched on a lake which is ſix leagues in length.

BUCEPHALA, or Bucephalos, (anc. geog.) a town built by Alexander, on the weſt ſide of the Hydaſpis, a river of the Hither India, in memory of his horſe Bucephalus, which was killed in the action with Porus, after croſſing that river. Others ſay, this horſe died of age, 30 years old; and not in the battle, but ſome time after. His being branded or marked on the buttock with the head of an ox, gave riſe to his name (Heſychius).—This generous animal, who had ſo long ſhared the toils and dangers of his maſter, had formerly received ſignal marks of royal regard. Having diſappeared in the country of the Uxii, Alexander iſſued a proclamation, commanding his horſe to be reſtored, otherwiſe he would ravage the whole country with fire and ſword. This command was immediately obeyed. "So dear," ſays Arrian, "was Bucephalus to Alexander, and ſo terrible was Alexander to the Barbarians."

BUCER (Martin), one of the firſt authors of the reformation at Straſburgh, was born in 1491, in Alſace; and took the religious habit of St Dominic, at ſeven years of age: but meeting afterward with the writings of Martin Luther, and comparing them with the Scriptures, he began to entertain doubts concerning ſeveral things in the Romiſh religion. After ſome conferences with Luther at Heidelburg in 1521, he adopted moſt of his ſentiments; but in 1532 he gave the preference to thoſe of Zuinglius. He aſſiſted in many conferences concerning religion; and in 1548 was ſent for to Augſburg to ſign the agreement between the Papiſts and Proteſtants, called the *interim*. His warm oppoſition to this project expoſed him to many difficulties and hardſhips; the news of which reaching England, where his fame had already arrived, Cranmer archbiſhop of Canterbury gave him an invitation to come over, which he readily accepted. In 1549, an handſome apartment was aſſigned him in the univerſity of Cambridge, and a ſalary to teach theology. King Edward VI. had the greateſt regard for him. Being told that he was very ſenſible of the cold of the climate, and ſuffered much for want of a German ſtove, he ſent him 100 crowns to purchaſe one. He died of a complication of diſorders in 1551; and was buried at Cambridge with great funeral pomp. Five years after, in the reign of queen Mary, his body was dug up, and publicly burnt, and his tomb demoliſhed; but it was afterwards ſet up by order of queen Elizabeth. He compoſed many works, among which are commentaries on the evangeliſts and goſpels.

BUCEROS, in ornithology, a genus belonging to the order of picæ. The beak is convex, cultrated, very large, and ſerrated outwards: the fore-head is naked, with a bony gibboſity. The noſtrils are behind the baſe of the beak. The tongue is ſharp and ſhort. The feet are of the greſſarii kind, *i. e.* the toes are diſtinct from each other. There are four ſpecies of the buceros, viz. 1. The bicornis, with a flat bony fore-head, and two horns before. The body is black, and about the ſize of a hen: but the breaſt, belly, and thighs are white. There is a white ſpot on the wing; the tail is long, with ten black prime feathers, and the four outermoſt on each are white. The feet are greeniſh, with three toes before and one behind. It is a native of China, and called *calao* by Willoughby and other authors. The pied hornbill, deſcribed by Mr Latham (*Synopſ.* Vol. I. p. 349.) from a living ſpecimen which came from the Eaſt-Indies, the author ſuppoſes to be the ſame ſpecies, differing merely in ſex or age. In ſize, it was a trifle bigger than a crow. The manners of this bird were peculiar: it would leap forwards or ſideways with both legs at once like a magpie or jay, never walking: when at reſt, it folded its head back between the wings; the general air and appearance was rather ſtupid and dull, though it would ſometimes put on a fierce look if it any time it was ſurpriſed or the like: it would eat lettuce after bruiſing it with its bill, and ſwallow raw fleſh; as well as devour rats, mice, and ſmall birds, if given to him: it had different tones of voice on different occaſions; ſometimes a hoarſe ſound in the throat, moſt like oŭck, oŭck; at other times very hoarſe and weak, not unlike the clucking of a Turkey hen. This bird uſed to diſplay the wings and enjoy itſelf in a warm ſun, but ſhivered in the cold: and as the winter approached died, unable to bear the ſeverity of the climate, ſo different to its nature. Another variety, the calao (Phil. Tranſ. vol. xxiii. p. 394), is about the ſize of a hen. It inhabits the Philippine iſlands, and has a cry more like that of a hog or a calf than of a bird. The Gentoos rank it among their gods, and pay worſhip to it. It lives altogether in woods, feeding on fruits, ſuch as the Indian fig, alſo piſtachios, &c. which it ſwallows whole; and after the external parts have been digeſted, it brings up the nuts again whole, without the kernels being anywiſe damaged or unfit for vegetation. 2. The hydrocorax or Indian crow of Ray, has a plain bony fore-head without any horns. The body is yellowiſh, and blackiſh below. It inhabits the Molucca iſles. Willoughby obſerves, that it reſembles the raven in the bill, but is red on the temple like ſome kinds of turkies; has wide noſtrils and ill-favoured eyes; and that it feeds chiefly on nutmegs, whence its fleſh is very delicate, and has a fine aromatic reliſh. This in its native places is frequently tamed, and is uſeful in deſtroying rats and mice in houſes. 3. The rhinoceros, has a crooked horn in the fore-head joined to the upper mandible. It is a native of India. Theſe birds are ſaid to feed on fleſh and carrion; and that they follow the hunters for the purpoſe of feeding on the entrails of the beaſts which they kill; that they chaſe rats and mice, and after preſſing them flat with the bill in a particular manner, toſſing them up into the air, ſwallow them whole immediately on their deſcent. 4. The naſutus, has a ſmooth forehead. It is about the ſize of a magpie, and is a native of Senegal. Theſe are very common at Senegal and other warm parts of the old continent, where they are called *tock*. They are very tame and fooliſh birds while young, inſomuch as to ſuffer themſelves to be taken by the hand; but having learned experience with mature age, they then become rather ſhy. When taken young, they immediately become familiar; but are ſo ſtupid as not to feed of themſelves, though food be offered to them, requiring it to be put into their mouths. In their wild ſtate they feed on fruits, but when domeſticated eat bread, and will ſwallow almoſt any thing that is offered to them.

BUCHAN, a county or diſtrict of Scotland, lying partly in the ſhire of Aberdeen and partly in that of Banff: it gives the title of earl to the noble and ancient family of Erſkine.

BUCHANAN (George), the beſt Latin poet of his time, perhaps inferior to none ſince the Auguſtan age, was born in February 1506. This accompliſhed ſcholar and diſtinguiſhed wit was not deſcended of a family remarkable for its rank. He had no occaſion for the ſplendor of anceſtry. He wanted not a reflected greatneſs, the equivocal, and too often the only ornament of the rich and noble. The village of Killearn, in Stirling-ſhire, Scotland, was the place of his nativity; and the abject poverty in which his father died might have confined him to toil at the loweſt employments of life, if the generoſity of an uncle had not aſſiſted him in his education, and enabled him to purſue for two years his ſtudies at Paris. But that ſhort ſpace was ſcarcely elapſed, when the death of his benefactor made it neceſſary that he ſhould return to his own country, and forſake, for a time, the paths of ſcience.

He was yet under his 20th year, and ſurrounded with the horrors of indigence. In this extremity, he enliſted as a common ſoldier under John duke of Albany, who commanded the troops which France had ſent to aſſiſt Scotland in the war it waged, at this period, againſt England. But nature had not deſtined him to be a hero. He was diſguſted with the fatigues of one campaign; and, fortunately, John Major, then profeſſor of philoſophy at St Andrew's, hearing of his neceſſity and his merit, afforded him a temporary relief. He now became the pupil of John Maiz, a celebrated teacher in the ſame univerſity, under whom he ſtudied the ſubtilties of logic; and contracting an attachment to his maſter, he followed him to Paris. There, after having encountered many difficulties, he was invited to teach grammar in the college of St Barbe. In this ſlaviſh occupation he was found by the earl of Caſſels; with whom, having remained five years at Paris, he returned into Scotland. He next acted as preceptor to the famous earl of Murray, natural ſon of James V. But while he was forming this nobleman for public affairs, he found that his life was in danger; and from enemies, whoſe vindictive rage could ſuffer no abatement, and who would not ſcruple the moſt diſhonourable means of gratifying it.

The ſcandalous lives of the clergy had, it ſeems, excited his indignation; and, more than reaſoning or argument, had eſtranged him from the errors of Popery. The Franciſcan monks, in return to the beautiful but poignant ſatires he had written againſt them, branded him with the appellation of *atheiſt*; a term which the religious of all denominations are too apt indiſcriminately to laviſh where they have conceived a prejudice; and not ſatisfied with the outrage of abuſe and calumny, they conſpired his deſtruction. Cardinal Beaton gave orders to apprehend him, and bribed king James with a very conſiderable ſum to permit his execution. He was ſeized upon accordingly; and the firſt genius of his age was about to periſh by the halter, or by fire, to ſatisfy a malignant reſentment, when, eſcaping the vigilance of his guards, he fled into England. Henry VIII. at all times the ſlave of caprice and of paſſion, was then burning, on the ſame day, and at the ſame ſtake, the Lutheran and the Papiſt. His court did not ſuit a philoſopher or a ſatyriſt. After a ſhort ſtay, Buchanan croſſed the ſea to France; and, to his extreme diſappointment, found at Paris, cardinal Beaton, as ambaſſador from Scotland. He retired privately to Bourdeaux, dreading, perhaps, new miſfortunes, and concerned that he could not proſecute his ſtudies in obſcurity and in ſilence. Here he met Andrew Govea, a Portugueſe of great learning and worth, with whom he had formerly been acquainted during his travels, and who was now employed in teaching a public ſchool. He diſdained not to act as the aſſiſtant of his friend; and during the three years he reſided at this place, he compoſed the tragedies which do him ſo much honour. It was here, alſo, that he wrote ſome of the moſt pleaſant of thoſe poems, in which he has rallied the muſes, and threatened to forſake them, as not being able to maintain their votary. About this time too, he preſented a copy of verſes to the emperor Charles V. who happened to paſs through Bourdeaux.

His enemies, mean while, were not inactive. Cardinal Beaton wrote about him to the archbiſhop of Bourdeaux; and by every motive which a cunning and a wicked heart can invent, he invited him to puniſh the moſt peſtilential of all heretics. The archbiſhop, however, was not ſo violent as the cardinal. On enquiring into the matter, he was convinced that the poet had committed a very ſmall impropriety; and allowed himſelf to be pacified. But fortune was not long to continue her ſmiles. Andrew Govea being called by the king of Portugal, his maſter, to eſtabliſh an academy at Coimbra, he intreated Buchanan to accompany him. He obtained his requeſt; and had not been a year in his own country, when he died, and left his aſſociate expoſed to the malice of his inveterate enemies the monks. They loudly objected to him, that he was a Lutheran; that he had written poems againſt the Franciſcans; and that he had been guilty of the abominable crime of eating fleſh in lent. He was confined to a monaſtery till he ſhould learn what theſe men fancied to be religion: and they enjoined him to tranſlate the Pſalms of David into Latin verſe; a taſk which every man of taſte knows with what admirable ſkill and genius he performed.

On obtaining his liberty, he had the offer of a ſpeedy promotion from the king of Portugal; the iſſue of which, his averſion to the clergy did not allow him to wait. He haſtened to England; but the perturbed ſtate of affairs during the minority of Edward VI. not giving him the promiſe of any laſting ſecurity, he ſet out for France. There he had not been long, when he publiſhed his Jephtha, which his neceſſities made him dedicate to the marſhal de Briſſac. This patron did not want generoſity, and could judge of merit. He ſent him to Piedmont, as preceptor to his ſon Timoleon de Coſſi. In this employ he continued ſeveral years; and during the leiſure it afforded him, he fully examined the controverſies which now agitated Europe; and he put the laſt hand to many of the moſt admired of his ſmaller poems.

When his pupil had no longer any uſe for him, he paſſed into Scotland, and made an open profeſſion of the reformed faith. But he ſoon quitted his native country for France; which appears to have been more agreeable to his taſte. Queen Mary, however, having determined that he ſhould have the charge of educating her ſon, recalled him: and till the prince ſhould arrive at a proper age, he was nominated to the principality of St Andrew's. His ſucceſs as James's preceptor is well known. When it was reproached to him, that he had made his majeſty a pedant; "It is a wonder (he replied) that I have made ſo much of him." Mackenzie relates a ſtory concerning his tutelage of his pedantic majeſty, which is ſtrongly expreſſive of Buchanan's character as a man of humour, and at the ſame time ſhows the degree of his veneration for royalty. The young king being one day at play with his fellow-pupil the maſter of Erſkine, Buchanan, who was then reading, deſired them to make leſs noiſe. Finding that they diſregarded his admonition, he told his majeſty, if he did not hold his tongue, he would certainly whip his breech. The king replied, he would be glad to ſee who would *bell the cat*, alluding to the fable. Buchanan, in a paſſion, threw the book from him, and gave his majeſty a ſound flogging. The old counteſs of Mar, who was in the next apartment, ruſhed into the room, and taking the king in her arms, aſked how he dared to lay his hand on *the Lord's anointed*, "Madam, (ſays Buchanan), I have whipped his a—; you may kiſs it, if you pleaſe."

On the miſfortunes which befel the amiable but imprudent Mary, he went over to the party of the earl of Murray; and at his earneſt deſire he was prevailed upon to write his "Detection," a work which his greateſt admirers have read with regret. Having been ſent with other commiſſioners to England, againſt his miſtreſs, he was, on his return, rewarded with the abbacy of Croſs Raguel; made director to the chancery: and ſome time after lord of the privy council and privy ſeal. He was likewiſe rewarded by queen Elizabeth with a penſion of 100l. a year. The twelve laſt years of his life he employed in compoſing his Hiſtory of Scotland. After having vied with almoſt all the more eminent of the Latin poets, he conteſted with Livy and Salluſt the palm of eloquence and political ſagacity. But it is to be remembered with pain, that, like the former of theſe hiſtorians, he was not always careful to preſerve himſelf from the charge of partiality. In the year 1582, he expired at Edinburgh, in the 76th year of his age.

Various writers who have mentioned this author, ſpeak of him in very different language, according to their religious and political principles. From his works, however, it is evident, that, both as a Latin poet and proſe writer, he hath rarely been equalled ſince the reign of Auguſtus; nor is he leſs deſerving of remembrance as a friend to the natural liberties of mankind, in oppoſition to uſurpation and tyranny. "The happy genius of Buchanan (ſays Dr Robertſon), equally formed to excel in proſe and in verſe, more various, more original, and more elegant, than that of almoſt any other modern who writes in Latin, reflects, with regard to this particular, the greateſt luſtre on his country." To his memory an obeliſk 100 feet high is at this time (1788) erecting by ſubſcription, at Killearn the place of his nativity, deſigned by Mr J. Craig nephew to the celebrated poet Thomſon.

The following is a liſt of his works. 1. *Rerum Scoticarum*, &c. 2. *Pſalmorum Davidis paraphraſis poetica*. 3. *De jure regni apud Scotos dialogus*. 4. *Pſalmus* civ. *cum judicio Barclaii*, &c. 5. *Pſalmus* cxx. *cum analyſi organica Beuzeri*. 6. *Baptiſtes, ſive calumnia*. 7. *Alceſtis, tragœdia*. 8. *Tragœdiæ ſacræ, et exteræ*. 9. *De Caleto recepto carmen, apud Stephan*. 10. *Franciſcanus et Fratres*, &c. 11. *Elegiæ, Sylviæ*, &c. 12. *De ſphera Herbornæ*. 13. *Poemata*. 14. *Satyra in cardinalem Lotharingium*. 15. *Rudimenta grammatices, Tho. Linacri ex Anglico ſermone in Latinum verſæ*. 16. An admonition to the true lords. 17. *De proſodia*. 18. *Chamæleon*, 1572. 19. *Ad viros ſui ſeculi epiſtolæ*. 20. *Literæ reginæ Scoticæ ad com. Bothweliæ*. 21. A detection of the doings of Mary queen of Scots, and of James earl of Bothwell, againſt Henry lord Darnly. 22. *Vita ab ipſo ſcripta biennio ante mortem, cum commentario D. Rob. Sibbaldi, M. D.* 23. Life of Mary queen of Scots. Theſe have been ſeverally printed often, and in various countries. An edition of them all collected together was printed at Edinburgh in 1704, in 2 vols folio.

BUCHANNESS, a cape or promontory of Scotland, which is the fartheſt point of Buchan, not far from Peterhead, and the moſt eaſtern of all Scotland. E. Long. 0. 30. N. Lat. 57. 28.

BUCHAW, a free and imperial town of Germany, in Suabia, ſeated on the river Tederſee, 22 miles ſouth-weſt of Ulm. Here is a monaſtery, whoſe abbeſs has a voice in the diets of the empire. E. Long. 9. 37. N. Lat. 48. 5.

BUCHAW, a ſmall territory of Germany, in the circle of the Upper Rhine, which comprehends the diſtrict of the abbot of Flud.

BUCHOREST, a pretty large town of Turkey, in Europe, ſeated in the middle of Walachia, and the ordinary reſidence of a hoſpodar. The houſes are mean and very ill built, except a few that belong to the principal perſons. In 1716, a party of Germans ſent from Tranſylvania entered this town, and took the prince priſoner with all his court, and carried them off. This expedition was the more eaſily performed, as ſeveral lords of the country had a ſecret intelligence with the governor of Tranſylvania. This prince had no other way to regain his liberty, but by giving up that part of Walachia which lies between the river Aluth and Tranſylvania, to the emperor of Germany, by the peace concluded at Paſſarowitz in 1718. The Germans entered again into the capital of his dominions, and levied exceſſive contributions. But affairs took another turn after the fatal battle of Crotzka in 1737; for the emperor was obliged to reſtore this part of Walachia to the hoſpodar, in virtue of the treaty of Belgrade. E. Long. 26. 30. N. Lat. 44. 30.

BUCHOM, a ſmall, free, and imperial town of Suabia in Germany, ſeated on the lake of Conſtance, in E. Long. 9. 20. N. Lat. 47. 41.

BUCIOCHE, in commerce, a ſort of woollen cloth manufactured in Provence in France, which the French ſhips carry to Alexandria and Cairo.

BUCK, in zoology, a male horned beaſt of venery or chaſe, whoſe female is denominated a *doe*. See CERVUS, and *Buck-Hunting*.

BUCK, is alſo applied to the males of the hare and rabbit kind. See LEPUS, and *Hare-Hunting*.

Buck-Bean, in botany. See MENYANTHES.

Buck-Thorn, the Engliſh name of the RHAMNUS.

Buck-Wheat. See POLYGONUM.

BUCKENHAM (New), a town of Norfolk in England, which formerly had a ſtrong caſtle, but now demoliſhed. It is ſeated in a flat, in E. Long. 1. 10. N. Lat. 52. 30.

BUCKET, a ſmall portable veſſel to hold water, often made of leather for its lightneſs and eaſy uſe in caſes of fire.—It is alſo the veſſel let down into a well, or the ſides of ſhips, to fetch up water.

BUCKING, the firſt operation in the whitening of linen yarn or cloth. See BLEACHING.

BUCKINGHAM, the chief town of Buckinghamſhire in England, ſtands in a low ground, on the river Ouſe, by which it is almoſt ſurrounded, and over which there are three handſome ſtone-bridges. The town is large and populous, ſends two members to parliament, and had the title of a duchy. It ſeems, however, to have been but an inconſiderable place at the conqueſt; for, according to Doomſday-book, it paid only for one hide, and had but 26 burgeſſes. Edward the elder fortified it in the year 918 againſt the incurſions of the Danes, with a rampart and turrets. It alſo had formerly a caſtle in the middle of the town, of which no veſtiges now remain. The ſhrine of St Rumbald, the patron of fiſherman, preſerved in the church, was held in great veneration. The county-goal ſtands in this town, and here the aſſizes are ſometimes kept. It was formerly a ſtaple for wool, but that advantage it hath now loſt. It is governed by a bailiff and 12 burgeſſes, who are the ſole electors of the members. In its neighbourhood are many paper-mills upon the Ouſe. W. Long. 0. 58. N. Lat. 51. 30.

Buckingham-Shire (ſuppoſed to derive its name from the Saxon word *Buc*, denoting a hart or buck), an inland county of England. During the time prior to the landing of the Romans it was included in the diviſion of Catieuchlani; and after their conqueſt it was included in their third province of Flavia Cæſarienſis. During the heptarchy it belonged to the kingdom of Mercia, which commenced in 582, and terminated in 827, having had 18 kings; and it is now included in the Norfolk circuit, the dioceſe of Lincoln, and the province of Canterbury. It is bounded on the north by Northamptonſhire; ſouth by Berkſhire; eaſt by Bedfordſhire, Hertfordſhire, and Middleſex; and weſt by Oxfordſhire. It is of an oblong form, whoſe greateſt extent is from north to ſouth. It contains 441,000 acres, has above 111,400 inhabitants, 185 pariſhes, 73 vicarages, is 39 miles long, 18 broad, and 109 in circumference. It has 15 market towns, viz. Buckingham and Ayleſbury the county towns, Marlow, Newport Pagnel, Winſlow, Wendover, Beaconsfield, Wiccomb, Cheſham, Amerſham, Stony Stratford, Colnbrook, Ivingho, Oulney, Riſborough; beſides the conſiderable villages of Eaton and Fenny Stratford, and 613 others inferior. It is divided into eight hundreds, provides 560 men for the militia, ſends 14 parliament-men, and pays 12 parts of the land-tax. Its rivers are the Thames, Ouſe, Coln, Wicham, Amerſham, Iſa, Tame, and Loddon. Its chief produce is bone-lace, paper, corn, fine wool, and breeding rams. The moſt noted places are the Chiltern Hills, Vale of Ayleſbury, Bernwood-Foreſt, Wooburn-Heath, and 15 parks. The air is generally good, and the ſoil moſtly chalk or marle.

BUCKINGHAM (George Villiers duke of). See VILLIERS.

BUCKINGHAM (John Sheffield duke of). See SHEFFIELD.

BUCKLE, a well known utenſil, made of divers ſorts of metals, as gold, ſilver, ſteel, braſs, &c.

The faſhion or form of buckles is various; but their uſe, in general, is to make faſt certain parts of dreſs, as the ſhoes, garters, &c.

BUCKLE, in heraldry. The buckle was ſo much eſteemed in former times, that few perſons of repute and honour wore their girdle without it; and it may be conſidered, in coats of arms, as a token of the ſurety, the faith, and ſervice of the bearer.

BUCKLER, a piece of defenſive armour uſed by the ancients. It was worn on the left arm; and compoſed of wickers woven together, or wood of the lighteſt ſort, covered with hides, and fortified with plates of braſs or other metal. The figure was ſometimes round, ſometimes oval, and ſometimes almoſt ſquare. Moſt of the bucklers were curiouſly adorned with all ſorts of figures of birds and beaſts, as eagles, lions; nor of theſe only, but of the gods, of the celeſtial bodies, and all the works of nature; which cuſtom was derived from the heroic times, and from them communicated to the Grecians, Romans, and Barbarians.

The ſcutum, or Roman buckler, was of wood, the parts being joined together with little plates of iron, and the whole covered with a bull's hide. An iron plate went about it without, to keep off blows; and another within, to hinder it from taking any damage by lying on the ground. In the middle was an iron boſs or *umbo* jutting out, very ſerviceable to glance off ſtones and darts; and ſometimes to preſs violently upon the enemy, and drive all before them. They are to be diſtinguiſhed from the clypei, which were leſs, and quite round, belonging more properly to other nations, though for ſome little time uſed by the Romans. The ſcuta themſelves were of two kinds; the *ovata*, and the *imbricata:* the former is a plain oval figure; the other oblong, and bending inward like half a cylinder. Polybus makes the ſcuta four feet long, and Plutarch calls them ποδηρεις, *reaching down to the feet.* And it is very probable that they covered almoſt the whole body, ſince in Livy we meet with ſoldiers who ſtood on the guard, ſometimes ſleeping with their head on their ſhield, having fixed the other part of it in the earth.

Votive BUCKLERS: Thoſe conſecrated to the gods, and hung up in their temples, either in commemoration of ſome hero, or as a thankſgiving for victory obtained over an enemy; whoſe bucklers, taken in war, were offered as a trophy.

BUCKOR, a province of Aſia, ſubject to the great mogul. It is ſeated on the river Indus, on the banks of which there are corn and cattle: but the weſt part, which is bounded by Segeſtan in Perſia, is a deſert. The inhabitants are ſtrong, robuſt, and apt to mutiny; for which reaſon the mogul has a garriſon at the chief town, called *Buckor*, which is ſeated in an iſland made by the river Indus. They are all Mahometans, and drive a great trade in cotton cloth, and other Indian commodities. E. Long. 70. 5. N. Lat. 28. 20.

BUCKRAM, in commerce, a ſort of coarſe linen cloth ſtiffened with glue, uſed in the making of garments to keep them in the form intended. It is alſo uſed in the bodies of womens gowns; and it often ſerves to make wrappers to cover cloths, ſerges, and ſuch other merchandiſes, in order to preſerve them and keep them from the duſt, and their colours from fading. Buckrams are ſold wholeſale by the dozen of ſmall pieces or remnants, each about four ells long, and broad according to the piece from which they are cut. Sometimes they uſe new pieces of linen cloth to make buckrams, but moſt commonly old ſheets and old pieces of ſails.

BUCKSTALL, a toil to take deer, which muſt not be kept by any body in England that has not a park of his own, under penalties.

BUCOLIC, in ancient poetry, a kind of poem relating to ſhepherds and country affairs, which, according to the moſt generally received opinion, took its riſe in Sicily. Bucolics, ſays Voſſius, have ſome conformity with comedy. Like it, they are pictures and imitations of ordinary life; with this difference, however, that comedy repreſents the manners of the inhabitant of cities, and bucolics the occupations of country people. Sometimes, continues he, this laſt poem is in form of a monologue, and ſometimes of a dialogue. Sometimes there is action in it, and ſometimes only narration; and ſometimes it is compoſed both of action and narration. The hexameter verſe is the moſt proper for bucolics in the Greek and Latin tongues. Moſchus, Bion, Theocritus, and Virgil, are the moſt renowned of the ancient bucolic poets.

BUD, in botany. See the article GEMMA.

BUDA, the capital city of Hungary, called *Oſen* by the inhabitants, and *Buden* by the Turks. It is large, well fortified, and has a caſtle that is almoſt impregnable. The houſes are tolerably handſome, being moſt of them built with ſquare ſtone. It was a much finer place before the Turks had it in their poſſeſſion; but they being maſters of it 135 years, have ſuffered the fineſt buildings to fall to decay. The lower city, or Jews town, extends like ſuburbs from the upper city to the Danube. The upper town takes up all the declivity of a mountain; and is fortified with good walls, which have towers at certain diſtances. The caſtle, which is at the extremity of the hill, on the eaſt ſide, and commands the greateſt part of it, is ſurrounded with a very deep ditch, and defended by an old-faſhioned tower, with the addition of new fortifications. There is alſo a ſuburb, incloſed with hedges, after the Hungarian manner. The moſt ſumptuous ſtructures now are the caravanſeras, the moſques, bridges, and baths. Theſe laſt are the fineſt in Europe, for the magnificence of the building, and plenty of water. Some of the ſprings are uſed for bathing and drinking: and others are ſo hot, that they cannot be uſed without a mixture of cold water. The Danube is about three quarters of a mile in breadth; and there is a bridge of boats between this city and Peſt, conſiſting of 63 large pontoons. The Jews have a ſynagogue near the caſtle-gardens. The adjacent country is fruitful and pleaſant, producing rich wines; though in ſome places they have a ſulphureous flavour.

This city was the reſidence of the Hungarian monarchs till the Turks took it in 1526. Ferdinand archduke of Auſtria recovered it the next year; but in 1529 the Turks became maſters of it again. In 1684 the Chriſtians laid ſiege to it; but they were obliged to raiſe it ſoon after, though they had an army of 80,000 men. Two years after, the Turks loſt it again, it being taken by aſſault in the ſight of a very numerous army. The booty that the Chriſtians found there was almoſt incredible, becauſe the rich inhabitants had lodged their treaſure in this city as a place of ſafety. However, part of theſe riches were loſt in the fire occaſioned by the aſſault. This laſt ſiege coſt the Chriſtians a great deal of blood, becauſe there were many in the camp who carried on a ſecret correſpondence with the Turks. When the ſeraſkier ſaw the city on fire, and found he could not relieve it, he beat his head againſt the ground for anger. In 1687, this city had like to have fallen into the hands of the Turks again, by treachery. After this, the Chriſtians augmented the fortifications of this place, to which the Pope contributed 100,000 crowns, for this is looked upon as the key of Chriſtendom. It is ſeated on the Danube, 105 miles ſouth-eaſt of Vienna, 163 north by weſt of Belgrade, and 563 north-weſt of Conſtantinople. E. Long. 19. 22. N. Lat. 47. 20.

BUDA (the beglerbeglic of), was one of the chief governments of the Turks in Europe. It included all the countries of Upper Hungary between the rivers Teiſſe and Danube, and between Agria and Novigrad all Lower Hungary, from Gran and Caniſca, the eaſtern part of Sclavonia, and almoſt all Servia: but a good part of this government now belongs to the queen of Hungary.

BUDÆUS (William), the moſt learned man in France in the 15th century, was deſcended of an ancient and illuſtrious family, and born at Paris in 1467.

He was placed young under maſters; but barbariſm prevailed ſo much in the ſchools of Paris, that Budæus took a diſlike to them, and ſpent his whole time in idleneſs, till his parents ſent him to the univerſity of Orleans to ſtudy law. Here he paſſed three years without adding to his knowledge; for his parents ſending for him back to Paris, found his ignorance no leſs than before, and his reluctance to ſtudy, and love to gaming and other uſeleſs pleaſures, much greater. They talked to him no more of learning of any kind; and as he was heir to a large fortune, left him to follow his own inclinations. He was paſſionately fond of hunting, and took great pleaſure in horſes, dogs, and hawks. The fire of youth beginning to cool, and his uſual pleaſures to pall upon his ſenſes, he was ſeized with an irreſiſtible paſſion for ſtudy. He immediately diſpoſed of all his hunting equipage, and even abſtracted himſelf from all buſineſs to apply himſelf wholly to ſtudy; in which he made, without any aſſiſtance, a very rapid and amazing progreſs, particularly in the Latin and Greek languages. The work which gained him greateſt reputation was his treatiſe *de Aſſe*. His erudition and high birth were not his only advantages; he had an uncommon ſhare of piety, modeſty, gentleneſs, and good-breeding. The French king Francis I. often ſent for him; and at his perſuaſion, and that of Du Belay, founded the royal college of France, for teaching the languages and ſciences. The king ſent him to Rome, with the character of his ambaſſador to Leo X. and in 1522 made him maſter of requeſts. The ſame year he was choſen provoſt of the merchants. He died at Paris in 1540. His works making four volumes in folio, were printed at Baſil in 1557.

BUDDÆUS (John Francis), a celebrated Lutheran divine, and one of the moſt learned men Germany has produced, was born 1667, at Anclam, a town of Pomerania, where his father was miniſter. He was at firſt Greek and Latin Profeſſor at Colburg; afterwards profeſſor of morality and politics in the univerſity of Hall; and at length, in 1705, profeſſor of divinity at Jena, where he fixed, and where he died, after having acquired a very great reputation. His principal works are, 1. A large hiſtorical German dictionary. 2. *Hiſtoria eccleſiaſtica Veteris Teſtamenti*, 2 vols. 4to. 3. *Elementa philoſophiæ practicæ, inſtrumentalis, et theoreticæ*, 3 vols. 8vo, which has had a great number of editions, becauſe, in moſt of the univerſities of Germany, the profeſſors take this work for the text of their leſſons. 4. *Selecta juris naturæ et gentium*. 5. *Miſcellanea, Sacra* 3 vols. 4to. 6. *Iſagoge hiſtorico-theologica ad theologiam univerſam, ſingulaſque, ejus partes*, 2 vols. 4to; which is much valued by the Lutherans. 7. A treatiſe on atheiſm and ſuperſtition.

BUDDESDALE, or **Bettisdale**, a town of Suffolk in England, ſeated in a dale or valley, and its ſtreet takes in a good part of Ricking, all which together make up the town, for of itſelf it is but a hamlet, having a ſmall chapel, and an endowed grammar-ſchool, to which belong certain ſcholarſhips, aſſigned to Bennet or Corpus Chriſti-college in Cambridge, being the gift of Sir Nicholas Bacon, lord keeper of the great ſeal. E. Long. 1. 8. N. Lat. 52. 25.

BUDDING, in gardening. See **Engrafting**.

BUDDLE, in mineralogy, a large ſquare frame of boards, uſed in waſhing the tin ore.

BUDDLEIA, in botany: a genus of the monogynia order, belonging to the tetrandria claſs of plants. The calyx and corolla, are quadrifid; the ſtamina placed at the inciſures of the corolla. The capſule is biſulcated, bilocular, and polyſpermous. There are two ſpecies, viz. the americana, and occidentalis. The firſt is a native of Jamaica and moſt of the other American iſlands; where it riſes to the height of ten or twelve feet, with a thick woody ſtem covered with a grey bark; and ſends out many branches towards the top, which come out oppoſite: at the end of the branches the flowers are produced in long cloſe ſpikes branching out in cluſters, which are yellow, conſiſting of one leaf cut into four ſegments; theſe are ſucceeded by oblong capſules filled with ſmall ſeeds. The ſecond grows naturally at Carthagena; and riſes much higher than the other, dividing into a great number of ſlender branches covered with a ruſſet hairy bark, garniſhed with long ſpear-ſhaped leaves ending in ſharp points: at the end of the branches are produced branching ſpikes of white flowers growing in whorls round the ſtalks, with ſmall ſpaces between each.—Theſe plants grow in gullies, or other low ſheltered ſpots; their branches being too tender to reſiſt the force of ſtrong winds. They may be propagated by ſeeds procured from thoſe places where they are natives; and are to be managed like other exotics; only their ſeeds muſt be ſown in pots as ſoon as they arrive, and very lightly covered; for if they are buried deep in the earth they will all periſh.

BUDELICH, a town of Germany, in the electoral circle of the Rhine and archbiſhopric of Treves, ſeated on the little river Traen, in E. Long. 6. 55. N. Lat. 49. 52.

BUDGE-barrels, among engineers, ſmall barrels well hooped, with only one head; on the other end is nailed a piece of leather, to draw together upon ſtrings like a purſe. Their uſe is for carrying powder along with a gun or motar; being leſs dangerous, and eaſier carried than whole barrels. They are likewiſe uſed upon a battery of mortars, for holding meal-powder.

BUDGELL (Euſtace), Eſq; an ingenious and polite writer, was the ſon of Gilbert Budgell, doctor of divinity; and was born at St Thomas, near Exeter, about the year 16 5. He was educated at Chriſt-church college, Oxford; from which he removed to the Inner Temple, London: but inſtead of ſtudying the law, for which his father intended him, he applied to polite literature; kept company with the genteeleſt perſons in town; and particularly contracted a ſtrict intimacy with the ingenious Mr Addiſon, who was firſt couſin to his mother, and who, on his being made ſecretary to lord Wharton lord lieutenant of Ireland, took him with him as one of the clerks of his office. Mr Budgell, who was about 20 years of age, and had read the claſſics, and the works of the beſt Engliſh, French, and Italian authors, now became concerned with Sir Richard Steele and Mr Addiſon in writing the Tatler, as he had, ſoon after, a ſhare in writing the Spectators, where all the papers written by him are marked with an X; and when that work was completed, he had likewiſe a hand in the Guardian, where his performances are marked with an aſteriſk.

riſk. He was afterwards made under-ſecretary to Mr Addiſon, chief ſecretary to the lords juſtices of Ireland, and deputy-clerk of the council. Soon after, he was choſen member of the Iriſh parliament; and in 1717, Mr Addiſon, having become principal ſecretary of ſtate in England, procured him the place of accountant and comptroller general of the revenue in Ireland. But the next year, the duke of Bolton being appointed lord-lieutenant, Mr Budgell, wrote a lampoon againſt Mr Webſter, his ſecretary, in which his Grace himſelf was not ſpared; and upon all occaſions treated that gentleman with the utmoſt contempt. This imprudent ſtep was the primary cauſe of his ruin: for the Duke of Bolton, in ſupport of his ſecretary, got him removed from the poſt of accountant-general; upon which, returning to England, he, contrary to the advice of Mr. Addiſon, publiſhed his caſe in a pamphlet, intitled, "A letter to the lord * * *, from Euſtace Budgell, Eſq; accountant-general," &c. Mr Addiſon had now reſigned the ſeals, and was retired into the country for the ſake of his health: Mr Budgell had alſo loſt ſeveral other powerful friends, who had been taken off by death; particularly the lord Halifax and the earl of Sunderland; he, however, made ſeveral attempts to ſucceed at court, but was conſtantly kept down by the duke of Bolton. In the year 1720 he loſt 20,000l. by the South-ſea ſcheme, and afterwards ſpent 5000l. more in unſucceſsful attempts to get into Parliament. This completed his ruin. He at length employed himſelf in writing pamphlets againſt the miniſtry, and wrote many papers in the Craftſman. In 1733, he began a weekly pamphlet, called *The Bee;* which he continued for above 100 numbers, printed in eight volumes 8vo. During the progreſs of this work, Dr Tindal's death happened, by whoſe will Mr Budgell had 2000l. left him; and the world being ſurpriſed at ſuch a gift from a man entirely unrelated to him, to the excluſion of the next heir, a nephew, and the continuator of Rapin's hiſtory of England, immediately imputed it to his making the will himſelf. Thus the ſatyriſt;

Let Budgell charge low Grub-ſtreet on my quill,
And write whate'er he pleaſe, except my *will.*

It was thought he had ſome hand in publiſhing Dr Tindal's *Chriſtianity as old as the creation;* for he often talked of another additional volume on the ſame ſubject, but never publiſhed it. After the ceſſation of the Bee, Mr Budgell became ſo involved in law-ſuits, that he was reduced to a very unhappy ſituation. He got himſelf called to the bar, and attended for ſome time in the courts of law; but finding himſelf unable to make any progreſs, and being diſtreſt to the utmoſt, he determined at length to make away with himſelf. Accordingly, in the year 1736, he took a boat at Somerſet-ſtairs, after filling his pockets with ſtones; ordered the waterman to ſhoot the bridge; and, while the boat was going under, threw himſelf into the river. He had ſeveral days before been viſibly diſtracted in his mind. Upon his bureau was found a ſlip of paper on which were theſe words:

What Cato did, and Addiſon approv'd,
Cannot be wrong.

Beſides the above works, he wrote a Tranſlation of Theophraſtus's Characters. He was never married; but left one natural daughter, who afterwards aſſumed his name, and became an actreſs in Drury lane.

BUDINUS (anc. geog.), a mountain of Sarmatia Europæa, from which the more northern ſpring of the Boryſthenes is ſaid to take its riſe, according to Ptolemy. But this is contradicted by later accounts. Now *Podolia.*

BUDNÆANS, in eccleſiaſtical hiſtory, ſo called from the name of their leader, Simon Budnæus. They not only denied all kind of religious worſhip to Jeſus Chriſt, but aſſerted, that he was not begotten by any extraordinary act of divine power; being born, like other men, in a natural way. Budnæus was depoſed from his miniſterial functions in the year 1584, and publicly excommunicated, with all his diſciples; but afterwards abandoning his peculiar ſentiments, he was readmitted to the communion of the Socinian ſect. Crellius aſcribes the origin of the above opinion to Adam Neuſer.

BUDOA, a maritime town of Dalmatia, with a biſhop's ſee, ſubject to the Venetians. It is ſeated between the gulf of Cattaro and the city of Dulugno, on the coaſt of Albany; and is an important fortreſs, where the Venetians always keep a ſtrong garriſon. In 1667, it ſuffered greatly by an earthquake: and in 1686 was beſieged by Soliman, baſha of Scutari; but general Cornaro obliged him to raiſe the ſiege. E. long. 19. 22. N. lat. 42. 12.

BUDRIO, a town of Italy, in the Bologneſe. The adjacent fields produce large quantities of fine hemp, which renders the town of more conſequence than large places E. long. 11. 35. N. lat. 44. 27.

BUDUN, is the name of one of the Ceyloneſe gods: he is ſuppoſed to have arrived at ſupremacy, after ſucceſſive tranſmigration from the loweſt ſtate of an inſect, through the various ſpecies of living animals. There have been three deities of this name, each of which is ſuppoſed to reign as long as a bird removes a hill of ſand, half a mile high, and ſix miles round, by a ſingle grain in a thouſand years. See SAKRADAWENDRA.

BUDWEIS, a royal city of Bohemia, in Germany. It is pretty large and well built, ſurrounded with ſtrong walls, fortified with a good rampart, and might be made an important place. It was taken by the king of Pruſſia in 1744, but he did not keep it very long. E. long. 14. 19. N. lat. 42. 15.

BUDZIAC TARTARY, lies on the rivers Neiſter, Bog, and Nieper; having Poland and Ruſſia on the north, Little Tartary on the eaſt, the black ſea on the ſouth, and Beſſarabia on the weſt. The chief town is Oczakow. It is ſubject to Turkey.

BUENA VISTA, one of the Cape de Verd iſlands, lying in N. lat. 15. 56. It is alſo called *Bonviſta,* and *Bonnevue;* but the firſt is the true appellation, the others being only abbreviations and corruptions of the original name, which ſignifies a *good proſpect,* intimating the beautiful appearance it makes to ſhips at ſea. This iſland is reckoned near 20 leagues in circumference, and is diſtinguiſhed on the north ſide by a ridge of white rocks that bound it. The coaſt that ſtretches eaſt and north-weſt is terminated with ſundry banks to the ſea; but the interior part is chiefly mountainous. From the northern point there is a large ridge of rocks projecting near a whole league into the ſea, againſt which the waves break with incredible fury. Another point of rocks ſtretches into the ſea on the ſouthern point of the iſland eaſtward, a league and a half beyond that point; and in that bay is the beſt road for ſhipping.

BUENOS AYRES, a country of South-America, belonging to the Spaniards. This name, given from the pleaſantneſs of the climate, is extended to all that country lying between Tucuman on the eaſt, Paraguay on the north, and Terra Magellanica on the ſouth, or to the vertex of that triangular point of land which compoſes South-America. The country is watered by the great river La Plata; firſt diſcovered in 1515 by Juan Diaz de Solis, who with two of his attendants was maſſacred by the natives; and partly ſubdued by Sebaſtian Gaboto, who gave the great river the appellation of *La Plata*, from the abundance of the precious metals he procured from the inhabitants, imagining them to be the produce of the country, though in fact they were brought from Peru.—No country in the world abounds more in horned cattle and horſes than Buenos Ayres, where the greateſt expence of a horſe or cow is in the catching it, and they are frequently to be had at the ſmall price of two or three rials. In ſuch abundance are theſe uſeful animals, that the hide alone is deemed of any value, as this conſtitutes a main article in the trade of the country. All rove wild in the fields; but they are now become more difficult of acceſs, the terrible havock made among them having taught the cautious brutes to keep at a greater diſtance. All kinds of fiſh are in the ſame abundance; the fruits produced by every quarter of the globe grow up here in the utmoſt perfection; and for the enjoyment of life, and the ſalubrity of the air, a finer country cannot be imagined. The principal cities are Buenos Ayres the capital, Monte Video, Corienteo, and Santa Fe.

Buenos Ayres (Nueſtra Sennora de), the capital of the country called *Buenos Ayres*, in South-America, was founded in the year 1535, under the direction of Don Pedro de Mendoza, at that time governor. It ſtands on a point called *Cape Blanco*, on the ſouth ſide of the Plata, fronting a ſmall river on S. Lat. 34°. 34′. 38″. according to the obſervations of Father Feville. The ſituation is in a fine plain, riſing by a gentle aſcent from the river; and truly paradiſaical, whether we regard the temperature of the climate, the fertility of the ſoil, or that beautiful verdure which overſpreads the whole face of the country, of which the inhabitants have a proſpect as far as the eye can reach. The city is very conſiderable in extent, containing 3000 houſes, inhabited by Spaniards and others of different complexions. The ſtreets are ſtraight, broad, and pretty equal in the heights and dimenſions of the buildings; one very handſome ſquare adorns it, the front being a caſtle in which the governor holds his court, and preſides over a garriſon of 3000 ſoldiers. Moſt of the buildings are of chalk or brick, except the cathedral, a magnificent ſtructure, compoſed chiefly of ſtone.

BUFALMACO (Boramico), an Italian painter; the firſt who put labels to the mouths of his figures, with ſentences; ſince followed by bad maſters, but more frequently in caricatura engravings. He died in 1340.

BUFF, in commerce, a ſort of leather prepared from the ſkin of the buffalo; which dreſſed with oil, after the manner of ſhammy, makes what we call *buff-ſkin*. This makes a very conſiderable article in the French, Engliſh, and Dutch commerce at Conſtantinople, Smyrna, and all along the coaſt of Africa. The ſkins of elks, oxen, and other like animals, when prepared after the ſame manner as that of the buffalo, are likewiſe called *buffs*.

Of buff-ſkin, or buff-leather, are made a ſort of coats for the horſe or *gens d'armes* of France, bandaliers, belts, pouches, and gloves.

In France, there are ſeveral manufactories deſigned for the dreſſing of thoſe ſorts of hides, particularly at Corbeil, near Paris; at Niort, at Lyons, at Rone, at Etanepus, at Cone.

BUFFALO, in zoology. See BOS.

BUFFET was anciently a little apartment, ſeparated from the reſt of the room by ſlender wooden columns, for the diſpoſing of china, glaſs-ware, &c.

It is now properly a large table in a dining-room, called alſo a *ſide-board*, for the plate, glaſſes, bottles, baſons, &c. to be placed on, as well for the ſervice of the table as for magnificence. In houſes of perſons of diſtinction in France, the buffet is a detached room, decorated with pictures relative to the ſubject, with fountains, ciſterns and vaſes. It is commonly faced with marble or bronze.

BUFFIER (Claude), a French writer, in 1661, became a Jeſuit in 1679, and died at Paris in 1737. There are many works of this author, which ſhow deep penetration and accurate judgment; the principal of which is, "Un Cours des Sciences," &c. that is, "a Courſe of Sciences upon principles new and ſimple, in order to form language, the underſtanding, and the heart, 1732," in folio. This collection includes an excellent "French grammar upon a new plan; a philoſophic and practical treatiſe upon eloquence; an art of poetry," which however is not reckoned the beſt part of this miſcellany; "elements of metaphyſics; an examination into vulgar prejudices; a treatiſe of civil ſociety; and an expoſition of the proofs of religion:" all full of reflections, juſt as well as new. He was the author of other works in verſe and proſe, of which no great account is had; and it is remarkable, that his ſtyle in both is rather eaſy than accurate and correct, notwithſtanding the precepts in his "grammar," which is really philoſophic.

BUFFON (Count de). See CLERC.

BUFFOON, a droll, or mimic, who diverts the public by his pleaſantries and follies. Menage, after Salmaſius, derives the word from *buffo*; a name given to thoſe who appeared on the Roman theatre with their cheeks blown up; that, receiving blows thereon, they might make the greater noiſe, and ſet the people a laughing. Others, as Rhodiginus, makes the origin of buffoonery more venerable; deriving it from a feaſt inſtituted in Attica by K. Erictheus, called *buphonia*.

Buffoons are the ſame with what we otherwiſe find denominated *ſcurræ*, *gelaſiani*, *mimilogi*, *miniſtelli*, *goliardi*, *joculatores*, &c. whoſe chief ſcene is laid at the tables of great men. Gallienus never ſat down to meat without a ſecond table of buffoons by him; Tillemont alſo renders *pantomimes* by buffoons. In which ſenſe he obſerves, the ſhows of the buffoons were taken away by Domitian, reſtored by Nerva, and finally aboliſhed by Trajan.

BUFONIA, TOAD-GRASS: A genus of the monogynia order, belonging to the diandria claſs of plants; and in the natural method ranking under the 22d order, *Caryophylleæ*. The calyx is quinquedentate; there is no corolla; the berry is monoſpermous. There is but one ſpecies, viz. the tenuifolia, a native of Britain.

BUFONITA, in natural hiſtory, the toad-ſtone. This has been received not only among the liſt of native ſtones by the generality of authors, but even has held a place among the gems, and is ſtill worn in rings by ſome people; though undoubtedly it is an extraneous foſſil. There has been a ſtrong opinion in the world, that it was found in the head of an old toad; and that this animal voided it at the mouth, on being put on a red cloth. The general colour of the bufonitæ is a deep duſky brown; but it varies greatly in this reſpect in ſeveral ſpecimens, ſome of which are quite black, others of an extremely pale, ſimple brown, a cheſnut colour, liver colour, black, grey, or whitiſh. The bufonitæ are uſually found immerſed in beds of ſtone; and ſo little doubt is there of what they have originally been, viz. the petrified teeth of the lupus piſcis, or wolf-fiſh, that part of the jaw of the fiſh has ſometimes been found with the teeth petrified in it. The bufonitæ are ſaid to be cordial and aſtringent: many other fanciful virtues are aſcribed to them; which the preſent practice has rejected.

BUG, or BUGG, in zoology, the ancient name of a ſpecies of cimex. See CIMEX.

Cheap, eaſy, and clean mixture for effectually deſtroying BUGGS. Take of the higheſt rectified ſpirit of wine, (*viz.* lamp-ſpirits) that will burn all away dry, and leave not the leaſt moiſture behind it, half a pint; new diſtilled oil, or ſpirit of turpentine, half a pint; mix them together; and break into it, in ſmall bits, half an ounce of camphire, which will diſſolve it in a few minutes: ſhake them well together; and with a piece of ſponge, or a bruſh dipt in ſome of it, wet very well the bed or furniture wherein thoſe vermin harbour and breed, and it will infallibly kill and deſtroy both them and their nits, although they ſwarm ever ſo much. But then the bed and furniture muſt be well and thoroughly wet with it (the duſt upon them being firſt bruſhed and ſhook off), by which means it will neither ſoil, ſtain, nor in the leaſt hurt, the fineſt ſilk or damaſk bed that is. The quantity here ordered of this mixture (that coſts but about a ſhilling) will rid any one bed whatever, tho' it ſwarms with buggs. If any buggs ſhould happen to appear after once uſing it, it will only be for want of well wetting the lacing, &c. of the bed, or the folding of the linens or curtains near the rings, or the joints or holes in and about the bed or head-board, wherein the buggs and nits neſtle and breed; and then their being wetted all again with more of the ſame mixture, which dries in as faſt as you uſe it, pouring ſome of it into the joints and holes where the bruſh or ſponge cannot reach, will never fail abſolutely to deſtroy them all. Some beds that have much wood-work can hardly be thoroughly cleared without being firſt taken down; but others that can be drawn out, or that you can get well behind, to be done as it ſhould be, may. The ſmell this mixture occaſions will be all gone in two or three days; which yet is very wholeſome, and to many people agreeable. Remember always to ſhake the mixture together very well, whenever you uſe it, which muſt be in the daytime, not by candle-light, leſt the ſubtlety of the mixture ſhould catch the flame as you are uſing it, and occaſion damage.

Early in the ſpring, even in February, the larva of theſe creatures begins to burſt from the egg; and it is at this ſeaſon that attention is ſo very requiſite. The bed ought to be ſtripped of all its furniture; which ſhould be waſhed, and even boiled, if linen; if ſtuff, it ſhould be hot preſſed. The bed-ſtead ſhould be taken to pieces, duſted, and waſhed with ſpirit of wine in the joints, for in thoſe parts the females lay their eggs. This done, the joints, crevices, cavities, &c. ſhould be well filled with the beſt ſoft ſoap mixed with verdigris and Scots ſnuff. On this ſubſtance the larva, if any eſcape the cleanſing, or any, which is common in old houſes, creep into the bed-ſtead, will feed at firſt, and of courſe be deſtroyed: this laſt will effect the purpoſe in houſes where theſe vermin are not ſo numerous, by repeating the operation every three months.—Profeſſor Kalm † mentions, that, from repeated trials, he has been convinced that ſulphur, if it be properly employed, entirely deſtroy buggs and their eggs in beds or walls, though they were ten times more numerous than the ants on an ant-hill. His tranſlator, Dr Forſter, adds, that a ſtill more effectual remedy is, to waſh all the infected furniture with a ſolution of arſenic. See further the article CIMICIFUGA.

BUGEY, a province of France, bounded on the eaſt by Savoy, on the weſt by Breſſe, on the ſouth by Dauphiny, and on the north by the territory of Gex and the Franche Compte. It is about 40 miles long and 25 broad. Though it is a country full of hills and rivers, yet it is fertile in ſome places, the rivers abound with trouts, and there are plenty of all ſorts of game. The chief places are Belley the capital, Seiſel, St Rambert, Fort l'Ecluſe, and Chateau-Neuf.

BUGGERS, *Bulgarii*, anciently ſignified a kind of heretics, otherwiſe called *Paterini*, *Cathari*, and *Albigenſes*.

The word is formed of the French *Bougres*, and that from *Bougria* or *Bulgaria*, the country where they chiefly appeared. Among other errors, they held, that men ought to believe no ſcripture but the New Teſtament; that baptiſm was not neceſſary to infants; that huſbands who converſed with their wives could not be ſaved; and that an oath was abſolutely unlawful. They were ſtrenuouſly refuted by Fr. Robert, a Dominican, ſurnamed the *Bugger*, as having formerly made profeſſion of this hereſy.

The Buggers are mentioned by Matthew Paris, in the reign of Henry III. under the name of *Bugares*. *Circa dies autem illos invaluit hæretica pravitas eorum qui vulgariter dicuntur Paterini & Bugares, de quorum errorbus malo tacere quam loqui.*

BUGGER, or BUGGERER, came afterwards to be uſed for a Sodomite; it being one of the imputations laid, right or wrong, on the Bulgarian heretics, that they taught, or at leaſt practiſed, this abominable crime.

Bugger (Bulgarius) is alſo a denomination given to uſurers; uſury being a vice to which the ſame heretics are ſaid to have been much addicted.

BUGGERY, or SODOMY, is defined by Sir Edward Coke to be a carnal copulation againſt nature, ei-

† *Travels in America.*

they by a confuſion of ſpecies, that is to ſay, either a man or woman with a brute beaſt; or ſexes, as a man with a man, or a man unnaturally with a woman. It is ſaid this ſin againſt God and nature was firſt brought into England by the Lombards. As to its puniſhment, the voice of nature and of reaſon, and the expreſs law of God †, determine it to be capital. Of this we have a ſignal inſtance, long before the Jewiſh diſpenſation, by the deſtruction of two cities by fire from heaven; ſo that this is an univerſal, not merely a provincial, precept. Our ancient law, in ſome meaſure, imitated this puniſhment, by commanding ſuch miſcreants to be burnt to death; though Fleta ſays, they ſhould be buried alive; either of which puniſhments was indifferently uſed for this crime among the ancient Goths. But now the general puniſhment of all felonies is the ſame, namely, by hanging: and this offence (being in the times of Popery only ſubject to eccleſiaſtical cenſures) was made felony without benefit of clergy by ſtatute 25 Hen. VIII. c. 6. revived and confirmed by 5 Eliz. c. 17. And the rule of law herein is, that, if both parties are arrived at the years of diſcretion, *agentes et conſentientes pari pœna plectantur*, "both are liable to the ſame puniſhment."

† Levit. xx. 13, 14.

BUGIA, a province of the kingdom of Algiers in Africa. It is almoſt ſurrounded with mountains; and is divided into three parts, Benijubar, Auraz, and Labez. Theſe mountains are peopled with the moſt ancient Arabs, Moors, or Saracens. The province is very fertile in corn.

BUGIA, by the Africans called *Bugeiah*, a maritime town of Africa, in the kingdom of Algiers, and once the capital of the province of that name. It is ſuppoſed to be the *Saldæ* of Strabo, built by the Romans. It hath a handſome port formed by a narrow neck of land running into the ſea; a great part of whoſe promontory was formerly faced with a wall of hewn ſtone; where was likewiſe an aqueduct, which ſupplied the port with water, diſcharging it into a capacious baſon; all which now lie in ruins. The city itſelf is built on the ruins of a large one, at the foot of a high mountain that looks towards the north-eaſt; a great part of whoſe walls run up quite to the top of it; where there is alſo a caſtle that commands the whole town, beſides two others at the bottom, built for a ſecurity to the port. The inhabitants drive a conſiderable trade in ploughſhares, mattocks, and other iron tools, which they manufacture from the neighbouring mines. The town is watered by a large river, ſuppoſed to be the Naſava of Ptolemy. The place is populous, and hath a conſiderable market for iron work, oil, and wax, which is carried on with great tranquillity; but is no ſooner over than the whole place is in an uproar, ſo that the day ſeldom concludes without ſome flagrant inſtance of barbarity. E. Long. 4. N. Lat. 35. 30.

BUGIE, a town of Egypt, ſituated on the weſtern ſhore of the Red Sea almoſt oppoſite to Ziden, the port-town of Mecca, and about 100 miles weſt of it. E. Long. 36. N. Lat. 22. 15.

BUGLE, in botany. See AJUGA.

BUGLOSS, in botany. See ANCHUSA.

Vipers Bugloss, in botany. See ECHIUM.

BUILDING, a fabric erected by art, either for devotion, magnificence, or conveniency.

BUILDING is alſo uſed for the art of conſtructing and raiſing an edifice; in which ſenſe it comprehends as well the expences as the invention and execution of the deſign. See ARCHITECTURE.

The modern buildings are much more commodious, as well as beautiful, than thoſe of former times. Of old they uſed to dwell in houſes, moſt of them with a blind ſtair-caſe, low ceilings, and dark windows; the rooms built at random, without any thing of contrivance, and often with ſteps from one to another; ſo that one would think the people of former ages were afraid of light and freſh air: whereas the genius of our times is altogether for light ſtair caſes, fine ſaſh-windows, and lofty ceilings. And ſuch has been our builders induſtry in point of compactneſs and uniformity, that a houſe after the new way will afford, on the ſame quantity of ground, almoſt double the conveniences which could be had from an old one.

By act 11 Geo. I. and 4 Geo. III. for the regulation of building within the weekly bills of mortality, and in other places therein ſpecified, party walls are required to be erected of brick or ſtone, which ſhall be two bricks and a half thick in the cellar, two bricks thick upwards to the garret floor, &c. and other limitations are enacted reſpecting the diſpoſition of the timbers, &c. And every building is to be ſurveyed; and the perſon who offends againſt the ſtatute in any of the particulars recited, is liable to a forfeit of 250l. to be levied by warrant of juſtices of the peace. The other principal ſtatutes relating to building are 19 Car. II. c. 3. 22 Car. II. c. 11. 5 Eliz. c. 4. 35 Eliz. c. 6. 6 Ann. c. 31. 7 Ann. c. 17. 33 Geo. II. c. 30. and 6 Geo. III. c. 37.

Building of Ships. See SHIP-BUILDING.

BUILTH, or BEALT, a town of South-Wales in Brecknockſhire, pleaſantly ſeated on the river Wye, over which there is a wooden bridge that leads into Radnorſhire. W. Long. 3. 10. N. Lat. 52. 8.

BUIS, a territory of France, in Dauphiny. It is a ſmall mountainous country, but pretty fertile; and Buis and Nions are the principal places.

BUKARI, a ſmall well-built town of Hungarian Dalmatia, ſituated on the Golfo di Bikeriza, in E. Long. 20. 53. N. Lat. 45. 20.

BUKHARIA, a general name for all that vaſt tract of land lying between Karazm and the *great Kobi*, or ſandy deſart bordering on China. It derives its name of *Bukharia* from the mogul word *Bukhar*, which ſignifies a learned man; it being formerly the cuſtom for thoſe who wanted inſtruction in the languages and ſciences to go into Bukharia. Hence this name appears to have been given to it by the Mogul, who under Jenghiz Khan conquered the country. It is nearly the ſame with that called by the Arabs *Mawaralnahr*, which is little other than a tranſlation of the word *Tranſoxana*, the name formerly given to theſe provinces.

This region is divided into Great and Little Bukharia.

Great Bukharia (which ſeems to comprehend the *Sogdiana* and *Bactriana* of the ancient Greeks and Romans with their dependencies) is ſituated between the 34th and 46th degrees of north latitude, and between the 76th and 92d degrees of eaſt longitude. It is bounded on the north by the river *Sir*, which ſeparates it from the dominions of the *Eluths* or Kalmucks;

the kingdom of *Kaſhgar* in Little Bukharia, on the eaſt; by the dominions of the great Mogul and Perſia on the ſouth; and by the country of Karazm on the weſt: being about 770 miles long from weſt to eaſt, and 730 miles broad from ſouth to north. It is an exceeding rich and fertile country; the mountains abound with the richeſt mines; the valleys are of an aſtoniſhing fertility in all ſorts of fruit and pulſe; the fields are covered with graſs the height of a man; the rivers abound with excellent fiſh; and wood, which is ſcarce over all Grand Tartary, is here in great plenty. But all theſe benefits are of little uſe to the Tartar inhabitants, who are naturally ſo lazy, that they would rather go rob and kill their neighbours, than apply themſelves to improve the benefits which nature ſo liberally offers them. This country is divided into three large provinces, *viz.* Bukharia proper, Samarcand, and Balk; each of which generally has its proper khan. The province of Bukharia proper is the moſt weſtern of the three; having on the weſt Karazm, on the north a deſert, called by the Arabs *Gaznah*, on the eaſt the province of Samarcand, and on the ſouth the river Amu. It may be about 390 miles long, and 320 broad. The towns are Bokhara, Zam, Wardanſi, Karakul, Siunjbala, Karſhi, Zarjui, Nerſem, Karmina, &c.

Little Bukharia is ſo called, not becauſe it is leſs in dimenſions than the other, for in reality it is larger; but becauſe it is inferior to it as to the number and beauty of its cities, goodneſs of the ſoil, &c. It is ſurrounded by deſerts: it has on the weſt, Great Bukharia; on the north, the country of the Kalmucks; on the eaſt, that of the Moguls ſubject to China; on the ſouth, Thibet, and the north-weſt corner of China. It is ſituated between the 93d and 118th degrees of eaſt longitude, and between 35°. 30'. and 45° of north latitude; being in length from eaſt to weſt about 850 miles, and in breadth from north to ſouth 580: but if its dimenſions be taken according to its ſemicircular courſe from the ſouth to the north-eaſt, its length will be 1200 miles. It is ſufficiently populous and fertile; but the great elevation of its land, joined to the height of the mountains which bound it in ſeveral parts, particularly towards the ſouth, renders it much colder than from its ſituation might naturally be expected. It is very rich in mines of gold and ſilver; but the inhabitants reap little benefit by them, becauſe neither the Eluths nor Kalmucks, who are maſters of the country, nor the Bukhars, care to work in them. Nevertheleſs, they gather abundance of gold from the beds of the torrents formed by the melting of the ſnow in the ſpring; and from hence comes all that gold duſt which the Bukhars carry into India, China, and Siberia. Much muſk is likewiſe found in this country; and all ſorts of precious ſtones, even diamonds; but the inhabitants have not the art of either cutting or poliſhing them.

The inhabitants both of Great and Little Bukharia, are generally thoſe people called *Bukhars.* They are commonly ſun-burned and black-haired; although ſome of them are very fair, handſome, and well made. They do not want politeneſs, and are addicted to commerce; which they carry on with China, the Indies, Perſia, and Ruſſia: but thoſe who deal with them will be ſure of being over-reached, if they do not take great care. The habits of the men differ very little from thoſe of the Tartars. Their girdles are like thoſe of the Poles. The garments of the women differ in nothing from thoſe of the men, and are commonly quilted with cotton. They wear bobs in their ears, 12 inches long; part and twiſt their hair in treſſes, which they lengthen with black ribbands embroidered with gold or ſilver, and with great taſſels of ſilk and ſilver, which hang down to their heels; three other tufts of a ſmaller ſize cover their breaſts. Both ſexes carry about with them prayers written by their prieſts, which they keep in a ſmall leathern purſe by way of relics. The girls, and ſome of the women, tinge their nails red with the juice of an herb called by them *kena*: they dry and pulverize it; then mixing it with powder allum, expoſe it in the air for 24 hours before they uſe it, and the colour laſts a long time. Both ſexes wear cloſe breeches, and boots of Ruſſia leather, very light, and without heels, or leather ſoles; putting on galloches, or high-heeled ſlippers like the Turks, when they go abroad. They wear alſo the ſame ſort of bonnets and covering for the head; only the women ſet off theirs with trinkets, ſmall pieces of money, and Chineſe pearls. Wives are diſtinguiſhed from maids by a long piece of linen worn under their bonnets; which folding round the neck, they tie in a knot behind, ſo that one end of it hangs down to the waiſt.

The Bukhar houſes are of ſtone, and pretty good; but their moveables conſiſt moſtly of ſome China trunks plated with iron. Upon theſe, in the day-time, they ſpread the quilts they have made uſe of at night, and cover them with a cotton carpet of various colours. They have likewiſe a curtain ſprigged with flowers and various figures; alſo a ſort of bedſtead half a yard high, and four yards long, which is hidden in the day-time with a carpet. They are very neat about their victuals; which are dreſſed in the maſter's chamber by his ſlaves, whom the Bukhars either take or buy from the Ruſſians, Kalmucks, or other neighbours. For this purpoſe there are in the chamber, according to the largeneſs of the family, ſeveral iron pots, ſet in a kind of range near a chimney. Some have little ovens, made, like the reſt of the walls, with a ſtiff clay or bricks. Their utenſils conſiſt of ſome plates and porringers made of Cagua wood or of China, and ſome copper veſſels. A piece of coloured calico ſerves them inſtead of table cloth and napkins. They uſe neither chairs nor tables, knives nor forks; but ſit croſs-legged on the ground; and the meat being ſerved up, they pull it to pieces with their fingers. Their ſpoons reſemble our wooden ladles. Their uſual food is minced meats, of which they make pies of the form of a half-moon: theſe ſerve for proviſion when the Bukhars go long journeys, eſpecially in winter. They carry them in a bag, having firſt expoſed them to the froſt; and when boiled in water, they make very good broth. Tea is their common drink, of which they have a black ſort prepared with milk, ſalt, and butter; eating bread with it, when they have any.

As the Bukhars buy their wives, paying for them more or leſs according to their handſomeneſs; ſo the ſureſt way to be rich is to have many daughters. The perſons to be married muſt not ſee or ſpeak to each other from the time of their contract to the day of marriage. This is celebrated with three days feaſting, as they do great annual feſtivals. The evening before the wedding, a company of young girls meet at the bride's houſe, and divert themſelves till midnight, playing, dancing, and ſinging. Next morning the gueſts aſſemble, and help her to prepare for the ceremony. Then, notice being given to the bridegroom, he arrives ſoon after, accompanied by ten or twelve of his relations and friends. Theſe are followed by ſome playing on flutes, and by an *Abus* (a kind of prieſt), who ſings, while he beats two little timbrels. The bridegroom then makes a horſe-race; which being ended, he diſtributes the prizes, ſix, eight, or twelve, in number, according to his ability. They conſiſt of damaſks, ſables, fox-ſkins, calico, or the like. The parties do not ſee each other while the marriage ceremony is performing, but anſwer at a diſtance to the queſtions aſked by the prieſt. As ſoon as it is over, the bridegroom returns home with his company; and after dinner carries them to the bride's houſe, and obtains leave to ſpeak to her. This done, he goes back, and returns again in the evening, when he finds her in bed; and, in preſence of all the women, lays himſelf down by her in his clothes, but only for a moment. The ſame farce is acted for three days ſucceſſively; but the third night he paſſes with her entirely, and the next day carries her home.

Although the prevailing religion throughout all Little Bukharia, is the Mahometan, yet all others enjoy a perfect toleration. The Bukhars ſay that God firſt communicated the koran to mankind by Moſes and the prophets; that afterwards Mahomet explained, and drew a moral from it, which they are obliged to receive and practiſe. They hold Chriſt to be a prophet, but have no notion of his ſufferings. Yet they believe in the reſurrection, but cannot be perſuaded that any mortal ſhall be eternally damned: on they contrary, they believe, that as the dæmons led them into ſin, ſo the puniſhment will fall on them. They believe moreover, that at the laſt day every thing but God will be annihilated; and, conſequently, that all creatures, the devils, angels, and Chriſt himſelf, will die. Likewiſe, that, after the reſurrection, all men, excepting a few of the elect, will be purified or chaſtiſed by fire, every one according to his ſins, which will be weighed in the balance. They ſay there will be eight different paradiſes for the good; and ſeven hells, where ſinners are to be purified by fire; that thoſe who will ſuffer moſt, are liars, cheats, and others of that kind: that the elect who do not feel the fire will be choſen from the good; *viz.* one out of 100 men, and one out of 1000 women; which little troop will be carried into one of the paradiſes, where they ſhall enjoy all manner of felicity, till it ſhall pleaſe God to create a new world. It is a ſin, according to them, to ſay, that God is in heaven. God, ſay they, is every where; and therefore it derogates from his omnipreſence to ſay that he is confined to any particular place. They keep an annual faſt of 30 days, from the middle of July to the middle of Auguſt, during which time they taſte nothing all day; but eat twice in the night, at ſun-ſet and midnight; nor do they drink any thing but tea, all ſtrong liquors being forbidden. Whoever tranſgreſſes theſe ordinances is obliged to emancipate his moſt valuable ſlave, or to give an entertainment to 60 people; he is likewiſe to receive 85 ſtrokes on the back with a leathern ſtrap called *dura*. The common people, however, do not obſerve this faſt exactly, and workmen are allowed to eat in the day time. The Bukhars ſay prayers five times a-day; before morning, towards noon, afternoon, at ſun-ſet, and in the third hour of the night.

Jenghis Khan, who conquered both the Bukharias from the Arabs, left the empire of them to his ſon Jagatay Khan. He died in the year 1240, and left the government to his ſon Kara Kulaku, and of Little Bukharia to another called *Amul Khoja Khan*. A long ſucceſſion of khans is enumerated in each of theſe families, but their hiſtory contains no intereſting particulars. They are long ſince extinct, and the Kalmuck Tartars are maſters of the country.

BUL, in the ancient Hebrew chronology, the eighth month of the eccleſiaſtical, and the ſecond of the civil, year; it has ſince been called *Marſhevan*, and anſwers to our October.

BULAC, a town of Egypt, ſituated on the eaſtern ſhore of the river Nile, about two miles weſt of Grand Cairo, of which it is the port town, and contains about 4000 families. It is a place of great trade, as all the veſſels going up and down the Nile make ſome ſtay here. It is alſo at this place that they cut the banks of the river every year, in order to fill their canals and overflow the neighbouring grounds, without which the ſoil would produce neither grain nor herbage. E. Long. 32. N. Lat. 30.

BULAFO, a muſical inſtrument, conſiſting of ſeveral pipes of wood tied together with thongs of leather, ſo as to form a ſmall interſtice between each pipe. It is uſed by the negroes of Guinea.

BULARCHUS, a Greek painter; the firſt who introduced (among the Greeks at leaſt) different colours in the ſame picture. He flouriſhed 740 B. C.

BULB, in the anatomy of plants, a kind of large bud, generally produced under the ground, upon or near the root of certain herbaceous plants, hence denominated *bulbous*.

A bulb is defined by Linnæus to be a ſpecies of hybernaculum, produced upon the deſcending caudex or root; conſiſting of ſtipulæ, petioli, the rudiments of the former leaves, and ſcales or bark.

To elucidate this definition, it is proper to remark, that every bud contains, in miniature or embryo, a plant, in every reſpect ſimilar to the parent plant upon which it is ſeated. Plants therefore are perpetuated in the buds, as well as in the ſeeds; and the ſpecies may be renewed with equal efficacy either way.

The tender rudiments of the future vegetable of which the bud is compoſed, are incloſed, and during the ſeverities of winter defended from cold and other external injuries, by a hard bark or rind which generally conſiſts of a number of ſcales placed over each other like tiles, and faſtened together by means of a tenacious, reſinous, and frequently odoriferous, ſubſtance. Thus defended, the buds remain upon different parts of the mother plant, till the enſuing ſpring; and are, therefore, with great propriety, denominated by Linnæus the *hybernaculum* or winter quarters of the future vegetable.

With reſpect to their place, buds are ſituated either upon the ſtem and branches, or upon the roots: the former are ſtyled *gemmæ* or buds properly ſo called; but as they ſubſiſt ſeveral years by their roots, may be furniſhed with the other ſpecies of *hybernaeulum*, called *bulbs*, which, according to the definition, are ſeated upon the deſcending *caudex* or root.

Again, trees which are perennial, with a woody and durable ſtem or tunk, have generally proper buds or gemmæ, but no bulbs.

In bulbous plants, as the tulip, onion, or lily, what we generally call the *root*, is in fact a bulb or hybernaculum, which incloſes and ſecures the embryo or future ſhoot.

At the lower part of this bulb may be obſerved a fleſhy knob or tubercle, from whence proceed a number of fibres or threads. This knob, with the fibres attached to and hanging from it, is, properly ſpeaking, the true root; the upper part being only the cradle or nurſery of the future ſtem, which after the bulb has repaired a certain number of times, it periſhes; but not till it has produced at its ſides a number of ſmaller bulbs or ſuckers for perpetuating the ſpecies.

One part of Linnæus's definition ſtill remains obſcure. The bulb, ſays he, is compoſed of the remains or rudiments of the former leaves of the plant; *e rudimentorum foliorum præteritorum*.

It is eaſy to comprehend that buds contain the rudiments of the future leaves; but how can bulbs be ſaid to contain the rudiments of leaves that, to all appearance, are already periſhed? To explain this, let it be obſerved, that, in the opinion of very eminent botaniſts, the root, in a very great number of perennial herbs, is annually renewed or repaired out of the trunk or ſtalk itſelf; in which ſenſe only, roots are properly ſaid to deſcend.

In the perennials alluded to, the baſis of the ſtalk continually, and by inſenſible degrees, deſcends below the ſurface of the earth, and is thus changed into a true root; which root, by the continuance of the ſaid motion of the ſtalk, alſo deſcends; and thus, according to the durableneſs of its ſubſtance, becomes a longer or ſhorter root; the elder or lower part rotting off in proportion as the upper is generated out of the ſtalk. Thus, in brownwort, the baſis of the ſtalk, ſinking down by degrees till it is hid under the ground, becomes the upper part of the root; and continuing ſtill to ſink, the next year becomes the lower part, and the following year rots away.

This is exactly what obtains in bulbous roots, as well as in the far greater number of other herbaceous perennials, as arum, valerian, tanſy, ſapphire, primroſe, woodſorrel, iris, and others.

The immediate viſible cauſe of this deſcent is the ſtring-roots which this kind of trunks frequently put forth; which deſcending themſelves directly into the ground, ſerve like ſo many ropes for pulling the trunk after them. Hence the tuberous roots of iris are ſometimes obſerved to reaſcend a little upon the rotting or fading away of the ſtring-roots which hang at them.

In bulbous roots, where the ſtalk and former leaves of the plant are ſunk below, and formed into what is called the *bulb* or wintering of the future vegetable, the radicles or ſmall fibres that hang from the bulb are to be conſidered as the root; that is, the part which furniſhes nouriſhment to the plant: the ſeveral rinds and ſhells whereof chiefly the bulb conſiſts, ſucceſſively periſh and ſhrink up into ſo many dry ſkins; betwixt which, and in their centre, are formed other leaves and ſhells, and the bulb is perpetuated.

What has been ſaid of the deſcent of roots by the ſinking of the ſtalk, is further confirmed by the appearance of certain roots; as of valerian, plantago major, and devil's bit, in which the lower part appears bitten or chopped off. In theſe the lower part rotting off as the upper deſcends, the living remainder becomes ſtumped, or ſeems bitten.

All bulbous roots, ſays the learned Dr Grew, in his anatomy of plants, may be conſidered as hermaphrodite roots, or root and trunk both together: for the radicles or ſtrings only are abſolute roots; the bulb actually containing thoſe parts which ſpringing up make the body or leaves of the plant; ſo that it may be regarded as a large bud under ground.

Bulbous roots are ſaid to be ſolid, when compoſed of one uniform lump of matter; tunicated, when formed of multitudes of coats ſurrounding one another; ſquamoſe, when compoſed of, or covered with, leſſer flakes; duplicate, when there are only two to each plant; and aggregate, when there is ſuch a congeries of ſuch roots to each plant.

BULBOCASTANUM, in botony. See BUNIUM.

BULBOCODIUM, MOUNTAIN-SAFFRON: a genus of the monogynia order, belonging to the hexandria claſs of plants; and, in the natural method, ranking under the 9th order, *Spathaceæ*. The corolla is funnel-ſhaped, and hexapetalous, with the heels narrow, ſupporting the ſtamina. There are two ſpecies, the alpinum and vernum. The firſt ſort grows naturally on the Alps, and alſo on Snowdon in Wales. It hath a ſmall bulbous root, which ſends forth a few long narrow leaves ſomewhat like thoſe of ſaffron, but narrower. In the middle of theſe the flower comes out, which ſtands on the top of the footſtalk, growing erect, and is ſhaped like thoſe of the crocus, but ſmaller; the footſtalk riſes about three inches high, and hath four or five ſhort narrow leaves placed alternately upon it below the flower. This flowers in March, and the ſeeds are ripe in May. The ſecond is a native of Spain. It hath a bulbous root ſhaped like thoſe of the ſnow-drop, which ſends out three or four ſpear-ſhaped concave leaves, between which comes out the flower, ſtanding on a very ſhort footſtalk. The flowers appear about the ſame time with the laſt; at firſt they are of a pale colour, but afterwards change to a whitiſh purple. Theſe plants may be propagated by off-ſets at the decay of the flower and leaf every ſecond or third year; alſo, by ſowing the ſeed in pots in autumn, ſheltering them in a frame from froſt; and the plants will appear in the ſpring, which, at the decay of the leaves, may be taken up for planting in the borders in October, where they will flower the year following.

BULBOSE, or BULBOUS. See BULB.

BULEUTÆ, in Grecian antiquity, were magiſtrates anſwering to the decuriones among the Romans. See DECURIO.

BULFINCH, in ornithology. See LOXIA.

BULGARIA, a ſmall province of Turkey in Europe, bounded on the north by Wallachia, on the eaſt by the Black ſea, on the ſouth by Romania and Macedonia,

cedonia, and on the weſt by Servia. It is very narrow, but 325 miles long on the ſide of the Danube, from Servia till it falls into the Black ſea.

The Bulgarians anciently inhabited the plains of Sarmatia that extended along the banks of the Volga. Thence they migrated, about the middle of the 7th century of the Chriſtian æra, in queſt of new ſettlements. A large body of them paſſed the Danube, and took poſſeſſion of the country adjacent to the weſtern coaſt of the Euxine ſea. Several attempts were made by the Romans to diſpoſſeſs and extirpate them: But they defended themſelves with equal reſolution and ſucceſs. Conſtantine III. being defeated and intimidated, concluded an ignominious peace with them (A. D. 678), and purchaſed their friendſhip by the payment of an annual tribute. Juſtinian II. refuſed to comply with theſe diſhonourable terms, and invaded their territories (A. D. 687); but he was defeated, and conſtrained to renew the treaty. War was carried on, almoſt without interruption, between them and the eaſtern emperors, during the courſe of ſeveral centuries. After a long and doubtful ſtruggle, the Romans prevailed; and the emperor Baſil reduced Bulgaria to the form of a province (A. D. 1019). From this time the Bulgarians remained in ſubjection, and were governed by Roman dukes, until the reign of Iſaac Angelus, when they revolted (A. D. 1186).

The hiſtory of Bulgaria, in the ſubſequent period, ſcarcely merits attention. Stephen IV. king of Hungary, having defeated the Bulgarians, obliged them to acknowledge him as their ſovereign. His ſucceſſors were ſtyled kings of Hungary and Bulgaria; and this title was tranſmitted, together with the kingdom of Hungary, to the houſe of Auſtria.

By the aid of the eaſtern emperors they threw off the Hungarian yoke; and, in return, they aſſiſted their ally in an attempt to recover Adrianople (A. D. 1369). Provoked by this combination, Amurath invaded their country; and Bajazet, his ſucceſſor, completed the conqueſt of it (A. D. 1396).

Bulgaria ſtill remains a province of the Ottoman empire. The inhabitants are Chriſtians; but extremely ignorant, inſomuch that they ſeem to know nothing of Chriſtianity but baptiſm and faſting. It is divided into four ſangiacates; Byden, Sardice, Nicopolis, and Siliſtria. The chief towns are of the ſame names, except Sardice, which is now called *Sophia*.

BULGARIAN Language, the ſame with the SCLAVONIC.

BULIMY, a diſeaſe in which the patient is affected with an inſatiable and perpetual deſire of eating; and, unleſs he is indulged, he often falls into fainting fits. It is alſo called *fames canina*, canine appetite. See MEDICINE-*Index*.

BULITHUS, a ſtone found either in the gall-bladder, or in the kidneys and bladder, of an ox. See BOS.

BULK, *of a* SHIP, the whole content in the hold for the ſtowage of goods.

BULK-Heads are partitions made athwart the ſhip with boards, by which one part is divided from the other; as the great cabbin, gun-room, bread-room, and ſeveral other diviſions. The *bulk-head afore* is the partition between the fore-caſtle and gratings in the head.

BULL (Dr John), a celebrated muſician and compoſer, was born in Somerſetſhire about the year 1563, and, as it is ſaid, was of the Somerſet family. He was educated under Blitheman. In 1586, he was admitted at Oxford to the degree of bachelor of muſic, having practiſed in that faculty 14 years; and in 1592, was created doctor in the univerſity of Cambridge. In 1591, he was appointed organiſt of the queen's chapel, in the room of his maſter, Blitheman.

Bull was the firſt Greſham profeſſor of muſic, and was appointed to that ſtation upon the ſpecial recommendation of queen Elizabeth. However ſkilful he might be in his profeſſion, it ſeems he was not able to read his lectures in Latin; and therefore, by a ſpecial proviſion in the ordinances reſpecting the Greſham profeſſors, made anno 1597, it is declared, that becauſe Dr Bull is recommended to the place of muſic-profeſſor by the queen's moſt excellent majeſty, being not able to ſpeak Latin, his lectures are permitted to be altogether Engliſh, ſo long as he ſhall continue muſic-profeſſor there.

In the year 1601, he went abroad for the recovery of his health, which at that time was declining; and during his abſence was permitted to ſubſtitute, as his deputy, a ſon of William Bird, named *Thomas*. He travelled incognito into France and Germany; and Wood takes occaſion to relate a ſtory of him while abroad, which the reader ſhall have in his own words.

“ Dr Bull hearing of a famous muſician belonging to a cathedral in St Omer's, he applied himſelf, as a novice, to him, to learn ſomething of his faculty, and to ſee and admire his works. This muſician, after ſome diſcourſe had paſſed between them, conducted Bull to a veſtry or muſic-ſchool joining to the cathedral, and ſhewed him a leſſon or ſong of 40 parts; and then make a vaunting challenge to any perſon in the world to add one part more to them, ſuppoſing it to be ſo complete and full, that it was impoſſible for any mortal man to correct or add to it. Bull thereupon, deſiring the uſe of pen, ink, and ruled paper, ſuch as we call *muſical paper*, prayed the muſician to lock him up in the ſaid ſchool for two or three hours; which being done, not without great diſdain by the muſician, Bull, in that time or leſs, added 40 more parts to the ſaid leſſon or ſong. The muſician thereupon being called in, he viewed it, tried it, and retried it; at length he burſt out into a great ecſtaſy, and ſwore by the great God, that he that added theſe 40 parts muſt either be the devil or Dr Bull. Whereupon Bull making himſelf known, the muſician fell down and adored him. Afterwards, continuing there and in thoſe parts for a time, he became ſo much admired, that he was courted to accept of any place of preferment ſuitable to his profeſſion, either within the dominions of the emperor, the king of France, or Spain; but the tidings of theſe tranſactions coming to the Engliſh court, queen Elizabeth commanded him home.” *Faſti*, anno 1586.

Dr Ward, who has given the life of Dr Bull, in his lives of the Greſham profeſſors, relates, that upon the deceaſe of queen Elizabeth he became chief organiſt to king James, and had the honour of entertaining his majeſty and prince Henry at Merchant Taylor's hall with his performance on the organ. The ſame author proceeds to relate, that in 1613 Bull quitted England and went to reſide in the Netherlands, where he was admitted into the ſervice of the archduke. He ſuggeſts, as the reaſon of Bull's retirement, that the ſcience began to ſink in the reign of king James; which he infers from that want of court-patronage, which, it ſeems, induced the muſicians of that day to dedicate their works to one another. But ſurely Bull had none of theſe reaſons to complain of being ſlighted that others had. He was in the ſervice of the chapel, and at the head of the prince's muſicians; and in the year 1604 his ſalary for the chapel-duty had been augmented. The circumſtances of his departure from England may be collected from the following entry now to be ſeen in the cheque book: "1613, John Bull doctor of muſic went beyond ſeas without licence, and was admitted into the archduke's ſervice, and entered into paie there about Mich. and Peter Hopkins a baſe from Paul's was ſworn into his place the 27th of December following. His wages from Mich. unto the day of the ſwearing of the ſaid Peter Hopkins was diſpoſed of by the deane of his majeſty's chapel." Wood ſays, that Dr Bull died at Hamburgh: others have ſaid at Lubeck.

The only works of Bull in print are leſſons in the "Parthenia, or the maiden-head of the firſt muſic that ever was printed for the virginals." An anthem of his, "Deliver me, O God," is to be found in Bernard's collection of church-muſic. Dr Ward has given a long liſt of compoſitions of Dr Bull in manuſcript in the collection of the late Dr Pepuſch, by which it appears that he was equally excellent in vocal and inſtrumental harmony. By ſome of the leſſons in the Parthenia it ſeems that he was poſſeſſed of a power of execution on the harpſichord far beyond what is generally conceived of the maſters of that time. As to his leſſons, they were, in the eſtimation of Dr Pepuſch, not only for the harmony and contrivance, but for air and modulation, ſo excellent, that he ſcrupled not to prefer them to thoſe of Couperin, Scarlatti, and others of the modern compoſers for the harpſichord.

BULL (George), biſhop of St David's, was born at Wells, in 1634; and educated at Exeter college, in Oxford. The firſt benefice he enjoyed was that of St George's, near Briſtol, whence he roſe ſucceſſively to be rector of Suddington in Glouſterſhire, prebendary of Glouceſter, archdeacon, of Llandaff, and in 1705 biſhop of St David's. This dignity he enjoyed about four years, and died in 1709. During the uſurpation of Cromwell, he adhered ſteadily, though ſtill with great prudence, to the forms of the church of England; and in the reign of James II. preached very ſtrenuouſly againſt the errors of Popery. He wrote, 1. A defence of the Nicene faith. 2. Apoſtolical harmony. 3. Primitive apoſtolical tradition; and other works.

BULL, in zoology. See BOS.

Wild BULLS. The wild bulls now ſo numerous on the continent of America, are ſaid to have ſprung from one bull and ſeven cows, which were carried thither by ſome of the firſt conquerors. For the manner of hunting theſe, ſee BUCANEERS.

BULL, in aſtronomy. See ASTRONOMY, n° 406.

BULL's Eye, among ſeamen, a ſmall, obſcure, ſublime cloud, ruddy in the middle, that ſometimes appear to mariners, and is the immediate forerunner of a great ſtorm at ſea.

BULL-Fighting, a ſport or exerciſe much in vogue among the Spaniards and Portugueſe, conſiſting in a kind of combat of a cavalier or a torreadore againſt a wild bull, either on foot or on horſeback, by riding at him with a lance. The Spaniards have bull-fights, i. e. feaſts attended with ſhews, in honour of St John, the Virgin Mary, &c. This ſport the Spaniards received from the Moors, among whom it was celebrated with great eclat. Some think that the Moors might have received the cuſtom from the Romans, and they from the Greeks. Dr Plot is of opinion, that the Ταυροκαθαψιων ημεραι among the Theſſalians, who firſt inſtituted this game, and of whom Julius Cæſar learned and brought it to Rome, were the origin both of the Spaniſh and Portugueſe bull-fighting, and of the Engliſh bull-running. This practice was prohibited by Pope Pius V. under pain of excommunication incurred *ipſo facto*. But ſucceeding popes have granted ſeveral mitigations in behalf of the toradors.

From the following account of a bull-feaſt in the Coliſeum at Rome 1332, extracted from Muratori by Mr Gibbon, the reader may form ſome idea of the pomp, the ceremonies, and the danger, which attended theſe exhibitions. "A general proclamation as far as Rimini and Ravenna invited the nobles to exerciſe their ſkill and courage in this perilous adventure. The Roman ladies were marſhalled in three ſquadrons, and ſeated in three balconies, which on this day, the third of September, were lined with ſcarlet cloth. The fair Jacova di Rovere led the matrons from beyond the Tiber, a pure and native race, who ſtill repreſent the features and character of antiquity. The remainder of the city was divided between the Colonna and Urſini families: the two factions were proud of the number and beauty of their female bands; the charms of Savella Urſini are mentioned with praiſe; and the Colonna regretted the abſence of the youngeſt of their houſe, who had ſprained her ancle in the garden of Nero's tower. The lots of the champions were drawn by an old and reſpectable citizen; and they deſcended into the *arena*, or pit, to encounter the wild-bulls, on foot as it ſhould ſeem, with a ſingle ſpear. Amidſt the crowd, our annaliſt has ſelected the names, colours, and devices, of 20 of the moſt conſpicuous knights. Several of the names are the moſt illuſtrious of Rome and the eccleſiaſtical ſtate; Malateſta, Polenta, della Valle, Caſarello, Savelli, Capoccio, Conti, Annibaldi, Altieri, Corſi. The colours were adapted to their taſte and ſituation. And the devices are expreſſive of hope or deſpair, and breathe the ſpirit of gallantry and arms. "I am alone, like the youngeſt of the Horatii," the confidence of an intrepid ſtranger: "I live diſconſolate," a weeping widower: "I burn under the aſhes," a diſcreet lover: "I adore Lavina or Lucretia," the ambiguous declaration of a modern paſſion: "My faith is pure," the motto of a white livery: "Who is ſtronger than myſelf?" of a lion's hide: "If I am drowned in blood, what a pleaſant death!" the wiſh of ferocious courage. The pride or prudence of the Urſini reſtrained them from the field, which was occupied by three of their hereditary rivals, whoſe inſcriptions denoted the lofty greatneſs of the Colonna name: "Though ſad, I am ſtrong:" "Strong as I am great:" "If I fall (addreſſing himſelf to the ſpectators) you fall with me:"—intimating (ſays the writer), that while the other families were the ſubjects of the

the Vatican, they alone were the ſupporters of the capitol. The combats of the amphitheatre were dangerous and bloody. Every champion ſucceſſively encountered a wild bull; and the victory may be aſcribed to the quadrupeds, ſince no more than eleven were left on the field, with the loſs of nine wounded and eighteen killed on the ſide of their adverſaries. Some of the nobleſt families might mourn; but the pomp of the funerals, in the churches of St John Lateran and St Maria Maggiore, afforded a ſecond holiday to the people."—Doubtleſs it was not in ſuch conflicts that the blood of the Romans ſhould have been ſhed: yet, in blaming their raſhneſs, we are compelled to applaud their gallantry; and the noble volunteers, who diſplay their magnificence and riſk their lives under the balconies of the fair, excite a more generous ſympathy than the thouſands of captives and malefactors who were reluctantly dragged to the ſcene of ſlaughter."

A ſtriking relic of barbarity in the Spaniſh manners of the preſent day, is the exceſſive attachment of that nation to bull-fights, a ſpectacle which ſhocks the delicacy of every other people in Europe. Many Spaniards conſider this practice as the ſure means of preſerving that energy by which they are characteriſed, and of habituating them to violent emotions, which are terrible only to timid minds. But it ſeems difficult to comprehend what relation there is between bravery and a ſpectacle where the aſſiſtants now run no danger; where the actors prove by the few accidents which befal them, that theirs has nothing in it very intereſting; and where the unhappy victims meet only with certain death as the reward of their vigour and courage. Another proof that theſe ſpectacles have little or no influence on the diſpoſition of the mind is, that children, old men, and people of all ages, ſtations, and characters, aſſiſt at them: and yet their being accuſtomed to ſuch bloody entertainments appear neither to correct their weakneſs and timidity, nor alter the mildneſs of their manners.

The bull-fights are very expenſive; but they bring great gain to the undertakers. The worſt places coſt two or four rials, according as they are in the ſun or in the ſhade. The price of the higheſt is a dollar. When the price of the horſes and bulls, and the wages of the *Torreadores*, have been paid out of this money, the reſt is generally appropriated to pious foundations; at Madrid it forms one of the principal funds of the hoſpital. It is only during ſummer that theſe combats are exhibited, becauſe the ſeaſon then permits the ſpectators to ſit in the open air, and becauſe the bulls are then more vigorous. Thoſe which are of the beſt breed are condemned to this kind of ſacrifice; and connoiſſeurs are ſo well acquainted with their diſtinguiſhing marks, that as ſoon as a bull appears upon the arena, they can mention the place where he was reared. This arena is a kind of circus ſurrounded by about a dozen of ſeats, riſing one above another; the higheſt of which only is covered. The boxes occupy the lower part of the edifice. In ſome cities, Valladolid for example, which have no place particularly ſet apart for theſe combats, the principal ſquare is converted into a theatre. The balconies of the houſes are widened, ſo as to project over the ſtreets which end there; and it is really a very intereſting ſight to ſee the different claſſes of people aſſembled around this ſquare, waiting for the ſignal when the entertainment is to commence, and exhibiting every external ſign of impatience and joy. The ſpectacle commences by a kind of proceſſion around the ſquare, in which appear, both on horſeback and on foot, the combatants who are to attack the fierce animal; after which two alguazils, dreſſed in perukes and black robes, advance with great gravity on horſeback; who go and aſk from the preſident of the entertainment an order for it to commence. A ſignal is immediately given; and the animal, which was before ſhut up in a kind of hovel with a door opening into the ſquare, ſoon makes his appearance. The officers of juſtice, who have nothing to do with the bull, prudently haſten to retire, and their fright is a prelude to the cruel pleaſure which the ſpectators are about to enjoy. The bull, however, is received with loud ſhous, and almoſt ſtunned by the noiſy expreſſions of their joy. He has to contend firſt againſt the picadores, combatants on horſeback, who, dreſſed according to the ancient Spaniſh manner, and as it were fixed to their ſaddles, wait for him, each being armed with a long lance. This exerciſe, which requires ſtrength, courage, and dexterity, is not conſidered as diſgraceful. Formerly, the greateſt lords did not diſdain to practiſe it; even at preſent ſome of the hidalgos ſolicit for the honour of fighting the bull on horſeback, and they are then previouſly preſented to the people, under the auſpices of a patron, who is commonly one of the principal perſonages at court.

The picadores, whoever they may be, open the ſcene. It often happens that the bull, without being provoked, darts upon them, and every body entertains a favourable opinion of his courage. If, notwithſtanding the ſharp pointed weapon which defends his attack, he returns immediately to the charge, their ſhouts are redoubled, as their joy is converted into enthuſiaſm; but if the bull, ſtruck with terror, appears pacific, and avoids his perſecutors, by walking round the ſquare in a timid manner, he is hooted at and hiſſed by the whole ſpectators, and all thoſe near whom he paſſes load him with blows and reproaches. He ſeems then to be a common enemy, who has ſome great crime to expiate; or a victim, in the ſacrifice of which all the people are intereſted. If nothing can awaken his courage, he is judged unworthy of being tormented by them; the cry of *perros, perros*, brings forth new enemies againſt him, and large dogs are let looſe upon him, which ſeize him by the neck and ears in a furious manner. The animal then finds the uſe of thoſe weapons with which nature has furniſhed him; he toſſes the dogs into the air, who fall down ſtunned, and ſometimes mangled; they however recover, renew the combat, and generally finiſh by overcoming their adverſary, who thus periſhes ignobly. If, on ther other hand, he preſents himſelf with a good grace, he runs a longer and nobler, but a much more painful career. The firſt act of the tragedy belongs to the combatants on horſeback; this is the moſt animated and bloody of all the ſcenes, and often the moſt diſguſting. The irritated animal braves the pointed ſteel which makes deep wounds in his neck, attacks with fury the innocent horſe who carries his enemy, rips up his ſides, and overturns him together with his rider. The latter, then diſmounted and diſarmed, would be expoſed to imminent danger, did not combatants on foot, called *chulos*, come to divert the bull's attention, and to provoke him, by ſhaking before him different pieces of cloth of various colours. It is, however, at their own riſk that they thus ſave the diſmounted horſeman; for the bull ſometimes purſues them, and they have then need for all their agility. They often eſcape from him by letting fall in his way the piece of ſtuff which was their only arms, and againſt which the deceived animal expends all his fury. Sometimes he does not accept this ſubſtitute, and the combatant has no other reſource but to throw himſelf ſpeedily over a barrier, ſix feet high, which incloſes the interior part of the arena. In ſome places this barrier is double, and the intermediate ſpace forms a kind of circular gallery, behind which the purſued torreadore is in ſafety. But when the barrier is ſingle, the bull attempts to jump over it, and often ſucceeds. The reader may eaſily imagine in what conſternation the neareſt of the ſpectators then are; their haſte to get out of the way, and to crowd to the upper benches, become often more fatal to them than even the fury of the bull, who, ſtumbling at every ſtep, on account of the narrowneſs of the place and the inequality of the ground, thinks rather of his own ſafety than of revenge, and beſides ſoon falls under the blows which are given to him from all quarters.

Except in ſuch caſes, which are very rare, he immediately returns. His adverſary recovered, has had time to get up; he immediately remounts his horſe, provided the latter is not killed or rendered unfit for ſervice, and the attack commences; but he is often obliged to change his horſe ſeveral times. Expreſſions cannot then be found to celebrate theſe acts of proweſs, which for ſeveral days become the favourite topic of converſation. The horſes, very affecting models of patience, courage, and docility, may be ſeen treading under their feet their own bloody entrails, which drop from their ſides half torn open, and yet obeying, for ſome time after, the hand which conducts them to new tortures. Spectators of delicacy are then filled with diſguſt, which converts their pleaſure into pain. A new act is however preparing, which reconciles them to the entertainment. As ſoon as it is concluded that the bull has been ſufficiently tormented by the combatants on horſeback, they retire and leave him to be irritated by thoſe on foot. The latter, who are called *banderilleros* go before the animal; and the moment he darts upon them they plunge into his neck, two by two, a kind of darts called *banderillas*, the points of which are hooked, and which are ornamented with ſmall ſtreamers made of coloured paper. The fury of the bull is now redoubled; he roars, toſſes his head, and the vain efforts which he makes ſerve only to increaſe the pain of his wounds: this laſt ſcene calls forth all the agility of his adverſaries. The ſpectators at firſt tremble for them, when they behold them braving ſo near the horns of this formidable animal; but their hands, well exerciſed, aim their blows ſo ſkilfully, and they avoid the danger ſo nimbly, that after having ſeen them a few times, one neither pities nor admires them, and their addreſs and dexterity ſeem only to be a ſmall epiſode of the tragedy, which concludes in the following manner: When the vigour of the bull appears to be almoſt exhauſted; when his blood, iſſuing from twenty wounds, ſtreams along his neck and moiſtens his robuſt ſides; and when the people, tired of one object, demand another victim; the preſident of the entertainment gives the ſignal of death, which is announced by the ſound of trumpets. The matador then advances, and all the reſt quit the arena; with one hand he holds a long dagger, and with the other a kind of flag, which he waves backwards and forwards before his adverſary. They both ſtop and gaze at one another; and while the agility of the matador deceives the impetuoſity of the bull, the pleaſure of the ſpectators, which was for ſome time ſuſpended, is again awakened into life. Sometimes the bull remains motionleſs, throws up the earth with his foot, and appears as if meditating revenge.

The bull in this condition, and the matador who calculates his motions and divines his projects, form a group which an able pencil might not diſdain to delineate. The aſſembly in ſilence behold this dumb ſcene. The matador at length gives the mortal blow; and if the animal immediately falls, a thouſand voices proclaim with loud ſhouts the triumph of the conqueror; but if the blow is not deciſive, if the bull ſurvives and ſeeks ſtill to brave the fatal ſteel, murmurs ſucceed to applauſe, and the matadore, whoſe glory was about to be raiſed to the ſkies, is conſidered only as an unſkilful butcher. He endeavours to be ſoon revenged, and to diſarm his judges of their ſeverity. His zeal ſometimes degenerates into blind fury, and his partizans tremble for the conſequences of his imprudence. He at length directs his blow better. The animal vomits up blood; he ſtaggers and falls, while his conqueror is intoxicated with the applauſes of the people. Three mules, ornamented with bells and ſtreamers, come to terminate the tragedy. A rope is tied around the bull's horns, which have betrayed his valour, and the animal, which a little before was furious and proud is dragged ignominiouſly from the arena which he has honoured, and leaves only the traces of his blood and the remembrance of his exploits, which are ſoon effaced on the appearance of his ſucceſſor. On each of the days ſet apart for theſe entertainments, ſix are thus ſacrificed in the morning, and twelve in the afternoon, at leaſt in Madrid. The three laſt are given excluſively to the matador, who, without the aſſiſtance of the picadores, exerts his ingenuity to vary the pleaſure of the ſpectators. Sometimes he cauſes them to be combated by ſome intrepid ſtranger, who attacks them mounted on the back of another bull, and ſometimes he matches them with a bear: this laſt method is generally deſtined for the pleaſure of the populace. The points of the bull's horns are concealed by ſomething wrapped round them, which breaks their force. The animal, when in this ſtate is called *Embolado*, has power neither to pierce nor to tear his antagoniſt. The amateurs then deſcend in great numbers to torment him, each after his own manner, and often expiate this cruel pleaſure by violent contuſions; but the bull always falls at length under the ſtroke of the matador. The few ſpectators who are not infected by the general madneſs for this ſport, regret that thoſe wretched animals do not, at leaſt, purchaſe their lives at the expence of ſo many torments and ſo many efforts of courage; they would willingly aſſiſt them to eſcape from their perſecutors. In the minds of ſuch ſpectators diſguſt ſucceeds compaſſion, and ſatiety ſucceeds diſguſt. Such a ſeries of uniform ſcenes makes that intereſt become languid, which this ſpectacle, on its commencement, ſeemed to promiſe. But to connoiſſeurs, who have thoroughly ſtudied all the ſtratagems of the bull, the reſources of his addreſs and fury, and the different methods of irritating, tormenting, and deceiving him, none of theſe ſcenes reſembles another, and they pity thoſe frivolous obſervers who cannot remark all their varieties.

The Spaniſh government are very ſenſible of the moral and political inconveniences ariſing from this ſpecies of phrenſy. They have long ſince perceived, that among a people whom they wiſh to encourage to labour, it is the cauſe of much diſorder and diſſipation; and that it hurts agriculture, by deſtroying a great number of robuſt animals, which might be uſefully employed: but they are obliged to manage with caution a taſte which it might be dangerous to attempt to aboliſh precipitately. They are, however, far from encouraging it. The court itſelf formerly reckoned bull-fights among the number of its feſtivals, which were given at certain periods. The *Plaza Mayor* was the theatre of them, and the king and the royal family honoured them with their preſence. His guards preſided there in good order. His halberdiers formed the interior circle of the ſcene; and their long weapons held out in a defenſive poſture, were the only barrier which they oppoſed againſt the dangerous caprices of the bull. Theſe entertainments, which, by way of excellence, were called *Fieſtas Reales*, are become very rare. Charles III. who endeavoured to poliſh the nation, and to direct their attention to uſeful objects, was very deſirous of deſtroying a taſte in which he ſaw nothing but inconveniences; but he was too wiſe to employ violent means for that purpoſe. He, however, confined the number of bull-fights to thoſe, the profits of which were applied to the ſupport of ſome charitable inſtitution, with an intention of ſubſtituting for theſe other funds afterwards. Bull-fights, by theſe means being rendered leſs frequent, will, perhaps, gradually loſe their attractions, until more favourable circumſtances permit the entire abolition of them.

Bull-Running, denotes a feudal cuſtom obtaining in the honour of Tutbury in Staffordſhire; where anciently, on the day of the aſſumption of our Lady, a bull is turned looſe by the lord to the minſtrels; who, if they can catch him before he paſſes the river Dove, are to have him for their own, or, in lieu thereof, to receive each 40 pence; in conſideration of which cuſtom they pay 20 pence yearly to the ſaid lord.

Bull and Boar. By the cuſtom of ſome places, the parſon is obliged to keep a bull and boar for the uſe of his pariſhioners, in conſideration of his having tithes of calves and pigs, &c.

Bull-Frog, in zoology. See Rana.

Bull-Head, or *Miller's Thumb*, in ichthyology. See Cottus.

Bull, among eccleſiaſtics, a written letter, diſpatched, by order of the Pope, from the Roman chancery, and ſealed with lead, being written on parchment, by which it is partly diſtinguiſhed from a brief: ſee the article Brief.—It is a kind of apoſtolical reſcript or edict; and is chiefly in uſe in matters of juſtice or grace. If the former be the intention of the bull, the lead is hung by a hempen chord; if the latter, by a ſilken thread. It is this pendent lead, or ſeal, which is, properly ſpeaking, the bull, and which is impreſſed on one ſide with the heads of St Peter and St Paul, and on the other with the name of the Pope and the year of his pontificate. The bull is written in an old, round, Gothic letter, and is divided into five parts, the narrative of the fact, the conception, the clauſe, the date, and the ſalutation, in which the Pope ſtyles himſelf *ſervus ſervorum*, i. e. the ſervant of ſervants. Theſe inſtruments beſides the lead hanging to them, have a croſs, with ſome text of ſcripture, or religious motto, about it. Bulls are granted for the conſecration of biſhops, the promotion to benefices, and the celebration of jubilees, &c.

Bull in cœna Domini, a particular bull read every year, on the day of the Lord's ſupper, or Maundy Thurſday, in the Pope's preſence, containing excommunications and anathemas againſt heretics, and all who diſturb or oppoſe the juriſdiction of the holy ſee. After the reading of the bull, the Pope throws a burning torch in the public place, to denote the thunder of this anathema.

Golden Bull, an edict or imperial conſtitution, made by the emperor Charles IV. reputed to be the magna charta, or the fundamental law of the German empire.

It is called *golden*, becauſe it has a golden ſeal, in the form of a pope's bull, tied with yellow and red cords of ſilk: upon one ſide is the emperor repreſented ſitting on his throne, and on the other the capital of Rome. It is alſo called *Caroline*, on Charles IV's account. Till the publication of the golden bull, the form and ceremony of the election of an emperor were dubious and undetermined, and the number of the electors not fixed. This ſolemn edict regulated the functions, rights, privileges, and pre-eminences, of the electors. The original, which is in Latin, on vellum, is preſerved at Francfort: this ordonnance, containing 30 articles or chapters, was approved of by all the princes of the empire, and remain ſtill in force.

Silver Bulls were not in ſo frequent uſe; tho' we do not want inſtances of them.

Leaden Bulls were ſent by the emperors of Conſtantinople to deſpots, patriarchs, and princes; and the like were alſo uſed by the grandees of the Imperial court, as well as by the king's of France, Sicily, &c. and by biſhops, patriarchs, and popes. It is to be obſerved, that the leaden bulls of theſe laſt had, on one ſide, the name of the pope or biſhop inſcribed. Polydore Virgil makes Pope Stephen III. the firſt who uſed leaden bulls, about the year 772. But others find inſtances of them as early as Silveſter, Leo. I. and Gregory the Great. The latter popes, beſide their own names, ſtrike the figures of St Peter and St Paul on their bulls: a practice firſt introduced by Pope Paſchal II. But why, in theſe bulls, the figure of St Paul is on the right, and that of St Peter on the left ſide, is a queſtion which has occaſioned many conjectures and diſputes.

Waxen Bulls are ſaid to have been firſt brought into England by the Normans. They were in frequent uſe among the Greek emperors, who thus ſealed letters to their wives, mothers, and ſons. Of theſe there were two ſorts, one red, and the other green.

BULLA, or DIPPER, in zoology, a genus belonging to the order of vermes teſtaceæ. It is an animal of the ſnail-kind: the ſhell conſiſts of one valve, convoluted, and without any prickles; the aperture is narrowiſh, oblong, longitudinal, and entire at the baſe; the colomella is ſmooth and oblique. There are 23 ſpecies; four of them found in the Britiſh ſeas; the reſt chiefly natives of the Aſiatic and Atlantic oceans.

BULLÆ, in antiquity, a kind of ornaments much in uſe among the ancient Romans. Mr Whittaker * is of opinion that they were originally formed of leather among all ranks of people; and it is certain that they continued ſo to the laſt among the commonalty. He alſo imagines, that at firſt the bulla was intended as an amulet rather than an ornament; as a proof of which he tells us that the bullæ were frequently impreſſed with the figure of the ſexual parts. It is univerſally aſſerted by the critics, that the bullæ were made hollow for the reception of an amulet; but this Mr Whittaker contradicts from the figure of a golden one lately found at Mancheſter, which had no aperture whereby an amulet could have been introduced.—Pliny refers the original of the bulla to the elder Tarquin, who gave one with the prætexta to his ſon, becauſe at the age of 14 he had with his own hand killed an enemy; and in imitation of him it was afterwards aſſumed by other patricians. Others affirm, that the bulla was given by that king to the ſons of all the patricians who had borne civil offices. Laſtly, others allege, that Romulus firſt introduced the bulla, and gave it to Tullus Hoſtilius, the firſt child-born of the rape of the Sabines.—As to the form of the bullæ, Mr Whittaker informs us, that they were originally made in the ſhape of hearts; but they did not always retain the form of an heart, any more than they were always made of leather. As the wealth of the ſtate, and the riches of inividuals increaſed, the young patrician diſtinguiſhed himſelf by a bulla of gold, while the common people wore the amulet of their anceſtors. The figure of an heart then became ſo generally round, ſome even having the impreſſion of an heart upon them, that there are not many of the original form to be found in the cabinets of the curious. The form is naturally varied from a complete circle to that of a ſegment; and this was the ſhape of the abovementioned bulla found at Mancheſter. When the youth arrived at 15 years of age, they hung up their bullæ about the necks of their gods lares. We are further informed, that the bullæ were not only hung about the necks of young men, but of horſes alſo. We may add, that bullæ were ſometimes allowed to ſtatues; whence the phraſe *ſtatuæ bullatæ*.

BULLÆ was alſo the denomination given to divers other metalline ornaments made after the ſame form; and in this ſenſe *bullæ* ſeem to include all gold and ſilver ornaments of a roundiſh form, whether worn on the habits of men, the trappings of horſes, or the like. Such were thoſe decorations uſed by the ancients on their doors and belts. The bullæ of doors were a kind of large-headed nails faſtened on the doors of the rich, and kept bright with great care. The doors of temples were ſometimes adorned with golden bullæ. Mr Bandelot takes the bullæ worn by ſoldiers on their belts to be ſomething more than mere ornaments. They ſeem to have been conſidered as preſervations from dangers and diſeaſes, and even means of acquiring glory, and other advantages. The like may perhaps be extended to the bullæ on doors, which were probably placed there as a ſecurity to them from being broken or violated.

BULLÆ alſo denoted a table hung up in the public courts, to diſtinguiſh which days were faſti, and which nefaſti; anſwering in ſome meaſure to our kalendar.

BULLET, an iron or leaden ball or ſhot, wherewith fire arms are loaded. Bullets are caſt in iron moulds, conſiſting of two concave hemiſpheres, with a handle whereby to hold them; and between them is a hole, called *the gate*, at which to pour in the melted metal. The chaps or hemiſpheres of bullet-moulds are firſt punched, being blood-red hot, with a round ended punch, of the ſhape and nearly of the ſize of the intended bullets. To cleanſe the inſides, they make uſe of a bullet bore, which conſiſts of a ſteel ſhank, having a globe at one end, wherewith to bore the inſide of a mould clean, and of the intended ſize.

BULLEYN (William), a learned phyſician and botaniſt, was born in the iſle of Ely, in the former part of the reign of Henry VIII. and educated at Cambridge. Botany being his favourite ſtudy, he travelled through various parts parts of England, Scotland, and Germany, chiefly with an intention to improve his knowledge in that ſcience. In the reign of Edward VI. or of queen Mary, Mr Bulleyn appears, from his remarks on the natural productions of that country, to have reſided at Norwich, or in that neighbourhood, and alſo to have ſpent ſome time at Bloxhall in Suffolk: but he afterwards removed into the north, and ſettled at Durham, where he practiſed phyſic with conſiderable reputation and ſucceſs. His great patron at this time was Sir Thomas Hilton, knight, baron of Hilton, who was governor of Tinmouth caſtle in the reign of Philip and Mary. In 1560, he came to London; and, ſoon after his arrival, was accuſed by William Hilton of Bidick, of having murdered his brother Sir Thomas, our author's friend and patron. He was arraigned before the duke of Norfolk, and honourably acquitted. This Hilton afterwards hired ſome villains to aſſaſſinate the doctor; but this attempt proving ineffectual, he had him arreſted on an action for debt, and he remained for a long time in priſon. During this confinement, Dr Bulleyn compoſed ſeveral of thoſe works which raiſed his reputation as a medical writer. He died in January 1576, and was buried in St Giles's Cripplegate, in the ſame grave with his brother the divine, who died 13 years before, and in which John Fox the martyrologiſt was interred 11 years after. Dr Bulleyn appears from his writings to have been well acquainted with the works of the ancient Greek, Roman, and Arabian phyſicians. According to the modern practice, his books, were they generally known, would be of little uſe; but as he was a man of genius and fertile imagination, they are by no means barren of entertainment. He wrote, 1. The government of health, 1559, 8vo. 2. A regimen againſt the Pleuriſy, 8vo. London, 1569. 3. Bulleyn's bulwark of defence againſt all ſicknes, ſorenes, and wounds that dooe daily aſſault mankinde, London printed by John Kingſton, 1562, folio. This includes, The government of health. 4. A dialogue both pleaſant and pietifull, wherein is a goodlie regimen againſt the fever peſtilence,

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* *Hiſtory of Mancheſter*, Vol. I p. 79

lence, with a conſolation and comfort againſt death, London, 1564, 8vo. 1569, 8vo. Very ſcarce. There is a wooden print of the author prefixed to the firſt edition of his government of health; alſo a ſmall one engraved by Stukeley in 1722.

BULLIALDUS (Iſmael), an eminent aſtronomer, was born at Laon in the Iſle of France in 1605. He travelled in his youth for the ſake of improvement; and afterwards publiſhed ſeveral works, among which are, 1. *De natura lucis.* 2. *Philolaus.* 3. *Aſtronomia philolaica, opus novum, in quo motus planetarum per novam et veram hypotheſin demonſtrantur.* 4. *Aſtronomiæ philolaicæ fundamenta clarius explicata et aſſerta adverſus Zothi Wardi impugnationem.* He alſo wrote a piece or two upon Geometry and Arithmetic. In 1661, he paid Hevelius a viſit at Dantzic, for the ſake of ſeeing his optical and aſtronomical apparatus. Afterwards he became a preſbyter at Paris, and died there in 1694.

BULLINGER (Henry), born at Bremgarten in Swiſſerland in 1504, was an eminent Zuinglian miniſter, a great ſupporter of the reformation, and employed in many eccleſiaſtical negociations. He compoſed many books, one againſt Luther in particular. He died in 1575.

BULLION, uncoined gold or ſilver in the maſs.

Thoſe metals are called ſo, either when ſmelted from the native ore, and not perfectly refined; or when they are perfectly refined, but melted down in bars or ingots, or in any unwrought body, of any degree of fineneſs.

When gold and ſilver are in their purity, they are ſo ſoft and flexible, that they cannot well be brought into any faſhion for uſe, without being firſt reduced and hardened with an alloy of ſome other baſer metal.

To prevent theſe abuſes which ſome might be tempted to commit in the making of ſuch alloys, the legiſlators of civilized countries have ordained, that there ſhall be no more than a certain proportion of a baſer metal to a particular quantity of pure gold or ſilver, in order to make them of the fineneſs of what is called the ſtandard gold or ſilver of ſuch a country.

According to the laws of England, all ſorts of wrought plate in general ought to be made to the legal ſtandard; and the price of ſtandard gold and ſilver is the common rule whereby to ſet a value on their bullion, whether the ſame be ingots, bars, duſt, or foreign ſpecie: whence it is eaſy to conceive that the value of bullion cannot be exactly known, without being firſt eſſayed, that the exact quantity of pure metal therein contained may be determined, and conſequently whether it be above or below the ſtandard.

Silver and gold, whether coined or uncoined (though uſed for a common meaſure of other things), are not leſs a commodity than wine, tobacco, or cloth; and may, in many caſes, be exported as much to the national advantage as any other commodity.

BULLOCK, the ſame with an ox, or gelded bull. See BOS.

BULTER, a term uſed to denote the refuſe of meal after dreſſing, or the cloth wherein it is dreſſed, otherwiſe called *bulter-cloth*.

BULWARK, in the ancient fortification. See RAMPART.

BUMICILLI, a religious ſect of Mahometans in Egypt and Barbary, who pretend to fight with devils, and commonly appear in a fright and covered with wounds and bruiſes. About the full moon they counterfeit a combat in the preſence of all the people, which laſts for two or three hours, and is performed with aſſagaias, or javelins, till they fall down quite ſpent; in a little time, however, they recover their ſpirits, get up, and walk away.

BUNDLE, a collection of things wrapped up together. Of baſte-ropes, harneſs-plates, and glovers knives, ten make a bundle; of Hamburgh yarn, twenty ſkeans; of baſket rods, three feet the band.

BUNEL (Peter), a native of Toulouſe, was one of the moſt elegant writers of the Latin tongue in the 16th century, but was ſtill more conſpicuous for the regularity of his manners. He did not ſeek either for riches or lucrative employments; but, contented with the bare neceſſaries of life, applied himſelf wholly to the improvement of his mind. He died at Turin in 1547, aged 47; and has left behind him ſome Latin epiſtles, which are written with the utmoſt purity. The magiſtrates of Toulouſe have a buſt of him in marble, placed in their town-houſe. The moſt correct edition of his Letters is that of Henry Stephens in 1581.

BUNGAY, a market-town of Suffolk, ſituated on the river Wavenny, about 32 miles north-eaſt of Bury. E. Long. 1. 35. N. Lat. 52. 35.

BUNIAS, in botany; a genus of the 39th natural order, *Siliquoſæ*, belonging to the tetradynamia claſs of plants, for which there is no Engliſh name. The ſilicula is deciduous, four-ſided, muricated, or ſhagreened with unequal pointed angles. There are eight ſpecies; all of them annual plants, but none of them poſſeſſed of any remarkable property.

BINIUM, *pig-nut*, or *earth-nut*, in botany: A genus of the digynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 45th order, *Umbellatæ*. The corolla is uniform, the umbel thick, and the fruit ovate. There is but one ſpecies, the bulbocaſtanum, with a globular root. This grows naturally in moiſt paſtures in many parts of Britain. It hath a tuberous ſolid root, which lies deep in the ground. The leaves are finely cut, and lie near the ground. The ſtalk riſes a foot and an half high; is round, channelled, and ſolid; the lower part being naked; but above, where it branches out, there is one leaf placed below every branch. The flowers are white, and ſhaped like thoſe of other umbelliferous plants; the ſeeds are ſmall, oblong, and when ripe are channelled. The roots of this ſort are frequently dug up, and by ſome people eaten raw. They have much reſemblance in taſte to a cheſnut, whence the plant obtains the name of *bulbocaſtanum*.

BUNT *of a* SAIL, the middle part of it, formed deſignedly into a bag or cavity, that the ſail may gather more wind. It is uſed moſtly in top-ſails, becauſe courſes are generally cut ſquare, or with but ſmall allowance for bunt or compaſs. The bunt holds much leeward wind; that is, it hangs much to leeward.

Bunt-Lines are ſmall lines made faſt to the bottom of the ſails, in the middle part of the bolt-rope, to a cringle, and ſo are reeved through a ſmall block, ſeized to the yard. Their uſe is to trice up the bunt of the ſail for the better furling it up.

BUNTING, in orinthology. See EMBERIZA.

BUNTINGFORD, a town of Hertfordſhire, with a market on Mondays, and two fairs, on June 29th, and November 30th, for pedlars ware. It is a good thoroughfare town, but ſmall, and is accounted only a large hamlet. W. Long. 0. 6. N. Lat. 51. 55.

BUNTZEL, or Buntzlau, a town of Sileſia, in the duchy of Jauer. The greateſt part of the houſes are built with ſtone, and there were formerly rich mines in the neighbourhood. It is in the common road to Leipſic; and their trade is earthen ware, of which they make great quantities. E. Long. 15. 50. N. Lat. 51. 12.

BUNYAN (John), author of the Pilgrim's Progreſs, was born at Elſtow, near Bedford, in 1628. He was the ſon of a tinker; and, in the early part of his life, was a great reprobate, and a ſoldier in the parliament army: but being at length deeply ſtruck with a ſenſe of his guilt, he laid aſide his profligate courſes, became remarkable for his ſobriety, and applied himſelf to obtain ſome degree of learning. About the year 1655, he was admitted a member of a Baptiſt congregation at Bedford, and was ſoon after choſen their preacher: but, in 1660, being taken up, and tried for preſuming to preach, he was cruelly ſentenced to perpetual baniſhment; and in the mean time committed to jail, where neceſſity obliged him to learn to make long-tagged thread-lace for his ſupport: to add to his diſtreſs, he had a wife and ſeveral children, among whom was a daughter who was blind. In this unjuſt and cruel confinement he was detained twelve years and a half, and during that time wrote many of his tracts; but he was at length diſcharged, by the humane interpoſition of Dr Barlow. When king James's declaration for liberty of conſcience was publiſhed, he was choſen paſtor of a congregation at Bedford. He at length died of the fever at London, on the 31ſt of Auguſt 1688, aged 60. He alſo wrote an allegory, called *The Holy War.* His *Pilgrim's Progreſs* has been tranſlated into moſt European languages; and his works have been collected together, and printed in two volumes folio.

BUONOCARSI, or Pierino del Vaga. See Pierino.

BUOY, in ſea affairs, a ſort of cloſe caſk, or block of wood, faſtened by a rope to the anchor, to determine the place where the anchor is ſituated, that the ſhip may not come too near it, to entangle her cable about the ſtock or the flukes of it.

Buoys are of various kinds; as

Can-Buoys: theſe are in the forme of a cone; and of this conſtruction are all the buoys which are floated over dangerous banks and ſhallows, as a warning to paſſing ſhips, that they may avoid them. They are extremely large, that they may be ſeen at a diſtance; and are faſtened by ſtrong chains to the anchors which are ſunk for this purpoſe at ſuch places. See Plate CVIII. fig. 6.

Nun-Buoys are ſhaped like the middle fruſtrum of two cones, abutting upon one common baſe, being caſks, which are large in the middle, and tapering nearly to a point at each end. Plate CVIII. fig. 7.

Wooden-Buoys are ſolid pieces of timber, ſometimes in the ſhape of a cylinder, and ſometimes in that of a nun-buoy; they are furniſhed with one or two holes, in which to fix a ſhort piece of rope, whoſe two ends, being ſpliced together, make a ſort of circle or ring called the *ſtrop*.

Cable-Buoys, are common caſks employed to buoy up the cables in different places from rocky ground. In the harbour of Alexandria in Egypt, every ſhip is moored with at leaſt three cables, and has three or four of theſe buoys on each cable for this purpoſe.

Slings of the Buoy, the ropes which are faſtened about it, and by which it is hung: they are curiouſly ſpliced round it, ſomething reſembling the braces of a drum.

To ſtream the Buoy, is to let it fall from the ſhip's ſide into the water; which is always done before they let go the anchor, that it may not be retarded by the buoy-rope as it ſinks to the bottom.

Buoy-Rope, the rope which faſtens the buoy to the anchor: it ſhould be little more than equal in length to the depth of the water where the anchor lies, as it is intended to float near, or immediately above, the bed of it, that the pilot may at all times know the ſituation thereof. See Plate XXIX. fig. 1. n° 3. where *b* is the anchor, *c* the buoy-rope, and *d* the buoy floating on the ſurface of the water. The buoy-rope is often extremely uſeful otherwiſe, in drawing up the anchor when the cable is broke. It ſhould always, therefore, be of ſufficient ſtrength for this purpoſe, or elſe the anchor may be loſt through negligence.

Buoy of the Nore, is a buoy placed at the mouth of the river Thames, to direct mariners how to avoid a dangerous ſand.

BUOYANT, ſomething which, by its aptneſs to float, bears up other more ponderous and weighty things. See Buoy.

BUPALUS, a celebrated ſculptor, and native of the iſland of Chios, was ſon, grandſon, and great-grandſon of ſculptors. He had a brother, named *Athenis*, of the ſame profeſſion. They flouriſhed in the 60th Olympiad; and were cotemporary with Hipponax, a poet of an ugly and deſpicable figure. Our ſculptors diverted themſelves in repreſenting him under a ridiculous form. But Hipponax wrote ſo ſharp a ſatire againſt them, that they hanged themſelves, as ſome ſay. Pliny, however, does not allow this; but ſays, on the contrary, that, after Hipponax had taken his revenge, they made ſeveral fine ſtatues in ſeveral places; particularly a Diana at Chios, which was placed very high, and appeared with a frowning countenance to thoſe that came in, and with a pleaſant one to thoſe that went out. There were ſeveral ſtatues at Rome made by them; and they worked only in the white marble of the iſle of Paros. Pauſanias mentions Bupalus as a good architect as well as ſculptor; but ſays nothing of Athenis.

BUPHAGA, in orinthology, a genus belonging to the order of picæ. The beak is ſtraight and quadrangular; the mandibles are gibbous, entire, and the gibboſity is greater on the outſide. The feet are of the ambulatory kind. The body is greyiſh above, and of a dirty yellow below; the tail is ſhaped like a wedge. There is but one ſpecies, viz. the africana, a native of Senegal. It frequently perches upon oxen, and picks out the worms from their backs. Plate CXI.

BUPHONIA (from *βȣς ox*, and *φωνη ſlaughter)*, in antiquity, an Athenian feaſt or ceremony, denominated from a bullock ſlain therein, with quaint formalities. For the origin of the buphonia, we are told it was forbidden by the laws of Attica to kill an ox: but it once happened, at the feaſt of the *diipolia*, that an ox eat the corn, others ſay the cakes, which had been dreſſed for the ſacrifice. Thaulon the prieſt, enraged at this, preſently killed him, and fled for it. On which the Athenians, fearing the reſentment of the gods, and feigning themſelves ignorant who had committed the fact, brought the bloody axe before the judges, where it was ſolemnly arraigned, tried, found guilty, and condemned. And, in memory of this event, a feaſt was inſtituted under the denomination of *buphonia*. In which it was ſtill cuſtomary for the prieſt to fly, and judgment to be given about the ſlaughter of the ox.

BUPHTHALMUM, OX-EYE: A genus of the polygamia ſuperflua order, belonging to the ſyngeneſia claſs of plants; and in the natural method ranking under the 49th order, *Compoſitæ*: The receptacle is paleaceous; the pappus an indifferent rim; the ſeeds, eſpecially thoſe of the radius, emarginated on the ſides; the ſtigmata of the hermaphrodite florets undivided. There are ten ſpecies; of which the following are the moſt remarkable.

Species. 1. The helianthoides, a native of North America. This hath a perennial root, and an annual ſtalk, which riſes ſix or eight feet high, garniſhed at each joint with two oblong heart-ſhaped leaves, which have three longitudinal veins, and the baſe on one ſide ſhorter than the other. The flowers come out at the extremities of the branches, and are of a bright yellow colour, reſembling a ſmall ſun-flower. 2. The arboreſcens, riſes with ſeveral woody ſtems to the height of eight or ten feet, garniſhed with leaves very unequal in ſize; ſome are narrow and long, others are broad and obtuſe; theſe are intermixed at the ſame joint, and often at the intermediate one; they are green, and placed oppoſite. The flowers are produced at the ends of the branches; they are of a pale yellow colour, and have ſcaly empalements.

Culture. All the ſpecies may be propagated by ſeeds; and thoſe which do not, by parting their roots, or cutting off their branches. Some of the ſpecies are tender, and require to be raiſed on a hot-bed.

BUPLEURUM, HARE'S-EAR, or *Thorough-wax*: A genus of the digynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 45th order, *Umbellatæ*. The involucra of the partial umbels are large in proportion, and pentaphyllous; the petals involuted, or rolled inwards; the fruit roundiſh, compreſſed and ſtriated. The principal ſpecies is the fruticoſum, or ſhrubby Ethiopian hartwort. This riſes with a ſhrubby ſtem, dividing into numerous branches, forming a buſhy head five or ſix feet high, adorned with oblong, oval, entire leaves of a pale green colour, placed alternate, with yellow flowers in umbels at the ends of the branches, which appear in July and Auguſt, and are ſometimes ſucceeded by ripe ſeeds. It may be propagated by cuttings.

BUPRESTIS, in zoology, a genus of inſects belonging to the order of coleoptera. The antennæ are ſetaceous, and as long as the thorax: The head is half drawn back within the thorax; to which may be added, that the antennæ are ſerrated: The mouth is armed with jaws, and furniſhed with palpi: The elytra are margined, and cover the abdomen; and the tarſi have five articulations: The feet are ſaltatorii. There are 27 ſpecies of this inſect, moſt of them natives of the Indies. The French have given the name of *Richard* to this genus, on account of the beautiful rich colours with which moſt of the inſects belonging to it are adorned. Inſects of this genus are not common in England. They are of the richeſt ſplendor; and ſome appear, when alive to be united in colour with the refulgent particles of emeralds, rubies, diamonds, and gold. Applied to the microſcope, the ſplendor is ſo great as to dazzle the eye. The guttata is one of the moſt oblong ſpecies. The whole body is green and gold, with a bluiſh caſt underneath; but what diſtinguiſhes it, are four white dents or depreſſed ſpots that are ſeen upon the elytra, two upon each. One of thoſe dots is on the outward rim of the elytrum, about the middle of it, near the abdomen, and is the larger one. The other is on the inner edge, cloſe to the ſuture, about three-fourths of that ſuture downwards, and exactly oppoſite its fellow on the other elytrum. This latter one is the ſmaller. The whole upper part of the inſect, viewed through a glaſs, appears finely dotted. This ſpecies has been found in timber-yards.

BUQUOI, a town of Artois, in the French Netherlands, ſituated on the confines of Picardy. E. Long. 2. 40. N. Lat. 50. 12.

BUR, a broad ring of iron, behind the place made for the hand on the ſpears uſed formerly in tilting; which bur was brought to reſt, when the tilter charged his ſpear.

BURBAS, in commerce, a ſmall coin at Algiers, with the arms of the dey ſtruck on both ſides: It is worth half an aſper.

BURCHAUSEN, a town of Germany, in the Lower Bavaria, ſituated on the river Saltz. E. Long. 13. 25. N. Lat. 48. 5.

BURDEGALA, or BURDIGALA, (anc. geog.); a trading port town of Aquitania, ſituated on a lake of the ſea, formed by the mouth of the Garumna. It was a famous ſeat of the Muſes, as appears by Auſonius's book entitled *Profeſſores*; and birth-place of Auſonius: Now Bourdeaux, capital of the Bourdelois, on the river Garonne. W. Long. 40. Lat. 44. 45.

BURDEN, or BURDON, in muſic, the drone or baſs, and the pipe or ſtring which plays it: hence that part of a ſong, that is repeated at the end of every ſtanza, is called the *burden* of it.—A chord which is to be divided, to perform the intervals of muſic, when open and undivided, is alſo called the *burden*.

BURDEN properly ſignifies a heavy weight or load. Ringelberg recommends the bearing burdens as the beſt ſort of exerciſe; eſpecially to ſtrengthen men of ſtudy. To this end, he had a gown lined with plates of lead, which he could juſt lift with both his hands. This load he bore ſix or ſeven days together, either increaſing or diminiſhing it as he found occaſion, by which means he could both write and exerciſe at the ſame time.

BURDEN alſo denotes a fixed quantity of certain commodities. A burden of gad-ſteel is two ſcore, or 120 pounds.

BURDEN of a Ship is its contents, or number of tons it will carry. The burden of a ſhip may be determined thus: Multiply the length of the keel, taken within board, by the breath of the ſhip, within board, taken from the midſhip-beam, from plank to plank; and multiply the product by the depth of the hold, taken from the plank below the keelſon, to the under part of the upper deck plank; and divide the laſt product by 94: the quotient is the content of the tonnage required. See FREIGHT.

BURDOCK, in botany. See ARCTIUM and XANTHIUM.

BURELL, or CIVITA BURRELLA, a town of Italy in the kingdom of Naples, and in Abruzzo Citra, near the river Sangro. E. Long. 15. 5. N. Lat. 41. 56.

BUREN, a town of the United Provinces, in Guelderland. It gives the title of count de Buren to the prince of Orange. E. Long. 5. 22. N. Lat. 52. 0.

BUREN, a town of Germany, in the circle of Weſtphalia, and biſhopric of Paderborn. It is ſeated on the river Alme, five miles ſouth of Paderborn. E. Long. 8. 25. Nat. 51. 35.

BURFORD, a town of Oxfordſhire, ſeated on an aſcent on the river Windruſh, is a handſome place, chiefly noted for the making of ſaddles. The Downs near it, noted for horſe-races, are of great advantage to the town. Burford is an earldom in the family of St Albans. It is 23 miles weſt-north-weſt of Banbury, and 85 weſt of London. W. Long. 1. 43. N. Lat. 51. 40.

BURG, BURGH, or DUN, in northern topography. See DUN.

BURG, a town of Lincolnſhire, ſeated in a marſh, 12 miles ſouth-eaſt of Boſton, and 127 north of London. E. Long. 0. 5. N. Lat. 53. 12.

BURG, a town of the Dutch Netherlands, in Zutphen, ſeated on the old Iſſel, 18 miles eaſt of Nimeguen. E. Long. 6. 12. N. Lat. 52. 0.

BURG-Caſtle, or *Borough-Caſtle*, a fortreſs on the edge of the county of Suffolk, three miles weſt of Yarmouth, where the river Yare and Waveny meet. It was formerly a delightful place; but now only the ruins of its walls remain, near which Roman coins are often dug up.

BURGAGE, or *Tenure in BURGAGE*, is where the king or other perſon, is lord of an ancient borough, in which the tenements are held by a rent certain. It is indeed only a kind of town ſoccage; as common ſoccage †, by which other lands are holden, is uſually of a rural nature. A borough is diſtinguiſhed from other towns by the right of ſending members to parliament; and where the right of election is by burgage-tenure, that alone is a proof of the antiquity of the borough. Tenure in burgage, therefore, or burgage-tenure, is where houſes or lands which were formerly the ſcite of houſes in an ancient borough, are held of ſome lord in common ſoccage, by a certain eſtabliſhed rent. And theſe ſeem to have withſtood the ſhock of the Norman encroachments principally on account of their inſignificancy, which made it not worth while to compel them to an alteration of tenure, as 100 of them put together would ſcarce have amounted to a knight's fee. Beſides the owners of them, being chiefly artificers, and perſons engaged in trade, could not with any tolerable propriety be put on ſuch a military eſtabliſhment as the tenure in chivalry was. The free ſoccage, therefore, in which theſe tenements are held, ſeems to be plainly a remnant of Saxon liberty; which may alſo account for the great variety of cuſtoms affecting many of theſe tenements ſo held in ancient burgage; the principal and moſt remakable of which is that called *Borough-Engliſh*. See the article *BOROUGH-Engliſh*.

BURGAU, in natural hiſtory, the name of a large ſpecies of ſea-ſnail, of the lunar or round-mouthed kind. It is very beautifully lined with a coat, of the nature of the mother of pearl; and the artificers take this out, to uſe under the name of mother of pearl, though ſome call it after the name of the ſhell they take it from, *burgaudine*.

BURGAUDINE, the name given by the French artificers, to what we call mother of pearl. In their works, they do not uſe the common nacre-ſhell for this, but the lining of the American burgau. Hence ſome call the mother of pearl *burgaudine*, and others the *burgaudine* mother of pearl.

BURGDORF, a handſome and pretty large town of Switzerland, in the canton of Bern, ſeated on an eminence. The river Emma is about a piſtol-ſhot from the town, and as it often changes its bed, it frequently does a great deal of miſchief. It runs at the foot of a rock of a prodigious height, and there is a ſtone-bridge over it. Near the town there is a ſulphureous ſpring which ſupplies their baths with water, which is good againſt palſies and diſeaſes of the nerves. E. Long. 7. 35. N. Lat. 47. 6.

BURGEON, in gardening, a knot or button put forth by the branch of a tree in the ſpring. The word is formed from the French *burgeon*, which ſignifies the ſame, formed from the Latin *burrio*, of *burra*. Bourgeon amounts to the ſame with what is otherwiſe called eye, bud, or germ. Froſts are chiefly dangerous when the burgeons begin to appear. The burgeons have the ſame ſkin, ſame pith, the ſame ligneous body, and the ſame inſertions as the ſtalk; that is, all the parts are the ſame in both, only more contracted in the former.

BURGESS, in England, an inhabitant of a borough, or wall town, or one who poſſeſſes a tenement therein. The word is alſo applied to the magiſtrates of ſome towns; as the bailiff and burgeſſes of Leominſter.

Anciently, burgeſſes were held in great contempt; being reputed ſervile, baſe, and unfit for war; ſo that the gentry were not allowed to intermarry in their families, or fight with them; but, in lieu thereof, were to appoint champions. A burgeſs's ſon was reputed of age, when he could diſtinctly count money, meaſure cloth, &c.

BURGESS is now ordinarily uſed for the repreſentatives of a borough-town in parliament. Burgeſſes are ſuppoſed to repreſent the mercantile part or trading intereſt of the nation. They were formerly allowed, by a rate eſtabliſhed in the reign of Edward III. two ſhillings a day as wages. It is much to be regretted, that the members for boroughs bear above a quadruple proportion to thoſe for counties. The right of election of burgeſſes depends on ſeveral local charters and cuſtoms: though, by 2 Geo. II. c. 24. the right for the future ſhall be allowed according to the laſt determination of the houſe of commons concerning it: and by 3 Geo. III. c. 15. no freeman, except ſuch as claim by birth, ſervitude, or marriage, ſhall be intitled to vote, unleſs he hath been admitted to his freedom twelve months before. No perſon is eligible as a burgeſs, who hath not a clear eſtate of L. 300 a-year.

BURGGRAVE, properly denotes the hereditary governor

† See *Soccage*.

governor of a caſtle, or fortified town, chiefly in Germany. The word is compounded of *bourg*, *town*, and *graf*, or *grave count*. The burggraves were originally the ſame with what we otherwiſe call *caſtellans*, or *comites caſtellani*; but their dignity was conſiderably advanced under Rudolph of Hapſburgh; before his time they were ranked only as counts, and below the princeſs, but under him began to be eſteemed on a footing with princes. In ſome parts, the dignity is much degenerated, eſpecially in the palatinate. There were formerly, according to Leti, fifteen families who enjoyed the title of burggraves, thirteen of which are now extinct. But this is differently repreſented by others. In Bohemia the title of burggrave is given to the chief officer, or to him that commands in quality of viceroy. In Pruſſia, the burggrave is one of the four chief officers of the province. In Guelderland, the burggrave of Nimeguen is preſident of the ſtates of the province.

BURGH. See Borough.

Burgh, or Dun. See Dun.

Burgh-Bote ſignifies a contribution towards the building or repairing of caſtles, or walls, for the defence of a borough or city.

By the law of king Athelſtan, the caſtles and walls of towns were to be repaired, and burgh-bote levied every year within a fortnight after rogation days. No perſon whatever was exempt from this ſervice; the king himſelf could not exempt a man from burgh-bote: yet, in after times, exemptions appear to have been frequently granted; inſomuch, that, according to Cowel, the word *burgh-bote* came to be chiefly uſed to denote not the ſervice, but the liberty or exemption from it.

Burgh-Breche, or *brech*, a fine impoſed on the community of a town, or burgh, for the breach of peace among them.

Burgh-Mails, were yearly payments to the crown of Scotland, introduced by Malcolm III. and reſembling the *fee-farm* rents of burghs in England. See Mail.

Burgh-Maſter, an officer in the tin-mines, who directs and lays out the meers for the workmen, &c. otherwiſe denominated bailiff and bar-maſter.

BURGHERMASTERS. See Burgomaster.

BURGHMOTE, the court of a borough. By the laws of king Edgar, the burghmote was to be held thrice in the year; by thoſe of Henry I. 12 times.

BURGLARY, or nocturnal house-breaking, (*burgi latrocinium*,) which by the ancient Engliſh law was called *hameſucken*, a word alſo uſed in the law of Scotland, but in a ſomewhat different ſenſe, has always been looked upon as a very heinous offence: not only becauſe of the abundant terror it carries with it, but alſo as it is a forcible invaſion and diſturbance of that right of habitation which every individual might acquire even in a ſtate of nature; an invaſion which in ſuch a ſtate, would be ſure to be puniſhed with death, unleſs the aſſailant were ſtronger. But, in civil ſociety, the laws come in to the aſſiſtance of the weaker party: and, beſides that they leave him this natural right of killing the agreſſor if he can, they alſo protect and avenge him in caſe the aſſailant is too powerful. And the law has ſo particular and tender a regard to the immunity of a man's houſe, that it ſtyles it his *caſtle*, and will never ſuffer it to be violated with impunity; agreeing herein with the ſentiments of ancient Rome. For this reaſon no outward doors can in general be broken open to execute any civil proceſs; though in criminal cauſes the public ſafety ſuperſedes the private*. Hence alſo in part ariſes the animadverſion of the law upon eaves-droppers, nuſancers, and incendiaries: and to this principle it muſt be aſſigned, that a man may aſſemble people together lawfully (at leaſt if they do not exceed 11), without danger of raiſing a riot, rout, or unlawful aſſembly, in order to protect his houſe; which he is not permitted to do in any other caſe.

The definition of a burglar, as given us by Sir Edward Coke, is, "he that by night breaketh and entereth into a manſion-houſe, with intent to commit a felony." In this definition there are four things to be conſidered; the *time*, the *place*, the *manner*, and the *intent*.

1. The *time* muſt be by night, and not by day; for in the day-time there is no burglary; *i. e.* if there be day-light or crepuſculum enough, begun or left, to diſcern a man's face withal. But this does not extend to moonlight; for then many midnight burglaries would go unpuniſhed: and beſides, the malignity of the offence does not conſiſt ſo much in its being done in the dark, as at the dead of night; when all the creation, except beaſts of prey, are at reſt; when ſleep has diſarmed the owner, and rendered his caſtle defenceleſs.

2. As to the *place*. It muſt be, according to Sir Edward Coke's definition, in a manſion-houſe: for no diſtant barn, warehouſe, or the like, are under the ſame privileges, nor looked upon as a man's caſtle of defence; nor is a breaking open of houſes wherein no man reſides, and which for the time being are not manſion-houſes, attended with the ſame circumſtances of midnight terror. A houſe, however, wherein a man ſometimes reſides, and which the owner hath left only for a ſhort ſeaſon, *animo revertendi*, is the object of burglary, though no one be in it at the time of the fact committed. And if the barn, ſtable, or warehouſe, be parcel of the manſion-houſe, though not under the ſame roof or contiguous, a burglary may be committed therein; for the capital houſe protects and privileges all its branches and appurtenants, if within the curtilage or homeſtall. A chamber in a college, or an inn of court, where each inhabitant hath a diſtinct property, is, to all other purpoſes as well as this, the manſion-houſe of the owner. So alſo is a room or lodging in any private houſe, the manſion for the time being of the lodger; if the owner doth not himſelf dwell in the houſe, or if he and the lodger enter by different outward doors. But if the owner himſelf lies in the houſe, and hath but one outward door at which he and his lodgers enter, ſuch lodgers ſeem only to be inmates, and all their apartments to be parcel of the one dwelling-houſe of the owner.

3. As to the *manner* of committing burglary: there muſt be both a breaking and an entry to complete it. But they need not be both done at once; for if a hole be broken one night, and the ſame breakers enter the next night through the ſame, they are burglars. There muſt be an actual breaking; as, at leaſt, by breaking or taking out the glaſs of, or otherwiſe opening, a windaw; picking a lock, or opening it with a key; nay, by lifting up the latch of a door, or unlooſing any other faſtening which the owner has provided. But if a perſon leaves his doors or windows open, it is his own folly

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* See the article *Arreſt*.

and negligence; and if a man enters therein, it is no burglary; yet, if he afterwards unlocks an inner or chamber door, it is ſo. But to come down a chimney is held a burglarious entry; for that is as much cloſed as the nature of things will permit. So alſo, to knock at a door, and, upon opening it, to ruſh in with a felonious intent; or, under pretence of taking lodgings, to fall upon the landlord and rob him; or to procure a conſtable to gain admittance in order to ſearch for traitors, and then to bind the conſtable and rob the houſe; all theſe entries have been adjudged burglarious, though there was no actual breaking: for the law will not ſuffer itſelf to be trifled with by ſuch evaſions, eſpecially under the cloak of legal proceſs. As for the *entry*, any the leaſt degree of it, with any part of the body, or with an inſtrument held in the hand, is ſufficient: as, to ſtep over the threſhold, to put a hand or hook in at a window to draw out goods, or a piſtol to demand one's money, are all of them burglarious entries. The entry may be before the breaking, as well as after; for by ſtatute 12 Anne c. 7. if a perſon enters into the dwelling houſe of another, without breaking in, either by day or by night, with an intent to commit felony, or, being in ſuch houſe, ſhall commit any felony; and ſhall in the night break out of the ſame; this is declared to be burglary.

4. As to the *intent*; it is clear that ſuch breaking and entry muſt be with a felonious intent, otherwiſe it is only a treſpaſs. And it is the ſame, whether ſuch intention be actually carried into execution, or only demonſtrated by ſome attempt or overt act, of which the jury is to judge.

Burglary is a felony at common law, but within the benefit of clergy. Burglary in any houſe belonging to the plate-glaſs company, with intent to ſteal the ſtock or utenſils, is by ſtatute 13 Geo. III. c. 38. declared to be ſingle felony, and puniſhed with tranſportation ſeven years.

BURGOMASTER, Burghermaster, *Bourgermeſter*, or *Burgmeſter*, the chief magiſtrate of the great towns in Flanders, Holland, and Germany. The power and juriſdiction of the burgomaſter is not the ſame in all places, every town having its particular cuſtoms and regulations: at Amſterdam there are four choſen by the voices of all thoſe people in the ſenate who have either been burgomaſters or echevins. They diſpoſe of all under offices that fall in their time, keep the key of the bank, and enjoy a ſalary but of 500 guildres; all feaſts, public entertainments, &c. being defrayed out of the common treaſury. The word is formed from the two Flemiſh words, *borger*, *burgeſs*, or *citizen*; and *meſter*, *maſter*. Some expreſs it in Latin by *conſul*, others by *ſenator*.—M. Bruneau obſerves, that *burghermaſter* in Holland, anſwers to what is called *alderman* and *ſheriff* in England, *attorney* at Compeigne, *capitoul* at Tholouſe, *conſul* at Languedoc, &c.

BURGOO, or Burgout, a ſea-faring diſh, made of whole oatmeal, or groats, boiled in water till they burſt; then mixed with butter. It is a cheap and ſtrengthening diet. Burgoo, otherwiſe called *loblolly*, is held by Cockburn very proper to correct that thickneſs of humours and coſtiveneſs to which the other diet of ſailors much diſpoſes them. Yet the burgoo victualling is the leaſt liked of all their proviſions, becauſe of the ſcanty allowance of butter to it. The ſame author thinks it might be worth the conſideration of thoſe to whom the care of the ſeamen is committed, to contrive to render this food more agreeable to them.

BURGOS, a city of Spain, the capital of Old Caſtile, with an archbiſhop's ſee, erected in 1574. It is ſurrounded with mountains, which render the air very cold nine months in the year, and the other three exceſſive hot. It is ſeated on the declivity of a hill, on the top of which there is a ſtrong caſtle, and the lower part of the town is watered by the river Alançon. The principal avenue to the city is by a handſome bridge over this river, which leads to a beautiful gate, adorned with the ſtatues of ſeveral kings of Spain. The town is large and populous; but the houſes are ill built, and the ſtreets are narrow and dirty, except ſome few, eſpecially that which leads to the cathedral. There are ſeveral ſquares, adorned with fountains and ſtatues. The great ſquare in the middle of the city is ſurrounded with fine houſes, with piazzas to each. The cathedral church is a maſter-piece of Gothic architecture, and one of the fineſt in all Spain. The church of the Auguſtines is remarkable for its beautiful and rich chapel of the holy crucifix. There are ſeveral fine convents and nunneries; one of which laſt contains 150 nuns, who muſt all be of noble extraction. They have likewiſe a royal hoſpital, very richly endowed; and at this place they ſpeak the beſt Caſtilian, that is, the pureſt Spaniſh in the kingdom. W. Long. 4. 7. N. Lat. 42. 20.

BURGUNDIONES, a part or branch of the Vindili or Wandili. Cluverius places them about the Warta, a river of Poland: though the conjectures on the ſeat of theſe people are doubtful; and no wonder, becauſe the Roman expeditions terminated at the Elbe. They afterwards removed to the Ciſalpin, Germany, and at length to Celtic Gaul, and gave name to the duchy and county of Burgundy.

BURGUNDY, a province or government of France. It contains, beſides the government of Burgundy, La Breſſe, La Bugy, and the diſtrict of Gex; having Champagne on the north, Lyonnois on the ſouth, Franche Comte on the eaſt, and Nivernois and Bourbonnois on the weſt. Its length from north to ſouth is about 45 leagues, and its breadth from eaſt to weſt about 30. It is very fertile in corn, wine, fruit, and tobacco; being watered by the Seine, the Dehune which falls into the Soane, the Brebince or Bourbince, the Armançon, the Oucke, and the Tille. There are ſome noted mineral ſprings in it, with ſubterraneous lakes, and plenty of ochre. For a long time it had dukes of its own, ſubordinate to the crown of France; but at laſt, Louis XI. upon the failure of the heirs male, ſeized upon it, and annexed it to his crown. The whole government lies within the juriſdiction of the parliament of Burgundy, except a ſmall part that is ſubject to that of Paris. The ſtates meet regularly every three years, to raiſe the money required of them by the court. The principal places are Dijon, Auxerre, Autun, Bourbon, L'Ancy, &c.

BURIAL, the interment of a deceaſed perſon.

The rites of burial are looked upon in all countries, and at all times, as a debt ſo ſacred, that ſuch as neglected to diſcharge it were thought accurſed: hence the Romans called them *juſta*, and the Greeks *νομιμα, δικαια, οσια*, words implying the inviolable obligations which nature has laid upon the living to take care of the obſequies of the dead. Nor are we to wonder, that the ancient Greeks and Romans were extremely ſolicitous about the interment of their deceaſed friends, ſince they were ſtrongly perſuaded, that their ſouls could not be admitted into the Elyſian fields till their bodies were committed to the earth; and if it happened that they never obtained the rites of burial, they were excluded from the happy manſions for the term of 100 years. For this reaſon it was conſidered as a duty incumbent upon all travellers, who ſhould meet with a dead body in their way, to caſt duſt or mould upon it three times; and of theſe three handfuls one at leaſt was caſt upon the head. The ancients likewiſe conſidered it as a great misfortune if they were not laid in the ſepulchres of their fathers; for which reaſon, ſuch as died in foreign countries had uſually their aſhes brought home, and interred with thoſe of their anceſtors. But notwithſtanding their great care in the burial of the dead, there were ſome perſons whom they thought unworthy of that laſt office, and to whom therefore they refuſed it: ſuch were, 1. Public or private enemies. 2. Such as betrayed or conſpired againſt their country. 3. Tyrants, who were always looked upon as enemies to their country. 4. Villains guilty of ſacrilege. 5. Such as died in debt, whoſe bodies belonged to their creditors. And, 6. Some particular offenders, who ſuffered capital puniſhment.

Of thoſe who were allowed the rites of burial, ſome were diſtinguiſhed by particular circumſtances of diſgrace attending their interment: thus perſons killed by lightning were buried apart by themſelves, being thought odious to the gods: thoſe who waſted their patrimony forfeited the right of being buried in the ſepulchres of their fathers: and thoſe who were guilty of ſelf-murder were privately depoſited in the ground, without the accuſtomed ſolemnities. Among the Jews, the privilege of burial was denied only to ſelf-murderers, who were thrown out to rot upon the ground. In the Chriſtian church, though good men always deſired the privilege of interment, yet they were not, like the heathens, ſo concerned for their bodies, as to think it any detriment to them, if either the barbarity of an enemy, or ſome other accident, deprived them of this privilege. The primitive Chriſtian Church denied the more ſolemn rites of burial only to unbaptized perſons, ſelf-murderers, and excommunicated perſons who continued obſtinate and impenitent, in a manifeſt contempt of the church's cenſures.

The place of burial among the Jews was never particularly determined. We find they had graves in the town and country, upon the highways, in gardens, and upon mountains. Among the Greeks, the temples were made repoſitories for the dead in the primitive ages; yet the general cuſtom in latter ages, with them, as well as with the Romans and other heathen nations, was to bury their dead without their cities, and chiefly by the highways. Among the primitive Chriſtians, burying in cities was not allowed for the firſt 300 years, nor in churches for many ages after, the dead bodies being firſt depoſited in the atrium or churchyard, and porches and porticos of the church: hereditary burying-places were forbidden till the 12th century. As to the time of burial, with all the ceremonies accompanying it, ſee the article *Funeral-Rites*.

BURICK, a town of Germany, in the circle of Weſtphalia, and duchy of Cleves, ſubject to the king of Pruſſia. It was taken by the French in 1672, who demoliſhed the fortifications. It is agreeably ſeated on the river Rhine, over-againſt Weſel, in E. Long. 6. 8. N. Lat. 51. 38.

BURIDAN (John), a native of Bethune, in Artois, was one of the moſt celebrated philoſophers of the 14th century. He taught in the univerſity of Paris with great reputation; and wrote commentaries on logic, morality, and Ariſtotle's metaphyſics. Aventinus relates, that he was a diſciple of Ockham; and that, being expelled Paris by the power of the Realiſts, which was ſuperior to that of the Nominaliſts, he went into Germany, where he founded the Univerſity of Vienna. From him came the proverb of the *aſs of Buridan*, ſo famous in the ſchools. Buridan ſuppoſed an hungry aſs fixed at an exactly equal diſtance between two buſhels of oats; or an aſs as much preſſed by thirſt as hunger, between a buſhel of oats and a pail of water, each of them acting equally on his ſenſes. Having made this ſuppoſition, he deſired to know what the aſs would do? If he was anſwered that he would remain immoveable, then he concluded he would die of hunger between two buſhels of oats, or of both hunger and thirſt, with both corn and water within his reach. This appeared abſurd, and brought the laugher on his ſide; but if it was replied, that the aſs would not be ſo ſtupid as to die of hunger or thirſt in ſuch a ſituation, Then (ſaid he), the aſs has free will, or is it poſſible that of two equal weights the one ſhould outweigh the other? Theſe two conſequences appeared equally abſurd; and thus Buridan, by this ſophiſm, perplexed the philoſophers, and his aſs became famous in the ſchools.

BURKITT (William), a celebrated commentator on the New Teſtament, was born at Hitcham in Northamptonſhire, July 25th 1650, and educated at Pembroke-hall, Cambridge. He entered young upon the miniſtry, being ordained by biſhop Reynolds: and the firſt employment which he had was at Milden in Suffolk, where he continued 21 years a conſtant preacher, firſt as a curate, and afterwards as rector of that church. In the year 1692, he had a call to the vicarage of Dedham in Eſſex, where he continued to the time of his death, which happened in the latter end of October 1703. He was a pious and charitable man. He made great collections for the French Proteſtants in the years 1687, &c. and by his great care, pains, and charges, procured a worthy miniſter to go and ſettle in Carolina. Among other charities, by his laſt will and teſtament, he bequeathed the houſe wherein he lived, with the lands thereunto belonging, to be an habitation for the lecturer that ſhould be choſen from time to time, to read the lecture at Dedham. Beſides his Commentary upon the New Teſtament, written in the ſame plain, practical and affectionate manner in which he preached, he wrote a volume entitled, *The poor man's help, and rich man's guide*.

BURLAW. See *By-Law*.

BURLEIGH. See Cecil.

BURLESQUE, a ſpecies of compoſition, which, though a great engine of ridicule, is not confined to that ſubject; for it is clearly diſtinguiſhable into burleſque that excites laughter merely, and burleſque that excites deriſion or ridicule. A grave ſubject, in which there is no impropriety, may be brought down by a certain colouring ſo as to be riſible, as in Virgil traveſtie; the author firſt laughs at every turn, in order to make his readers laugh. The Lutrin is a burleſque poem of the other ſort, laying hold of a low and trifling incident to expoſe the luxury, indolence, and contentious ſpirit of a ſet of monks. Boileau, the author, turns the ſubject into ridicule, by dreſſing it in the heroic ſtyle, and affecting to conſider it as of the utmoſt dignity and importance. Though ridicule is the poet's aim, he always carries a grave face, and never once betrays a ſmile. The oppoſition between the ſubject and the manner of handling it, is what produces the ridicule; and therefore, in a compoſition of this kind, no image profeſſedly ludicrous ought to have quarter, becauſe ſuch images deſtroy the contraſt.

Though the burleſque that aims at ridicule produces its effects by elevating the ſtyle far above the ſubject; yet the poet ought to confine himſelf to ſuch images as are lively, and readily apprehended. A ſtrained elevation, ſoaring above the ordinary reach of fancy, makes not a pleaſant impreſſion. The mind is ſoon diſguſted by being kept long on the ſtretch. Machinery may be employed in a burleſque poem, ſuch as the Lutrin, the Diſpenſary, or Hudibras, with more ſucceſs and propriety than in any other ſpecies of poetry. For burleſque poems, though they aſſume the air of hiſtory, give entertainment chiefly by their pleaſant and ludicrous pictures: it is not the aim of ſuch a poem to raiſe ſympathy; and for that reaſon, a ſtrict imitation of nature is not neceſſary. And hence, the more extravagant the machinery in a ludicrous poem, the more entertainment it affords.

BURLINGTON, in England, a ſea port town in the eaſt riding of Yorkſhire, ſituated on the German ocean, about 37 miles north-eaſt of York. E. Long. 0. 10. and N. Lat. 54. 15. It gave the title of *earl* to a branch of the noble family of Boyle, but the earldom is now extinct.

Morſe's Geography.

BURLINGTON, a city in the State of New-Jerſey, in North-America, capital of the county of the ſame name, extends three miles along the Delaware, and one mile back, at right angles, into the county of Burlington, and is twenty miles above Philadelphia by water, and ſeventeen by land. The iſland, which is the moſt populous part of the city, is a mile and a quarter in length, and three quarters of a mile in breadth. It has four entrances over bridges and cauſeways, and a quantity of bank meadow adjoining. On the iſland are one hundred and ſixty houſes, nine hundred white, and one hundred black inhabitants. But few of the negroes are ſlaves. The main ſtreets are conveniently ſpacious, and moſtly ornamented with trees in the fronts of the houſes, which are regularly arranged. The Delaware, oppoſite the town, is about a mile wide; and, under ſhelter of Mittinnicunk and Burlington iſlands, affords a ſafe and convenient harbour. It is commodiouſly ſituated for trade, but is too near the opulent city of Philadelphia to admit of any conſiderable increaſe. There are two houſes for public worſhip in the town, one for the Friends or Quakers, who are the moſt numerous, and one for Epiſcopalians. The other public buildings are two market houſes, a court-houſe, and the beſt gaol in the ſtate. Beſides theſe, there is an academy, a free ſchool, a nail manufactory, and an excellent diſtillery.

The city is a free port. The mayor, recorder, and aldermen hold a commercial court, when the matter in controverſy is between foreigners and foreigners, or between foreigners and citizens. The iſland of Burlington was laid out, and the firſt ſettlements made as early as 1677. In 1682, the iſland of Mittinnicunk, or Free-School iſland, was given for the uſe of the iſland of Burlington; the yearly profits ariſing from it (which amount to one hundred and eighty pounds) are appropriated for the education of poor children.

BURMAN (Francis), a Proteſtant miniſter, and learned profeſſor of divinity at Utrecht, was born at Leyden in 1628; and died on the 10th of November 1679, after having publiſhed a courſe of divinity, and ſeveral other works.

He is not to be confounded with *Francis Burman*, his ſon; or with *Peter Burman*, a laborious commentator on Phædrus, Lucan, Petronius, and other profane authors, who died in 1741.

BURN, in medicine and ſurgery, an injury received in any part of the body by fire. See SURGERY.

BURNET (Gilbert), biſhop of Saliſbury in the latter end of the 16th century, was born at Edinburgh, in 1643, of an ancient family in the ſhire of Aberdeen. His father being bred to the law, was, at the reſtoration of king Charles II. appointed one of the lords of ſeſſion, with the title of *lord Crimond*, in reward for his conſtant attachment to the royal party during the troubles of Great-Britain. Our author, the youngeſt ſon of his father, was inſtructed by him in the Latin tongue: at ten years of age he was ſent to continue his ſtudies at Aberdeen, and was admitted M. A. before he was 14. His own inclination led him to the ſtudy of the civil and feudal law; and he uſed to ſay, that it was from this ſtudy he had received more juſt notions concerning the foundations of civil ſociety and government, than thoſe which ſome divines maintain. About a year after, he changed his mind, and began to apply to divinity, to the great ſatisfaction of his father. He was admitted preacher before he was 18; and Sir Alexander Burnet, his couſin-german offered him a benefice; but he refuſed to accept of it.

In 1663, about two years after the death of his father, he came into England; and after ſix months ſtay at Oxford and Cambridge, returned to Scotland; which he ſoon left again to make a tour for ſome months, in 1664, in Holland and France. At Amſterdam, by the help of a Jewiſh rabbi, he perfected himſelf in the Hebrew language; and likewiſe became acquainted with the leading men of the different perſuaſions tolerated in that country; as Calviniſts, Arminians, Lutherans, Anabaptiſts, Browniſts, Papiſts, and Unitarians; amongſt each of which he uſed frequently to declare, he met with men of ſuch unfeigned piety and virtue, that he became fixed in a ſtrong principle of univerſal charity, and an invincible abhorrence of all ſeverities on account of religious diſſenſions.

Upon his return from his travels, he was admitted miniſter of Salton; in which ſtation he ſerved five years in the moſt exemplary manner. He drew up a memorial, in which he took notice of the principal errors in the conduct of the Scots biſhops, which he obſerved not to be conformable to the primitive inſtitution; and ſent a copy of it to ſeveral of them. This expoſed him to their reſentments: but, to ſhow he was not actuated with a ſpirit of ambition, he led a retired courſe of life for two years; which ſo endangered his health, that he was obliged to abate his exceſſive application to ſtudy. In 1669, he publiſhed his "Modeſt and free conference between a conformiſt and nonconformiſt." He became acquainted with the dutcheſs of Hamilton, who communicated to him all the papers belonging to her father and uncle; upon which he drew up the "Memoirs of the dukes of Hamilton." The duke of Lauderdale, hearing he was about this work, invited him to London, and introduced him to king Charles II. He returned to Scotland, and married the lady Margaret Kennedy, daugher of the earl of Caſſilis; a lady of great piety and knowledge, highly eſteemed by the Preſbyterians, to whoſe ſentiments ſhe was ſtrongly inclined. As there was ſome diſparity in their ages, that it might remain paſt diſpute that this match was wholly owing to inclination, and not to avarice or ambition, the day before their marriage our author delivered the lady a deed, whereby he renounced all pretenſions to her fortune, which was very conſiderable, and muſt otherwiſe have fallen into his hands, ſhe herſelf having no intention to ſecure it. The ſame year he publiſhed his "Vindication of the authority, conſtitution and laws of the church and ſtate of Scotland;" which at that juncture was looked upon as ſo great a ſervice, that he was again offered a biſhopric, and a promiſe of the next vacant archbiſhopric; but did not accept of it, becauſe he could not approve of the meaſures of the court, the grand view of which he ſaw to be the advancement of popery.

Mr Burnet's intimacy with the dukes of Hamilton and Lauderdale occaſioned him to be frequently ſent for by the king and the duke of York, who had converſations with him in private. But Lauderdale conceiving a reſentment againſt him on account of the freedom with which he ſpoke to him, repreſented at laſt to the king, that Dr Burnet was engaged in an oppoſition to his meaſures. Upon his return to London he perceived that theſe ſuggeſtions had entirely thrown him out of the king's favour, though the duke of York treated him with greater civility than ever, and diſſuaded him from going to Scotland. Upon this, he reſigned his profeſſorſhip at Glaſgow, and ſtaid at London. About this time the living at Cripple-gate being vacant the dean and chapter of St Paul's (in whoſe gift it was), hearing of his circumſtances, and the hardſhip he had undergone, ſent him an offer of the benefice; but as he had been informed of their firſt intention of conferring it on Dr Fowler, he generouſly declined it. In 1675, at the recommendation of lord Hollis, whom he had known in France, ambaſſador at that court, he was, by Sir Herbottle Grimſtone, maſter of the rolls, appointed preacher of the chapel there, notwithſtanding the oppoſition of the court. He was ſoon after choſen a lecturer of St Clement's, and became one of the preachers that were moſt followed in town. In 1697, he publiſhed his *Hiſtory of the reformation*, for which he had the thanks of both houſes of parliament. The firſt part of it was publiſhed in 1679, and the ſecond in 1681. Next year he publiſhed an abridgement of theſe two parts.

Mr Burnet about this time happened to be ſent for to a woman in ſickneſs, who had been engaged in an amour with the earl of Rocheſter. The manner in which he treated her during her illneſs, gave that lord a great curioſity for being acquainted with him. Whereupon, for a whole winter, he ſpent one evening in a week with Dr Burnet, who diſcourſed with him upon all thoſe topics upon which ſceptics and men of looſe morals attack the Chriſtian religion. The happy effect of theſe conferences occaſioned the publication of his account of the life and death of that earl. In 1682, when the adminiſtration was changed in favour of the duke of York, being much reſorted to by perſons of all ranks and parties, in order to avoid returning viſits, he built a laboratory, and went for above a year through a courſe of chemical experiments. Not long after he refuſed a living of 300l. a-year offered him by the earl of Eſſex, on the terms of his not reſiding there but in London. When the inquiry concerning the popiſh plot was on foot, he was frequently ſent for and conſulted by king Charles with relation to the ſtate of the nation. His majeſty offered him the biſhopric of Chicheſter, then vacant, if he would engage in his intereſts; but he refuſed to accept it on theſe terms. He preached at the Rolls till 1684, when he was diſmiſſed by order of the court. About this time he publiſhed ſeveral pieces.

On king James's acceſſion to the throne, having obtained leave to go out of the kingdom, he firſt went to Paris, and lived in great retirement, till contracting an acquaintance with brigadier Stouppe, a Proteſtant gentleman in the French ſervice, he made a tour with him into Italy. He met with an agreeable reception at Rome. Pope Innocent II. hearing of our author's arrival, ſent the captain of the Swiſs guards to acquaint him he would give him a private audience in bed, to avoid the ceremony of kiſſing his holineſs's ſlipper. But Dr Burnet excuſed himſelf as well as he could. Some diputes which our author had here concerning religion beginning to be taken notice of, made it proper for him to quit the city; which, upon an intimation given him by prince Borgheſe, he accordingly did.

He purſued his travels through Switzerland and Germany. In 1688, he came to Utrecht, with an intention to ſettle in ſome of the ſeven provinces. There he received an invitation from the prince and princeſs of Orange (to whom their party in England had recommended him) to come to the Hague, which, he accepted. He was ſoon made acquainted with the ſecret of their counſels, and adviſed the fitting out of a fleet in Holland ſufficient to ſupport their deſigns and encourage their friends. This, and the *Account of his travels*, in which he endeavoured to blend Popery and tyranny together, and repreſent them as inſeparable, with ſome papers reflecting on the proceedings of England, that came out in ſingle ſheets, and were diſperſed in ſeveral parts of England, moſt of which Mr Burnet owned himſelf the author of, alarmed king James; and were the occaſion of his writing twice againſt him to the princeſs of Orange, and inſiſting, by his ambaſſador, on his being forbid the court; which, after much importunity, was done, though he continued to be truſted, and employed as before, the Dutch miniſter conſulting him daily. To put an end to theſe frequent conferences with the miniſters, a proſecution for high treaſon was ſet on foot againſt him both in England and Scotland. But Burnet receiving the news thereof before it arrived at the States he avoided the ſtorm, by petitioning for, and obtaining without any difficulty, a bill of naturalization, in order to his intended marriage with Mary Scot, a Dutch lady of conſiderable fortune, who, with the advantage of birth, had thoſe of a fine perſon and underſtanding.

After his marriage with this lady, being legally under the protection of Holland, when Mr Burnet found king James plainly ſubverting the conſtitution, he omitted no method to ſupport and promote the deſign the prince of Orange had formed of delivering Great Britain, and came over with him in quality of chaplain. He was ſoon advanced to the ſee of Sailſbury. He declared for moderate meaſures with regard to the clergy who ſcrupled to take the oaths, and many were diſpleaſed with him for declaring for the toleration of nonconformiſts. His paſtoral letter concerning the oaths of allegiance and ſupremacy to king William and queen Mary, 1689, happening to touch upon the right of conqueſt, gave ſuch offence to both houſes of parliament, that it was ordered to be burnt by the hands of the common executioner. In 1698, he loſt his wife by the ſmall-pox; and, as he was almoſt immediately after appointed preceptor to the duke of Glouceſter, in whoſe education he took great care, this employment, and the tender age of his children, induced him the ſame year to ſupply her loſs by a marriage with Mrs Berkely, eldeſt daughter of Sir Richard Blake, knight. In 1699 he publiſhed his Expoſition of the 39 articles; which occaſioned a repreſentation againſt him in the lower houſe of convocation in the year 1701; but he was vindicated by the upper houſe. His ſpeech in the houſe of lords in 1704 againſt the bill to prevent occaſional conformity was ſeverely attacked. He died in 1715, and was interred in the church of St James, Clerkenwell, where he has a monument erected to him. He formed a ſcheme for augmenting the poor livings; which he preſſed forward with ſuch ſucceſs, that it ended in an act of parliament paſſed in the 2d year of queen Anne, "for the augmentation of the livings of the poor clergy."

Burnet (Thomas), a polite and learned writer in the end of the 17th century, was born in Scotland, but educated in Cambridge under the tuition of Mr John Tillotſon, afterwards archbiſhop of Canterbury. In the beginning of 1685, he was made maſter of Sutton's hoſpital in London, after which he entered into holy orders. During the reign of king James, he made a noble ſtand in his poſt as maſter of the charter-houſe againſt the encroachments of that monarch, who would have impoſed one Andrew Popham, a Papiſt, as a penſioner upon the foundation of that houſe. In 1680 he publiſhed his *Telluris theoria ſacra*, ſo univerſally admired for the purity of the ſtyle and beauty of the ſentiments, that king Charles gave encouragement to a tranſlation of it into Engliſh. This theory was however attacked by ſeveral writers. In 1692 he publiſhed his *Archæologia philoſophica*, dedicated to king William, to whom he was clerk of the cloſet. He died in 1715. Since his death hath been publiſhed, his book *De ſtatu mortuorum et reſurgentium*, and his treatiſe *De fide et officiis Chriſtianorum*.

Burnet, in botany. See Poterium and Sanguisorba.

BURNHAM, a market town of Norfolk in England, ſituated in E. Long. 0. 50. N. Lat. 53. 0.

BURNING, the action of fire on ſome pabulum or fuel, by which the minute parts thereof are put into a violent motion, and ſome of them aſſuming the nature of fire themſelves, fly off *in orbem*, while the reſt are diſſipated in form of vapour or reduced to aſhes. See Ignition.

Extraordinary Caſes of Burning. We have inſtances of perſons burnt by fire kindled within their own bodies. A woman at Paris, who uſed to drink brandy to exceſs, was one night reduced to aſhes by a fire from within, all but her head and the ends of her fingers. Signora Corn. Zangari, or, as others call her, *Corn. Bandi*, an aged lady, of an unblemiſhed life, near Ceſena in Romagna, underwent the ſame fate in March 1731. She had retired in the evening into her chamber ſomewhat indiſpoſed; and in the morning was found in the middle of the room reduced to aſhes, all except her face, legs, ſkull, and three fingers. The ſtockings and ſhoes ſhe had on were not burnt in the leaſt. The aſhes were light; and, on preſſing between the fingers, vaniſhed, leaving behind a groſs ſtinking moiſture with which the floor was ſmeared; the walls and furniture of the room being covered with a moiſt cineritious ſoot, which had not only ſtained the linen in the cheſts, but had penetrated into the cloſet, as well as into the room overhead, the walls of which were moiſtened with the ſame viſcous humour.—We have various other relations of perſons burnt to death in this unaccountable manner.

Sig. Mondini, Bianchini, and Maffei, have written treatiſes expreſs to account for the cauſe of ſo extraordinary an event: common fire it could not be, ſince this would likewiſe have burnt the bed and the room; beſides that it would have required many hours, and a vaſt quantity of fuel, to reduce a human body to aſhes; and, after all, a conſiderable part of the bones would have remained entire, as they were anciently found after the fierceſt funeral fires. Some attribute the effect to a mine of ſulphur under the houſe; others, to a miracle; while others ſuſpect that art or villany had a hand in it. A philoſopher of Verona maintains, that ſuch a conflagration might have ariſen from the inflammable matters wherewith the human body naturally abounds. Sig. Bianchini accounts for the conflagration of the lady abovementioned, from her uſing a bath or lotion of camphorated ſpirit of wine when ſhe found herſelf out of order. Maffei ſuppoſes it owing to lightning, but to lightning generated in her own body, agreeable to his doctrine, which is, That lightning does not proceed from the clouds, but is always produced in the place where it is ſeen and its effects perceived. We have had a late attempt to eſtabliſh the opinion, that theſe deſtroying internal fires are cauſed in the entrails of the body by inflamed effluvia of the blood; by juices and fermentations in the ſtomach; by the many combuſtible matters which abound in living bodies for the purpoſes of life; and, finally, by the fiery evaporations which exhale from the ſettlings of ſpirit of wine, brandies, and other hot liquors, in the tunica villoſa of the ſtomach and other adipoſe or fat membranes; within which thoſe ſpirits engender a kind of camphor, which in the night-time, in ſleep, by a full reſpiration, are put in a ſtronger motion, and are more apt to be ſet on fire. Others aſcribe the cauſe of ſuch perſons being ſet on fire to lightning; and their burning ſo entirely, to the greater quantity of phoſphorus and other combuſtible matter they contained.—For our own part, we can by no means pretend to explain the cauſe of ſuch a phenomenon: but for the intereſts of humanity we wiſh it could be derived from ſomething external to the human body; for if, to the calamities of human life already known, we ſuperadd a ſuſpicion that we may unexpectedly and without the leaſt warning be conſumed by an *internal* fire, the thought is too dreadful to be borne.

Burning, or *Brenning*, in old cuſtoms, denotes an infectious diſeaſe, got in the ſtews by converſing with lewd women, and ſuppoſed to be the ſame with what we now call the *veneral diſeaſe*.

In a manuſcript of the vocation of John Bale to the biſhopric of Oſſory, written by himſelf, he ſpeaks of Dr Hugh Weſton, who was dean of Windſor in 1556, but deprived by cardinal Pole for adultery, thus: "At this day is leacherous Weſton, who is more practiſed in the arts of breech-burning, than all the whores of the ſtews. He not long ago brent a beggar of St Botolph's pariſh." See Stews.

Burning, in antiquity, a way of diſpoſing of the dead much practiſed by the ancient Greeks and Romans, and ſtill retained by ſeveral nations in the Eaſt and Weſt-Indies. The antiquity of this cuſtom riſes as high as the Theban war, where we are told of the great ſolemnity accompanying this ceremony at the pyre of Menæceus and Archemorus, who were cotemporary with Jair the eighth judge of Iſrael. Homer abounds with funeral obſequies of this nature. In the inward regions of Aſia, the practice was of very ancient date, and the continuance long: for we are told, that, in the reign of Julian, the king of Chionia burnt his ſon's body, and depoſited the aſhes in a ſilver urn. Coeval almoſt with the firſt inſtances of this kind in the eaſt, was the practice in the weſtern parts of the world. The Herulians, the Getes, and the Thracians, had all along obſerved it; and its antiquity was as great with the Celtæ, Sarmatians, and other neighbouring nations. The origin of this cuſtom ſeems to have been out of friendſhip to the deceaſed: their aſhes were preſerved as we preſerve a lock of hair, a ring, or a ſeal, which had been the property of a deceaſed friend.

Kings were burnt in cloth made of the aſbeſtos ſtone, that their aſhes might be preſerved pure from any mixture with the fuel and other matters thrown on the funeral pile. The ſame method is ſtill obſerved with the princes of Tartary. Among the Greeks, the body was placed on the top of a pile, on which were thrown divers animals, and even ſlaves and captives, beſides unguents and perfumes. In the funeral of Patroclus we find a number of ſheep and oxen thrown in, then four horſes, followed by two dogs, and laſtly by 12 Trojan priſoners. The like is mentioned by Virgil in the funerals of his Trojans; where, beſides oxen, ſwine, and all manner of cattle, we find eight youths condemned to the flames. The firſt thing was the fat of the beaſts wherewith the body was covered, that it might conſume the ſooner; it being reckoned great felicity to be quickly reduced to aſhes. For the like reaſon, where numbers were to be burnt at the ſame time, care was taken to mix with the reſt ſome of humid conſtitutions, and therefore more eaſily to be inflamed. Thus we are aſſured by Plutarch and Macrobius, that for every ten men it was cuſtomary to put in one woman. Soldiers uſually had their arms burnt with them. The garments worn by the living were alſo thrown on the pile, with other ornaments and preſents; a piece of extravagance which the Athenians carried to ſo great a height, that ſome of the law-givers were forced to reſtrain them, by ſevere penalties, from defrauding the living by their liberality to the dead.—In ſome caſes, burning was expreſsly forbid among the Romans, and even looked upon as the higheſt impiety. Thus infants, who died before the breeding of teeth, were intombed unburnt in the ground, in a particular place ſet apart for this purpoſe, called *ſuggrundarium*. The like was practiſed with regard to thoſe who had been ſtruck dead with lightning, who were never to be burnt again. Some ſay that burning was denied to ſuicides.—The manner of burning among the Romans was not unlike that of the Greeks: the corpſe, being brought out without the city, was carried directly to the place appointed for burning it; which, if it joined to the ſepulchre, was called *buſtum*; if ſeparate from it, *uſtrina*; and there laid on the *rogus* or *pyra*, a pile of wood prepared on which to burn it, built in ſhape of an altar, but of different height according to the quality of the deceaſed. The wood uſed was commonly from ſuch trees as contain moſt pitch or roſin; and if any other were uſed, they ſplit it for the more eaſy catching fire: round the pile they ſet cypreſs trees, probably to hinder the noiſome ſmell of the corpſe. The body was not placed on the bare pile, but on the couch or bed whereon it lay. This done, the next of blood performed the ceremony of lighting the pile; which they did with a torch, turning their faces all the while the other way, as if it were done with reluctance. During the ceremony, decurſions and games were celebrated; after which came the *oſſilegium*, or gathering of the bones and aſhes; alſo waſhing and anointing them, and repoſiting them in urns.

Burning, among ſurgeons, denotes the application of an actual cautery, that is, a red-hot iron inſtrument, to the part affected; otherwiſe denominated *cauterization*.—The whole art of phyſic among the Japaneſe lies in the choice of places proper to be burnt; which are varied according to the diſeaſe. In the country of the Mogul, the colic is cured by an iron ring applied red-hot about the patient's navel. Certain it is, that ſome very extraordinary cures have been performed accidentally by burning. The following caſe is recorded in the Memoires of the academy of ſciences by M. Homberg. A woman of about 35 became ſubject to a headach, which at times was ſo violent, that it drove her out of her ſenſes, making her ſometimes ſtupid and fooliſh, at other times raving and furious. The ſeat of the pain was in the forehead, and over the eyes, which were inflamed, and looked violently red and ſparkling; and the moſt violent fits of it were attended with nauſeas and vomitings. In the times of the fits, ſhe could take no food; but, out of them, had a very good ſtomach. Mr Homberg had in vain attempted her cure for three years with all kinds of medicine: only opium ſucceeded; and that but little, all its effect being only the taking off the pain for a few hours. The redneſs of her eyes was always the ſign of an approaching fit. One night, feeling a fit coming on, ſhe went to lie down upon the bed; but firſt walked up to the glaſs with the candle in her hand, to ſee how her eyes looked: in obſerving this, the candle ſet fire to her cap; and as ſhe was alone, her head was terribly burnt before the fire could be extinguiſhed. Mr Homberg was ſent for, and ordered bleeding and proper dreſſings: but it was perceived, that the expected fit this night never came on; the pain of the burning wore off by degrees; and the patient found herſelf from that hour cured of the head-ach, which had never returned in four years after, which was the time when the account was communicated.—Another caſe, not leſs remarkable than the former, was communicated to Mr Homberg by a phyſician at Bruges. A woman, who for ſeveral years had her legs and thighs ſwelled in an extraordinary manner, found ſome relief from rubbing them before the fire with brandy every morning and evening. One evening the fire chanced to catch the brandy ſhe had rubbed herſelf with, and ſlightly burnt her. She applied ſome brandy to her burn; and in the night all the water her legs and thighs were ſwelled with was entirely diſcharged by urine, and the ſwelling did not again return.

BURNING Buſh. See BUSH.

BURNING Glaſs, a convex glaſs commonly ſpherical, which being expoſed directly to the ſun, collects all the rays falling thereon into a very ſmall ſpace called the *focus*; where wood or any other combuſtible mattter being put, will be ſet on fire. The term *burning-glaſs* is alſo uſed to denote thoſe concave mirrors, whether compoſed of glaſs quick-ſilver, or of metalline matters, which burn by reflection, condenſing the ſun's rays into a focus ſimilar to the former.

The uſe of burning-glaſſes appears to have been very ancient. Diodorus Siculus, Lucian, Dion, Zonaras, Galen, Anthemius, Euſtathius, Tzetzes, and others, atteſt, that by means of them Archimedes ſet fire to the Roman fleet at the ſiege of Syracuſe. Tzetzes is ſo particular in his account of this matter, that his deſcription ſuggeſted to Kircher the method by which it was probably accompliſhed. That author ſays, that "Archimedes ſet fire to Marcellus's navy, by means of a burning-glaſs compoſed of ſmall ſquare mirrors, moving every way upon hinges; which, when placed in the ſun's rays, directed them upon the Roman fleet, ſo as to reduce it to aſhes at the diſtance of a bow-ſhot." A very particular teſtimony we have alſo from Anthemius of Lydia, who takes pains to prove the poſſibility of ſetting fire to a fleet, or any other combuſtible body, at ſuch a diſtance.

That the ancients were alſo acquainted with the uſe of catoptric or refracting burning-glaſſes, appears from a paſſage in Ariſtophanes's comedy of the clouds, which clearly treats of their effects. The author introduces Socrates as examining Strepſiades about the method he had diſcovered of getting clear of his debts. He replies, that "he thought of making uſe of a burning-glaſs which he had hitherto uſed in kindling his fire;" "for (ſays he) ſhould they bring a writ againſt me, I'll immediately place my glaſs in the ſun at ſome little diſtance from it, and ſet it on fire." Pliny and Lactantius have alſo ſpoken of glaſſes that burnt by refraction. The former calls them *balls* or *globes of glaſs* or *cryſtal*, which, expoſed to the ſun, tranſmit a heat ſufficient to ſet fire to cloth, or corrode the dead fleſh of thoſe patients who ſtand in need of cauſtics; and the latter, after Clemens Alexandrinus, takes notice that fire may be kindled by interpoſing glaſſes filled with water between the ſun and the object, ſo as to tranſmit the rays to it.

It ſeems difficult to conceive how they ſhould know ſuch glaſſes would burn without knowing they would magnify, which it is granted they did not, till towards the cloſe of the 13th century, when ſpectacles were firſt thought on. For as to thoſe paſſages in Plautus which ſeem to intimate the knowledge of ſpectacles, M. de la Hire obſerves, they do not prove any ſuch thing; and he ſolves this, by obſerving, that their burning-glaſſes being ſpheres, either ſolid or full of water, their foci would be one-fourth of their diameter diſtant from them. If then their diameter were ſuppoſed half a foot, which is the moſt we can allow, an object muſt be at an inch and a half diſtance to perceive it magnified; thoſe at greater diſtances do not appear greater, but only more confuſed through the glaſs than out of it. It is no wonder, therefore, the magnifying property of convex glaſſes was unknown, and the burning one known. It is more wonderful their ſhould be 300 years between the invention of ſpectacles and teleſcopes.

Among the ancients, the burning mirrors of Archimedes and Proclus are famous: the former we have already taken notice of; by the other, the navy of Vitellius beſieging Byzantium, according to Zonaras, was burnt to aſhes.

Among the moderns, the moſt remarkable burning mirrors are thoſe of Settala, of Villette, of Tſchirnhauſen, of Buffon, of Trudaine, and of Parker.

Settala, canon of Padua, made a parabolic mirror, which, according to Schottus, burnt pieces of wood at the diſtance of 15 or 16 paces. The following things are noted of it in the *Acta Eruditorum*. 1. Green wood takes fire inſtantaneouſly, ſo as a ſtrong wind cannot extinguiſh it. 2. Water boils immediately; and eggs in it are preſently edible. 3. A mixture of tin and lead, three inches thick, drops preſently; and iron and ſteel plate becomes red-hot preſently, and a little after burns into holes. 4. Things not capable of melting, as ſtones, bricks, &c. become ſoon red-hot, like iron. 5. Slate becomes firſt white, then a black glaſs. 6. Tiles are converted into a yellow glaſs, and ſhells into a blackiſh yellow one. 7. A pumice ſtone emitted from a volcano, melts into white glaſs; and, 8. A piece of crucible alſo vitrifies in eight minutes. 9. Bones are ſoon turned into an opaque glaſs, and earth into a black one. The breadth of this mirror is near three Leipſic ells, its focus two ells from it; it is made of copper, and its ſubſtance is not above double the thickneſs of the back of a knife.

Villette, a French artiſt of Lyons, made a large mirror, which was bought by Tavernier, and preſented to the king of Perſia; a ſecond, bought by the king of Denmark; a third, preſented by the French king to the royal academy; a fourth has been in England, where it was publicly expoſed. The effects hereof, as found by Dr Harris and Dr Deſaguliers, are that a ſilver ſixpence is melted in 7″ and $\frac{1}{2}$; a king George's halfpenny in 16″ and runs with a hole in 34. Tin melts in 3″, caſt iron in 16″, ſlate in 3″; a foſſil ſhell calcines in 7″; a piece of Pompey's pillar at Alexandria vitrifies the black part in 50″, the white in 54″; copper ore in 8″; bone calcines in 4″, vitrifies in 33. An emerald melts into a ſubſtance like a torquois ſtone; a diamond weighing four grains loſes $\frac{7}{8}$ of its weight: the aſbeſtos vitrifies, as all other bodies will do, if kept long enough in the focus; but when once vitrified, the mirror can go no farther with them. This mirror is 47 inches wide, and is ground to a ſphere of 76 inches radius; ſo that its focus is about 38 inches from the vertex. Its ſubſtance is a compoſition of tin, copper, and tin-glaſs.

Every lens, whether convex, plano-convex, or convexo-convex, collects the ſun's rays, diſperſed over its convexity, into a point by refraction; and is therefore a burning-glaſs. The moſt conſiderable of this kind is that made by M. de Tſchirnhauſen: the diameters of his lenſes are three and four feet, the focus at the diſtance of 12 feet, and its diameter, an inch and a half. To make the focus the more vivid, it is collected a ſecond time by a ſecond lens parallel to the firſt, and placed in that point where the diameter of the cone of rays formed by the firſt lens is equal to the diameter of the ſecond; ſo that it receives them all; and the focus, from an inch and a half, is contracted into the ſpace of eight lines, and its force increaſed proportionably.

This glaſs vitrifies tiles, ſlates, pumice-ſtones, &c. in a moment. It melts ſulphur, pitch, and all roſins, under water; the aſhes of vegetables, woods, and other matters, are tranſmuted into glaſs; and every thing applied to its focus is either melted, turned into a calx, or into ſmoke. Tſchirnhauſen obſerves, that it ſucceeds beſt when the matter applied is laid on a hard charcoal well burnt.

Sir Iſaac Newton preſented a burning-glaſs to the royal ſociety, conſiſting of ſeven concave glaſſes, ſo placed, as that all their foci join in one phyſical point. Each glaſs is about 11 inches and a half in diameter: ſix of them are placed round the ſeventh, to which they are all contiguous; and they form a kind of ſegment of a ſphere, whoſe ſubtenſe is about 34 inches and a half, and the central glaſs lies about an inch farther in than the reſt. The common focus is about 22 inches and a half diſtant, and about an inch in diameter. This glaſs vitrifies brick or tile in 1″, and melts gold in 30″.

It would appear, however, that glaſs quickſilvered is a more proper material for burning-glaſſes than metals; for the effects of that ſpeculum wherewith Mr Macquer melted the platina, ſeem to have been ſuperior to thoſe abovementioned, though the mirror itſelf was much ſmaller. The diameter of this glaſs was only 22 inches, and its focal diſtance 28. Black flint, when expoſed to the focus, being powdered to prevent its crackling and flying about, and ſecured in a large piece of charcoal, bubbled up and ran into tranſparent glaſs in leſs than half a minute. Heſſian crucibles, and glaſs-houſe pots, vitrified completely in three or four ſeconds. Forged iron ſmoked, boiled, and changed into a vitreſcent ſcoria as ſoon as it was expoſed to the focus. The gypſum of Montmartre, when the flat ſides of the plates or leaves of which it is compoſed were preſented to the glaſs, did not ſhow the leaſt diſpoſition to melt; but, on preſenting a tranſverſe ſection of it, or the edges of the plates, it melted in an inſtant, with a hiſſing noiſe, into a browniſh yellow matter. Calcareous ſtones did not completely melt: but there was detached from them a circle more compact than the reſt of the maſs, and of the ſize of the focus; the ſeparation of which ſeemed to be occaſioned by the ſhrinking of the matter which had begun to enter into fuſion. The white calx of antimony, commonly called *diaphoretic antimony*, melted better than the calcareous ſtones, and changed into an opaque pretty gloſſy ſubſtance like white enamel. It was obſerved, that the whiteneſs of the calcareous ſtones and the antimonial calx was of great diſadvantage to their fuſion, by reaſon of their reflecting great part of the ſun's rays; ſo that the ſubject could not undergo the full activity of the heat thrown upon it by the burning-glaſs. The caſe was the ſame with metallic bodies, which melted ſo much the more difficultly as they were more white and poliſhed; and this difference was ſo remarkable, that in the focus of this mirror, ſo fuſible a metal as ſilver, when its ſurface was poliſhed, did not melt at all.

Plate CIX.

Plate CIX. fig. 3. repreſents M. Buffon's burning mirror, which he with great reaſon ſuppoſes to be of the ſame nature with that of Archimedes. It conſiſts of a number of ſmall mirrors of glaſs quickſilvered, all of which are held together by an iron frame. Each of theſe ſmall mirrors is alſo moveable by a contrivance on the back part of the frame, that ſo their reflections may all coincide in one point. By this means they are capable of being accommodated to various heights of the ſun, and to different diſtances. The adjuſting them in this manner takes up a conſiderable time; but after they are ſo adjuſted, the focus will continue unaltered for an hour or more.

Fig. 4. repreſents a contrivance of M. Buffon's for diminiſhing the thickneſs of very large refracting lenſes. He obſerves, that in large lenſes of this kind, and which are moſt convenient for many purpoſes, the thickneſs of the glaſs in the middle is ſo great, as very much to diminiſh their force. For this reaſon he propoſes to form a burning-glaſs of concentric circular pieces of glaſs, each reſting upon the other, as repreſented in the figure. His method is to divide the convex arch of the lens into three equal parts. Thus, ſuppoſe the diameter to be 26 inches, and the thickneſs in the middle to be three inches: By dividing the lens into three concentric circles, and laying the one over the other, the thickneſs of the middle piece needs be only one inch; at the ſame time that the lens will have the ſame convexity, and almoſt the ſame focal diſtance, as in the other caſe; while the effects of it muſt be much greater, on account of the greater thinneſs of the glaſs.

M. Trudaine, a French gentleman, conſtructed a burning lens on a new principle. It was compoſed of two circular ſegments of glaſs ſpheres, each four feet in diameter, applied with their concave ſides towards each other. The cavity was filled with ſpirit of wine, of which it contained 40 pints. It was preſented by the maker to the royal academy of ſciences, but was, not long after, broken by accident. The expence of conſtructing it amounted to about 1000l. ſterling. After all, it does not appear that the effects of this lens were very great. Mr Magellan informs us, that it could only coagulate the particles of platina in 20 minutes, while Mr Parker's lens entirely melted them in leſs than two.

A large burning lens, indeed, for the purpoſe of fuſing and vitrifying ſuch ſubſtances as reſiſt the fires of ordinary furnaces, and eſpecially for the application of heat in vacuo, and in other circumſtances in which heat cannot be applied by any other means, has long been a deſideratum among perſons concerned in philoſophical experiments: And it appears now to be in a great degree accompliſhed by Mr Parker. His lens is three feet in diameter, made of flint glaſs, and which, when fixed in its frame, expoſes a ſurface two feet eight inches and a half in the clear.

Plate CX. In the *Elevation* repreſented on the plate, A is the lens of the diameter mentioned: thickneſs in the centre, 3 inches and one fourth: weight, 212 pounds: length of the focus, 6 feet 8 inches; diameter of ditto, 1 inch. B, a ſecond lens, whoſe diameter in the frame is 16 inches, and ſhows in the clear 13 inches: thickneſs in the centre, 1 inch five-eighths: weight 21 pounds: length of focus, 29 inches: diameter of ditto, three-eighths of an inch. When the two above lenſes are compounded together, the length of the focus is 5 feet 3 inches; diameter of ditto, half an inch. C, a truncated cone, compoſed of 21 ribs of wood; at the larger end is fixed the great lens A, at the ſmaller extremity the leſſer lens B: near the ſmaller end is alſo fixed a rack, D, paſſing through the pillar L, moveable by a pinion turning in the ſaid pillar, by means of the handle E, and thus giving a vertical motion to the machine. F, a bar of wood, fixed between the two lower ribs of the cone at G; having, within a chaced mortice in which it moves, an apparatus, H, with the iron plate, I, fixed thereto; and this part turning on a ball and ſocket, K, a method is thereby obtained of placing the matter under experiment, ſo as to be acted upon by the focal rays in the moſt direct and powerful manner. L, L, a ſtrong mahogany frame, moving on caſtors, M M. Immediately under the table N are three friction wheels, by which the machine moves horizontally. O, a ſtrong iron bow, in which the lens and the cone hang.

Section. a, The great lens marked A in the elevation. b, The frame which contains the lens. c, The ſmall lens marked B. d, The frame which contains the ſmall lens. e, The truncated cone, marked C. f, The bar on which the apparatus marked F moves. g, The iron plate marked I. h, The cone of rays formed by the refraction of the great lens a, and falling on the lens c. i, The cone of rays formed by the refraction of the lens c. *Front-view.* k, The great lens. l, The frame containing it. m, The ſtrong iron bow in which it hangs.

From a great number of experiments made with this lens, in the preſence of many ſcientific perſons, the following are ſelected as ſpecimens of its powers.

Subſtances fuſed, with their weight and time of fuſion.	Weight in Grains	Time in Seconds
Gold, pure, - - -	20	4
Silver, do. - - -	20	3
Copper, do. - - -	33	20
Platina, do. - - -	10	3
Nickell, - - -	16	3
Bar iron, a cube, - - -	10	12
Caſt iron, a cube, - - -	10	3
Steel, a cube, - - -	10	12
Scoria of wrought iron, - -	12	2
Kearſh, - - - -	10	3
Cauk, or terra ponderoſa, - -	10	7
A topaz, or chryſolite, - -	3	45
An oriental emerald, - -	2	25
Chryſtal pebble, - - -	7	6
White agate, - - -	10	30
Flint oriental, - - -	10	30
Rough cornelian, - - -	10	75
Jaſper, - - - -	10	25
Onyx, - - - -	10	20
Garnet, - - - -	10	17
White rhomboidal ſpar, - -	10	60
Zeolites, - - -	10	23
Rotten ſtone, - - -	10	80
Common ſlate, - - -	10	2
Aſbeſtos, - - - -	10	10
Common lime-ſtone, - -	10	55
Pumice ſtone, - - -	10	24
Lava, - - - -	10	7
Volcanic clay, - - -	10	60
Corniſh moor-ſtone, - -	10	60

Burning Mountains. See Ætna, Etna, Hecla, Vesuvius, and Volcano, with the plates accompanying them.

Burning Springs. Of theſe there are many in different parts of the world; particularly one in Dauphiny near Grenoble; another near Hermanſtadt in Tranſylvania; a third at Chermay, a village near Switzerland; a fourth in the canton of Friburg; and a fifth not far from the city of Cracow in Poland. There alſo is, or was, a famous ſpring of the ſame kind at Wigan in Lancaſhire, which, upon the approach of a lighted candle, would take fire and burn like ſpirit of wine for a whole day. But the moſt remarkable one of this kind, or at leaſt that of which we have the moſt particular deſcription, was diſcovered in 1711 at Broſely in Shropſhire. The following acconnt of this remarkable ſpring was given by the reverend Mr Maſon Woodwardian profeſſor at Cambridge, dated February 18th 1746. "The well for four or five feet deep is ſix or ſeven feet wide; within that is another leſs hole of like depth dug in the clay, in the bottom whereof is placed a cylindric earthen veſſel, of about four or five inches diameter at the mouth, having the bottom taken off, and the ſides well fixed in the clay rammed cloſe about it. Within the pot is a brown water, thick as puddle, continually forced up with a violent motion beyond that of boiling water, and a rumbling hollow noiſe, riſing or falling by fits five or ſix

Plate CIX

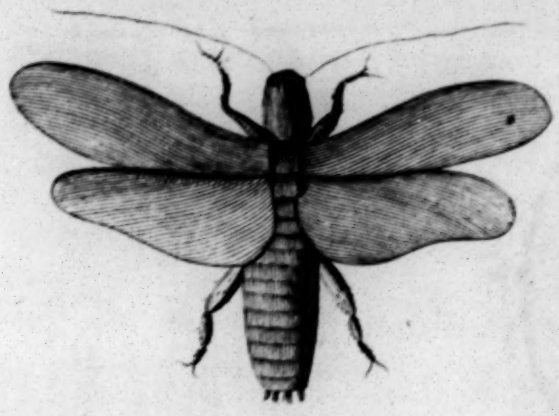
Fig. 1 Blatta
The Cockroach

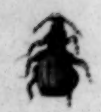
Fig. 2
Bruchus

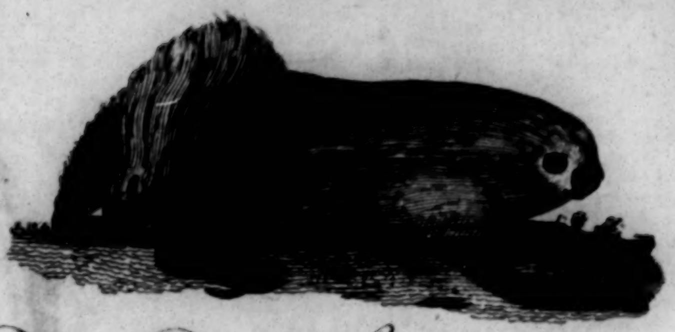
Fig. 7 Bradypus
two toed Sloth

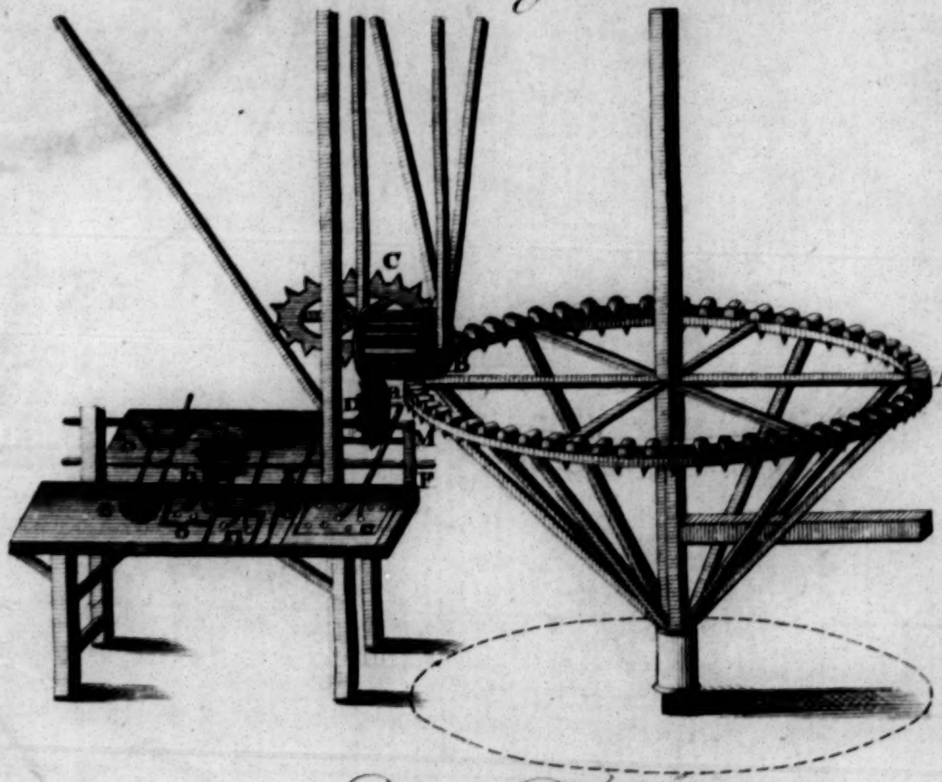
Fig. 5 Burroughs's Machine

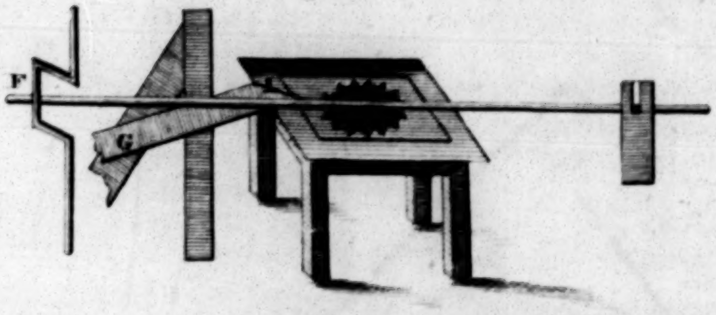
Fig. 6

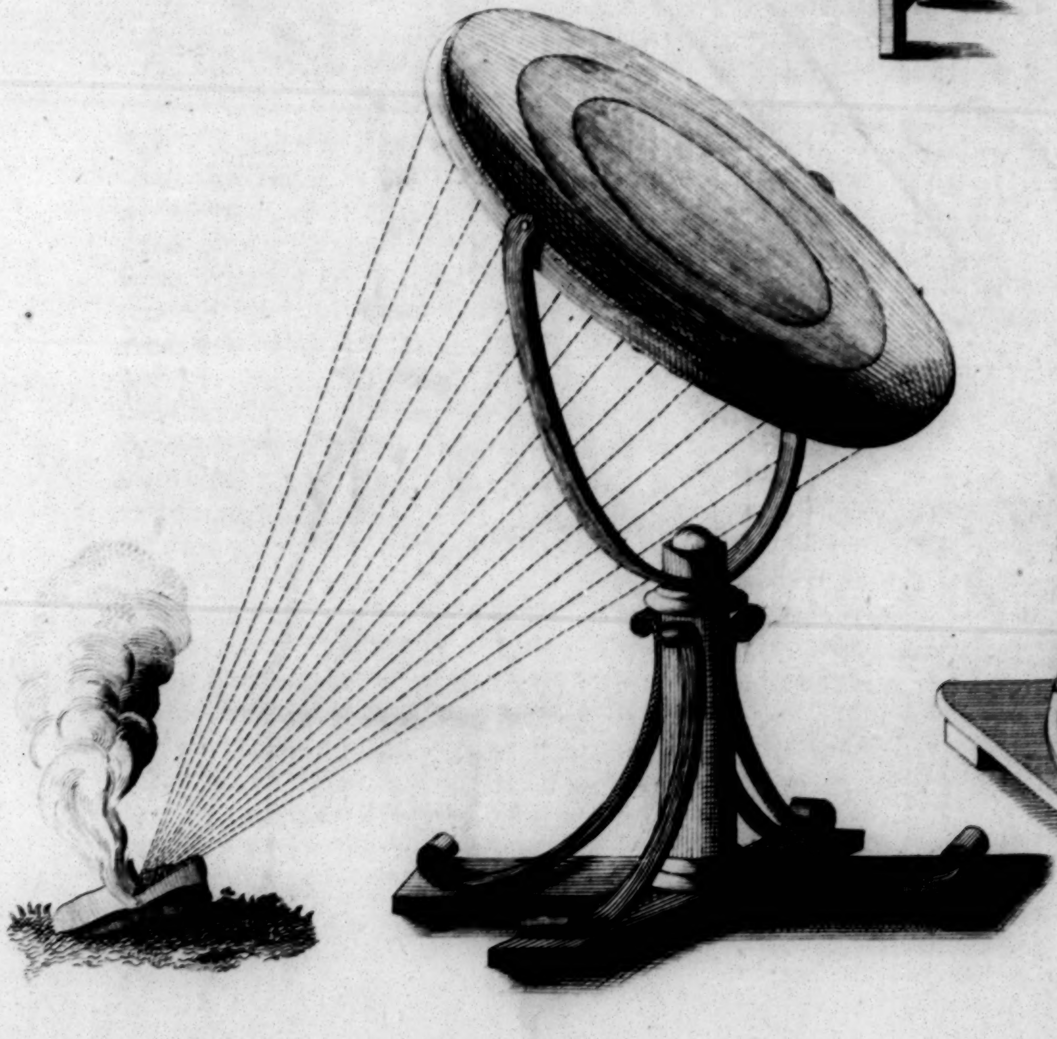
Fig. 4 Burning Mirror
with elevations

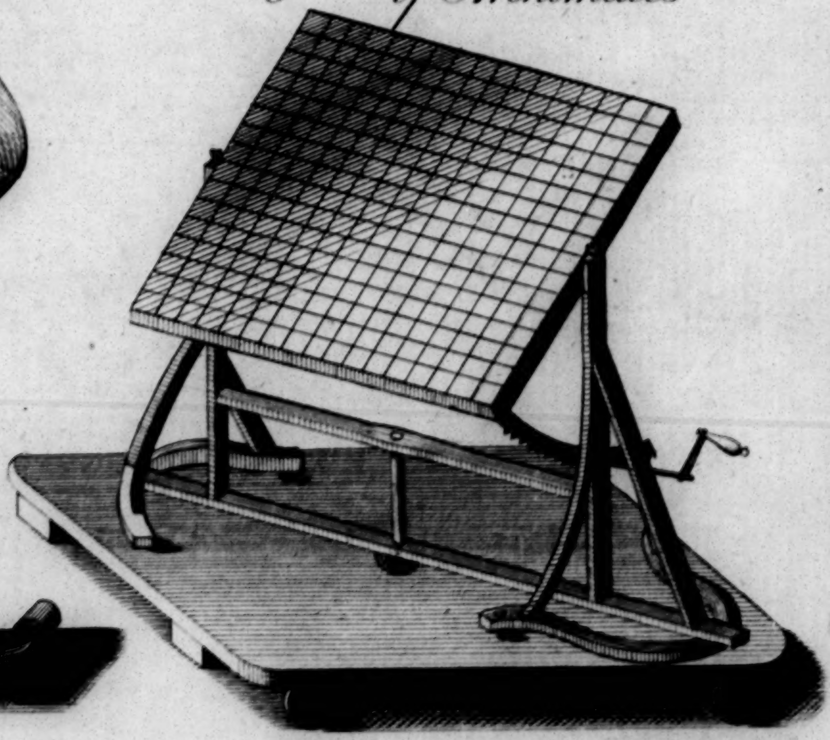
Fig. 3 Burning Mirror
of Archimedes

Scot sc Philad

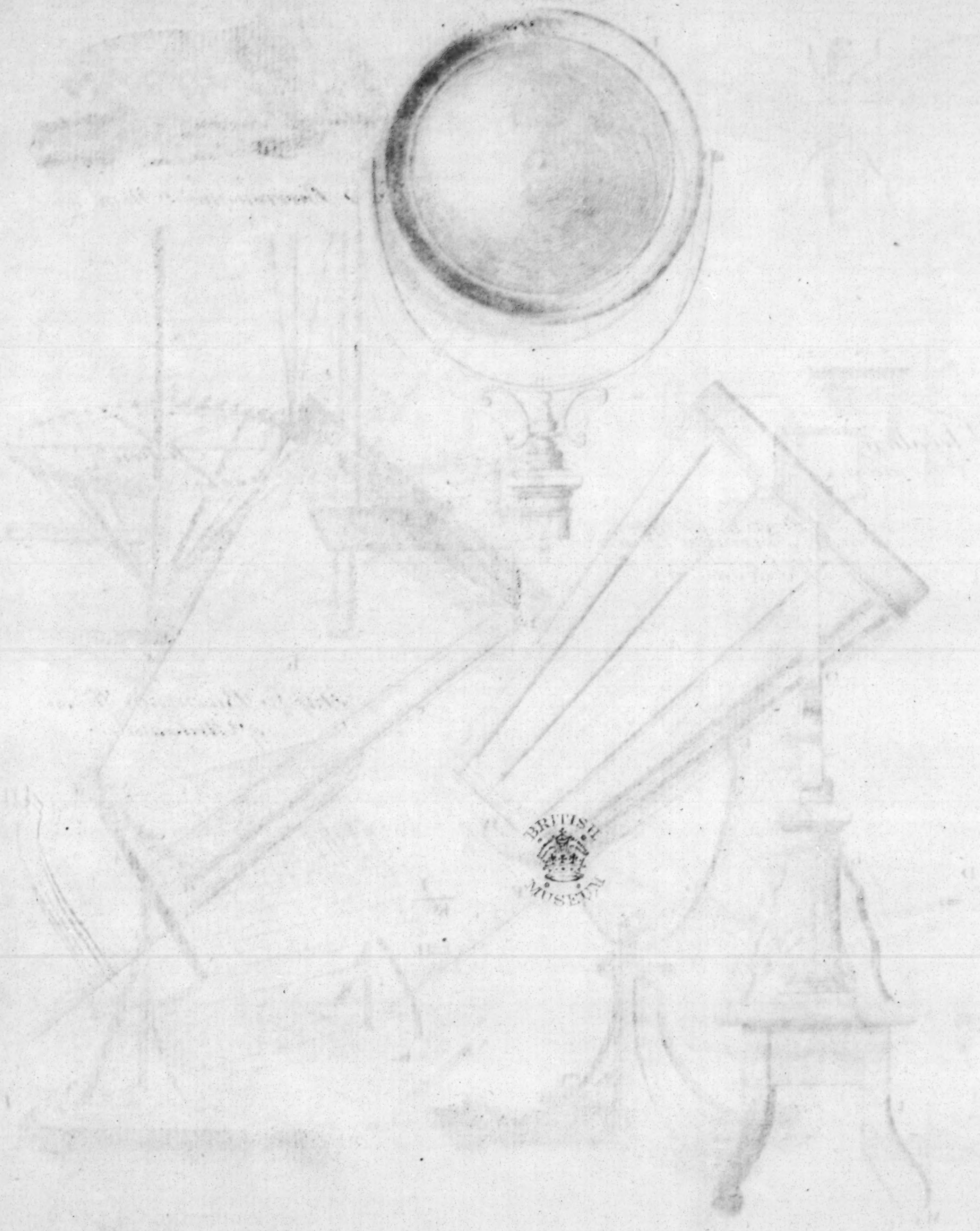

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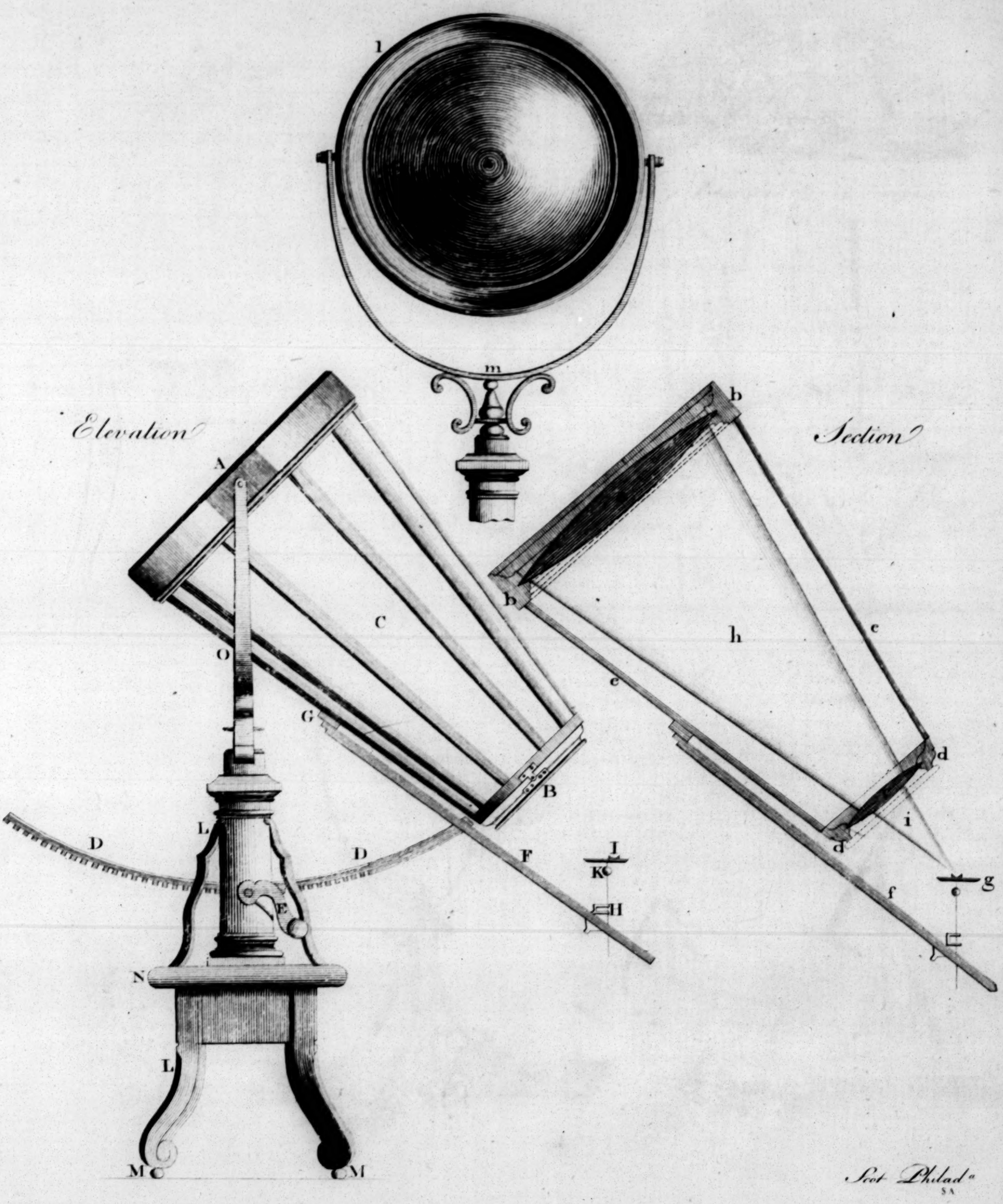
Plate CX

Burning Lens
Parker's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Scot Philad^a

BRITISH MUSEUM

ſix inches; but there was no appearance of any vapour riſing, which perhaps might have been viſible, had not the ſun ſhone ſo bright. "Upon putting a candle down at the end of a ſtick, at about a quarter of a yard diſtance, it took fire, darting and flaſhing after a very violent manner for about half a yard high, much in the manner of ſpirits in a lamp, but with great agitation. It was ſaid, that a tea-kettle had been made to boil in about nine minutes time, and that it had been left burning for 48 hours without any ſenſible diminution. It was extinguiſhed by putting a wet mop upon it; which muſt be kept there for a little time, otherwiſe it would not go out. Upon the removal of the mop there ariſes a ſulphurous ſmoke laſting about a minute, and yet the water is very cold to the touch." In 1755, this well totally diſappeared by the ſinking of a coal-pit in its neighbourhood.

The cauſe of the inflammable property of ſuch waters, is with great probability ſuppoſed to be their mixture with petroleum, which is one of the moſt inflammable ſubſtances in nature, and has the property of burning on the ſurface of water.

Burning of Colours, among painters. There are ſeveral colours that require burning, as,

Firſt, Lamp-black, which is a colour of ſo greaſy a nature, that, except it is burnt, it will require a long time to dry. The method of burning, or rather drying, lamp-black, is as follows: Put it into a crucible over a clear fire, letting it remain till it be red hot, or ſo near it that there is no manner of ſmoke ariſes from it.

Secondly, umber, which if it be intended for colour for a horſe, or to be a ſhadow for gold, then burning fits it for both theſe purpoſes. In order to burn umber, you muſt put it into the naked fire, in large lumps, and not take it out till it is thoroughly red hot; if you have a mind to be more curious, put it into a crucible, and keep it over the fire till it be red hot.

Ivory alſo muſt be burnt to make black, thus: fill two crucibles with ſhavings of ivory, then clap their two mouths together, and bind them faſt with an iron wire, and lute the joints cloſe with clay, ſalt, and horſe-dung, well beaten together; then ſet it over the fire, covering it all over with coals: let it remain in the fire till you are ſure that the matter incloſed is thoroughly red hot: then take it out of the fire; but do not open the crucibles till they are perfectly cold; for were they opened while hot, the matter would turn to aſhes; and ſo it will be, if the joints are not luted cloſe.

BURNISHER, a round poliſhed piece of ſteel, ſerving to ſmooth and give a luſtre to metals.

Of theſe there are different kinds of different figures, ſtraight, crooked, &c. Half burniſhers are uſed to ſolder ſilver, as well as to give a luſtre.

Burniſhers for gold and ſilver are commonly made of a dog's or wolf's tooth, ſet in the end of an iron or wooden handle. Of late, agates and pebbles have been introduced, which many prefer to the dog's tooth.

The burniſhers uſed by engravers in copper, uſually ſerve with one end to burniſh, and with the other to ſcrape.

BURNISHING, the art of ſmoothing or poliſhing a metalline body, by a briſk rubbing of it with a burniſher.

Book-binders burniſh the edges of their books, by rubbing them with a dog's tooth.

BURNLEY, a town of Lancaſhire in England, ſituated in W. Long. 2. 5. N. Lat. 51. 38.

BURNTISLAND. See BRUNTISLAND.

BURNTWOOD, a town of Eſſex in England, ſituated on a hill, in E. Long. 0. 25. N. Lat. 51. 38.

BURR, the round knob of a horn next a deer's head.

BURRE, BOUREE, or *Boree*, a kind of dance compoſed of three ſteps joined together in two motions, begun with a crotchet riſing. The firſt couplet contains twice four meaſures, the ſecond twice eight. It conſiſts of a balance and coupee.

BURR-PUMP, or *BILGE-Pump*, differs from the common pump, in having a ſtaff 6, 7, or 8 feet long, with a bar of wood, whereto the leather is nailed, and this ſerves inſtead of a box. So two men, ſtanding over the pump, thruſt down this ſtaff, to the middle whereof is faſtened a rope, for 6, 8, or 10 to hale by, thus pulling it up and down.

BURROCK, a ſmall wier or dam, where wheels are laid in a river, for the taking of fiſh.

BURROUGHS's MACHINE, invented by Mr Burroughs of Southwark; and for which the ſociety for the encouragement of arts gave him a premium of L.70.

This machine conſiſts of a cog-weel A (fig. 5.), 12 feet in diameter, carrying 72 cogs; which turn a trundle-head B, one foot four inches in diameter, and furniſhed with eight rounds; and alſo an horizontal ſpur-wheel C, of 12 cogs, and one foot eight inches in diameter. The trundle-head B turns a ſpur-wheel D of ten cogs, and two feet eight inches in diameter, This ſpur-wheel has two cranks, *a b*, in its ſhaft; one of which *a* gives motion to a wooden frame, *c*, about 34 inches long and 19 broad. On the under ſide of this frame are faſtened by ſcrews twelve pieces of poliſhed metal, each five inches and a half long, and three broad, covered with leather; and underneath theſe poliſhers, a glaſs plate cemented in another frame is placed on the bench *d*, and poliſhed with tripoli by the motion given to the upper frame by the crank *a*. The nuts of the ſcrews which faſten the poliſhers to the upper frame are not ſcrewed cloſe to the wood, in order to give the frame room to play; by which contrivance the perpendicular riſe of the crank is avoided, and the motion of the poliſhers always parallel and equal. The under frame may be moved by the hand in any direction without ſtopping the machine; by which means the plate when larger than the poliſhing frame can cover in its motion, will be equally poliſhed in every part.

The other crank *b* gives motion to two other poliſhers marked *n*, *o*, which have an alternate motion by the bending of the crank; they move upon the ſame plate, and have an equal number of poliſhers, as that already deſcribed.

The ſame crank alſo gives motion to a contrivance repreſented at *e* for poliſhing ſpectacle-glaſſes. It conſiſts of two ſegments of the ſame ſphere; one concave and the other convex. On the latter the glaſſes are cemented;

mented ; and poliſhed by the former, which is moved by the crank *b*. The convex ſegment may be moved round by the hand without ſtopping the machine, ſo that all the glaſſes on its ſuperficies will be equally poliſhed.

The other ſpur-wheel C, by means of a crank in its ſhaft, gives motion to another frame *g*, employed in grinding the glaſs-plates. The rod *h*, extended from the crank *f* to the frame *g*, is faſtened to the latter by means of a pivot, in order to admit of a rotatory motion, as well as that given it by the crank in a longitudinal direction. This rotatory motion is effected by means of a rod of iron *i*, called a *trigger*, ſharp at the extremity next the frame, where it touches the teeth of an horizontal ſpur-wheel, or circular piece of wood, fixed on the grinding-plate, while the other end is extended three feet two inches to the centre of motion.

But this contrivance, in which the merit of the machine principally conſiſts, will be much better conceived from a ſmall delineation of it by itſelf (fig 6.), where F is the crank marked *f* in fig. 5. and turned by the ſpur-wheel C in the ſame figure. G is the trigger, three feet two inches long. I, a roll fixed on the trigger for the rod to ſlide on. H, the horizontal ſpur-wheel, eleven inches in diameter, fixed on the grinding-plate ; the teeth of which is touched by the trigger ; but with a very unequal force, as it will wholly depend upon the grinding plate's being farther from, or nearer to, the centre of motion of the trigger. By this ſimple contrivance, the grinding-plate has a very compound motion, never moving exactly in the ſame tract, and therefore muſt grind the plates equally in every part. Several attempts have been made by others for producing the ſame effect : but without ſucceſs ; the grinding-plate always follows the ſame tract, and conſequently the plates were ground unequally.

BURROW (Sir James), maſter of the crown-office, was elected F. R. S. and F. A. S. 1751. On the death of Mr Weſt in 1772, he was prevailed on to fill the preſident's chair at the royal ſociety till the anniverſary election, when he reſigned it to Sir John Pringle ; and Auguſt 10. 1773, when the ſociety preſented an addreſs to his majeſty, he received the honour of knighthood. He publiſhed two volumes of Reports in 1766 ; two others in 1771 and 1776 ; and a volume of Deciſions of the Court of King's Bench upon ſettlement caſes from 1732 to 1772 (to which was ſubjoined An Eſſay of Punctuation), in three parts, 4to, 1768, 1772, 1776. The Eſſay was alſo printed ſeparately in 4to, 1773. He publiſhed, without his name, "A few Anecdotes and Obſervations relating to Oliver Cromwell and his family, ſerving to rectify ſeveral errors concerning him," publiſhed by Nicol. Comn. Papadopoli, in his *Hiſtoria Cymnaſii Patavini*, 1763, 4to. He died in 1782.

BURROWS, holes in a warren, ſerving as a covert for rabbits, &c. A coney's coming out of her burrow is called *bolting*. To catch coneys, they ſometimes lay purſe-nets over the burrows, then put in a terrier cloſe muzzled, which making the creature bolt, ſhe is caught in the net.

BURSA, or Prusa, in geography, the capital of Bithinia in Aſia Minor, ſituated in a fine fruitful plain, at the foot of mount Olympus, about 100 miles ſouth of Conſtantinople. E. Long. 29. 0. N. Lat. 40. 30.

Bursa-Paſtoris, in botany. See Thlaspi.

Bursa, *Burſe*, originally ſignifies a purſe. In middle-age writers it is more particularly uſed for a little college or hall in an univerſity, for the reſidence of ſtudents, called *burſales* or *burſarii*. In the French univerſities it ſtill denotes a foundation for the maintenance of poor ſcholars in their ſtudies. The nomination to burſes is in the hands of the patrons and founders thereof. The burſes of colleges are not benefices, but mere places aſſigned to certain countries and perſons. A burſe becomes vacant by the burſer's being promoted to a cure.

BURSÆ mucosæ. See Anatomy, n° 8.

BURSAR, or Burser, (*Burſarius*), is uſed in middle-age writers for a treaſurer or caſh-keeper. In this ſenſe we meet with burſars of colleges. Conventual burſars were officers in monaſteries, who were to deliver up their account yearly on the day after Michaelmas. The word is formed from the Latin *burſa*, whence alſo the Engliſh word *purſe* ; hence alſo the officer, who in a college is called *burſar*, in a ſhip is called *purſer*.

Bursars, or *Burſors*, (*Burſarii*), alſo denote thoſe to whom ſtipends are paid out of a burſe or fund appointed for that purpoſe.

BURSARIA, the burſary, or exchequer of collegiate and conventual bodies ; or the place of receiving, paying, and accounting by the burſarii or burſers.

BURSE, in matters of commerce, denotes a public edifice in certain cities, for the meeting of merchants to negociate bills, and confer on other matters relating to money and trade. In this ſenſe, burſe amounts to the ſame with what we otherwiſe call an *exchange*.

The firſt place of this kind to which the name *Burſe* was given, Guicchardin aſſures us was at Bruges ; and it took its denomination from an hotel adjoining to it, built by a lord of the family de la Bourſe, whoſe arms, which are three purſes, are ſtill found on the crowning over the portal of the houſe. Catel's account is ſomewhat different, *viz.* that the merchants of Bruges bought a houſe or apartment to meet in, at which was the ſign of the purſe. From this city the name was afterwards transferred to the like places in others, as in Antwerp, Amſterdam, Bergen in Norway, and London. This laſt, anciently known by the name of the *common burſe of merchants*, had the denomination ſince given it by queen Elizabeth, of the *royal exchange*. The moſt conſiderable burſe is that of Amſterdam, which is a large building, 230 feet long and 130 broad, round which runs a periſtyle 20 feet wide. The columns of the periſtyle, which are 46, are numbered, for the conveniency of finding people. It will hold 4500 perſons.

In the times of the Romans there were public places for the meeting of merchants in moſt of the trading cities of the empire ; that built at Rome, in the 259th year after its foundation, under the conſulate of Appius Claudius and Publius Servilius, was denominated the *college of merchants* ; ſome remains of it are ſtill to be ſeen, and are known by the modern Romans under the name *loggia*. The Hans towns, after the example of the Romans, gave the name of *colleges* to their burſes.

BURSERA, in botany ; a genus of the monogynia order, belonging to the hexandria claſs of plants. The

Plate CX.

calyx is triphyllous; the corolla tripetalous; the capſule carnous, trivalved, and monoſpermous. There is but one ſpecies, the gummifera, or gum-elemi. This is frequent in woods in moſt of the Bahama-iſlands, and grows ſpeedily to a great height, and thickneſs. The bark is brown, and very like the birch of Britain. The wood is ſoft and uſeleſs, except when pieces of the limbs are put into the ground as fences, when it grows readily, and becomes a durable barrier. The leaves are pinnate, the middle rib five or ſix inches long, with the pinnæ ſet oppoſite to one another on footſtalks half an inch long. It has yellow flowers, male and female on different trees. Theſe are ſucceeded by purple-coloured berries bigger than large peas, hanging in cluſters on a ſtalk of about five inches long, to which each berry is joined by a footſtalk of half an inch long. The ſeed is hard, white, and of a triangular figure, incloſed within a thin capſule, which divides in three parts, and diſcharges the ſeed. The fruit, when cut, diſcharges a clear balſam or turpentine, eſteemed a good vulnerary, particularly for horſes. On wounding the bark, a thick milky liquor is obtained, which ſoon concretes into a reſin no way different from the *gum-elemi* of the ſhops (See AMYRIS). Dr Browne, and after him Linnæus, have, according to Dr Wright, miſtaken the bark of the roots for the ſimarouba, which is a ſpecies of QUASSIA.

BURSTEN, denotes a perſon who has a rupture. See RUPTURE.

BURTHEN *of a* SHIP. See BURDEN.

BURTON *upon* TRENT, a town of Staffordſhire, in England. It had formerly a large abbey; and over the river Trent it has now a famous bridge of free ſtone, about a quarter of a mile in length, ſupported by 37 arches. It conſiſts chiefly of one long ſtreet, which runs from the place where the abbey ſtood to the bridge; and has a good market for corn and proviſions. Burton ale is reckoned the beſt of any brought to London. E. Long. 1. 36. N. Lat. 52. 48.

BURTON, a town of Lincolnſhire in England, ſeated on a hill near the river Trent. It is but a ſmall place, and ſituated in W. Long. 0. 30. N. Lat. 53. 40.

BURTON, a town of Weſtmoreland in England, ſeated in a valley near a large hill called *Farleton-knothill*. It is pretty well built, and lies on the great road from Lancaſter to Carliſle. W. Long. 2. 35. N. Lat. 54. 10.

BURTON (Robert), known to the learned by the name of *Democritus junior*, was younger brother to William Burton who wrote "The antiquities of Leiceſterſhire;" and born of an ancient family at Lindley, in that county, upon the 8th of February 1576. He was educated in grammatical learning in the free ſchool of Sutton Colfield in Warwickſhire; in the year 1593 was ſent to Brazen-noſe college in Oxford; and in 1599 was elected ſtudent of Chriſt-church. In 1616, he had the vicarage of St Thomas, in the weſt ſuburb of Oxford, conferred upon him by the dean and canons of Chriſt-church, to the pariſhioners of which, it is ſaid, that he always gave the ſacrament in wafers; and this, with the rectory of Segrave in Leiceſterſhire, given him ſome time after by George lord Berkeley, he held to the day of his death, which happened in January 1639.

He was a man of general learning; a great philoſopher; an exact mathematician; and (what makes the peculiarity of his character) a very curious calculator of nativities. He was extremely ſtudious, and of a melancholy turn; yet an agreeable companion, and very humorous. *The anatomy of melancholy*, by *Democritus junior*, as he calls himſelf, ſhows, that theſe different qualities were mixed together in his compoſition. This book was printed firſt in 4to, afterwards in folio, in 1624, 1632, 1638, and 1652, to the great emolument of the bookſeller, who, as Mr Wood tells us, got an eſtate by it. Some circumſtances attending his death occaſioned ſtrange ſuſpicions. He died in his chamber at or very near the time which, it ſeems, he had ſome years before predicted from the calculation of his nativity; and this exactneſs made it whiſpered about, that for the glory of aſtrology, and rather than his calculation ſhould fail, he became indeed a *felo de ſe*. This, however, was generally diſcredited; he was buried with due ſolemnity in the cathedral of Chriſt-church, and had a fair monument erected to his memory. He left behind him a very choice collection of books. He bequeathed many to the Bodleian library; and 100l. to Chriſt-church, the intereſt of which was to be laid out yearly in books for their library.

BURTON (John), D. D. a late worthy and learned divine, was born in 1696, at Wembworth, in Devonſhire, his father being rector of that pariſh; and was educated at Corpus Chriſti college, Oxford. In 1725, being then pro-proctor and maſter of the ſchools, he ſpoke a Latin oration before the determining bachelor, which is entitled "*Heli*; or, An inſtance of a magiſtrate's erring through unſeaſonable lenity;" written and publiſhed with a view to encourage the ſalutary exerciſe of academical diſcipline; and afterwards treated the ſame ſubject ſtill more fully in four Latin ſermons before the univerſity, and publiſhed them with appendixes. He alſo introduced into the ſchools, Locke, and other eminent modern philoſophers, as ſuitable companions to Ariſtotle; and printed a double ſeries of philoſophical queſtions, for the uſe of the younger ſtudents; from which Mr Johnſon of Magdalene college, Cambridge, took the hint of his larger works of the ſame kind, which has gone through ſeveral editions.

When the ſettling of Georgia was in agitation, Dr Bray, juſtly revered for his inſtitution of parochial libraries, Dr Stephen Hales, Dr Berriman, and other learned divines, intreated Mr Burton's pious aſſiſtance in that undertaking. This he readily gave, by preaching before the ſociety in 1732, and publiſhing his ſermon, with an appendix on the ſtate of that colony; and he afterwards publiſhed an account of the deſigns of the aſſociates of the late Dr Bray, with an account of their proceedings.

About the ſame time, on the death of Dr Edward Littleton, he was preſented by Eton college to the vicarage of Maple-Derham, in Oxfordſhire. Here a melancholy ſcene, which too often appears in the manſions of the clergy, preſented itſelf to his view; a widow, with three infant daughters, without a home, without a fortune: from his compaſſion aroſe love, the conſequence of which was marriage; for Mrs Littleton was handſome, elegant, accompliſhed, ingenious, and had great ſweetneſs of temper. In 1760, he exchanged his vicarage of Maple-Derham, for the rectory of Worpleſdon in Surry. In this advanced age, finding his eyes begin to fail him, he collected and publiſhed, in one volume, all his ſcattered pieces under the title of *Opuſcula miſcellanea*; and ſoon after died, February 11th, 1771.

Burton, in the ſea language, a ſmall tackle, conſiſting of two ſingle blocks, and may be made faſt any where at pleaſure, for hoiſting ſmall things in and out.

BURY, is ſometimes uſed to denote the hole or den of ſome animal under ground. In this ſenſe we ſay the *bury* of a mole, a tortoiſe, or the like. The grillotalpa, a mole-cricket, digs itſelf a bury with its forefeet, which are made broad and ſtrong for that purpoſe. Naturaliſts ſpeak of a kind of urchins in the iſland of Maragnan, which have two entries to their buries, one towards the north, the other to the ſouth, which they open and ſhut alternately as the wind happens to lie.

Bury, in England, a market town of Lancaſhire, about 30 miles ſouth-eaſt of Lancaſter. It is a barony in the family of Albemarle. W. Long. 2. 20. N. Lat. 53. 56.

Bury, (St Edmund's), or *St Edmund's bury*, the county town of Suffolk, in England, about 12 miles eaſt of Newmarket, and 70 north-eaſt of London. E. Long. 0. 45. N. Lat. 52. 20.

BURYING, the ſame with interment or Burial.

Burying *Alive* was the puniſhment of a veſtal who had violated her vow of virginity. The unhappy prieſteſs was let down into a deep pit, with bread, water, milk, oil, a lamp burning, and a bed to lie on. But this was only for ſhew; for the moment ſhe was let down, they began to caſt in the earth upon her till the pit was filled up*. Some midle-age writers ſeem to make burying alive (*defoſſio*) the puniſhment of a woman thief. Lord Bacon gives inſtances of the reſurrection of perſons who had been buried alive. The famous Duns Scotus is of the number; who, having been ſeized with a catalepſis, was thought dead, and laid to ſleep among his fathers, but raiſed again by his ſervant in whoſe abſence he had been buried. Bartholin gives an account of a woman, who, on recovering from an apoplexy, could not be convinced but that ſhe was dead, and ſolicited ſo long and ſo earneſtly to be buried, that they were forced to comply; and performed the ceremonies, at leaſt in appearance. The famous emperor Charles V. after his abdication, took it into his head to have his burial celebrated in his lifetime, and aſſiſted at it. See Charles V.

Burying-*place*. The ancients buried out of cities and towns; an uſage which we find equally among Jews, Greeks and Romans. Among the laſt, burying within the walls was expreſsly prohibited by a law of the 12 tables. The uſual places of interment were in the ſuburbs and fields, but eſpecially by the wayſides. We have inſtances, however, of perſons buried in the city; but it was a favour allowed only to a few of ſingular merit in the commonwealth. Plutarch ſays, thoſe who had triumphed were indulged in it. Be this as it will, Val. Publicola, and C. Fabricius, are ſaid to have had tombs in the forum; and Cicero adds Tubertus to the number. Lycurgus allowed his Lacedæmonians to bury their dead within the city and around their temples, that the youth being inured to ſuch ſpectacles, might be the leſs terrified with the apprehenſion of death. Two reaſons are alleged why the ancients buried out of cities: the firſt, an opinion, that the ſight, touch, or even neighbourhood, of a corpſe defiled a man, eſpecially a prieſt, whence that rule in A. Gellius, that the *flamen Dialis* might not on any account enter a place where there was a grave: the ſecond, to prevent the air from being corrupted by the ſtench of putrefied bodies, and the buildings from being endangered by the frequency of funeral fires.

Burying in churches was not allowed for the firſt 300 years after Chriſt; and the ſame was ſeverely prohibited by the Chriſtian emperors for many ages afterwards. The firſt ſtep towards it appears to have been the practice of erecting churches over the graves of ſome martyrs in the country, and tranſlating the relics of others into churches in the city: the next was, allowing kings and emperors to be buried in the atrium or church-porch. In the 6th century, the people began to be admitted into the church-yards; and ſome princes, founders, and biſhops, into the church. From that time the matter ſeems to have been left to the diſcretion of the biſhop.

BUSBEC (Auger Giſlen, lord of), a perſon illuſtrious on account of his embaſſies, was born at Commines, in the year 1522; and educated at the moſt famous univerſities, at Louvain, at Paris, at Venice, at Boulogna, and at Padua. He was engaged in ſeveral important employments and negociations, and particularly was twice ſent ambaſſador by the king of the Romans to the emperor Soliman. He collected inſcriptions; bought manuſcripts; ſearched after rare plants; enquired into the nature of animals; and, in his ſecond journey to Conſtantinople, carried with him a painter, that he might be able to communicate to the curious, the figures, at leaſt, of the plants and animals that were not well known in the weſt. He wrote a Diſcourſe of the ſtate of the Ottoman empire, and a Relation of his two journeys to Turkey, which are much eſteemed. He died in 1592.

BUSBY (Dr Richard), ſon of a gentleman in Weſtminſter, was born at Lutton in Lincolnſhire, in 1600. He paſſed through the claſſes in Weſtminſter ſchool, as king's ſcholar; and completed his ſtudies at Chriſt-church, Oxford. In 1640, he was appointed maſter of Weſtminſter ſchool; and by his ſkill and diligence in the diſcharge of this important and laborious office, for the ſpace of 55 years bred up the greateſt number of eminent men in church and ſtate that ever at one time adorned any age or nation. He was extremely ſevere in his ſchool; though he applauded wit in his ſcholars, even when it reflected on himſelf. This great man, after a long and healthy life purchaſed by temperance, died in 1695, aged 89; and was buried in Weſtminſter abbey, where there is a fine monument erected for him, with a Latin inſcription. He compoſed ſeveral books for the uſe of his ſchool.

BUSH (Paul), the firſt biſhop of Briſtol, became a ſtudent in the univerſity of Oxford about the year 1513, and in 1518 took the degree of bachelor of arts. He afterwards became a brother of the order called *bonhomes*; of which after ſtudying ſome time among the friars of St Auſtin (now Wadham college), he was elected provincial. In that ſtation he lived many years; till at length king Henry VIII. being informed of his great knowledge in divinity and phyſic, made him his chaplain, and in 1542 appointed him to the new epiſcopal ſee of Briſtol: but having in the reign of Ed-

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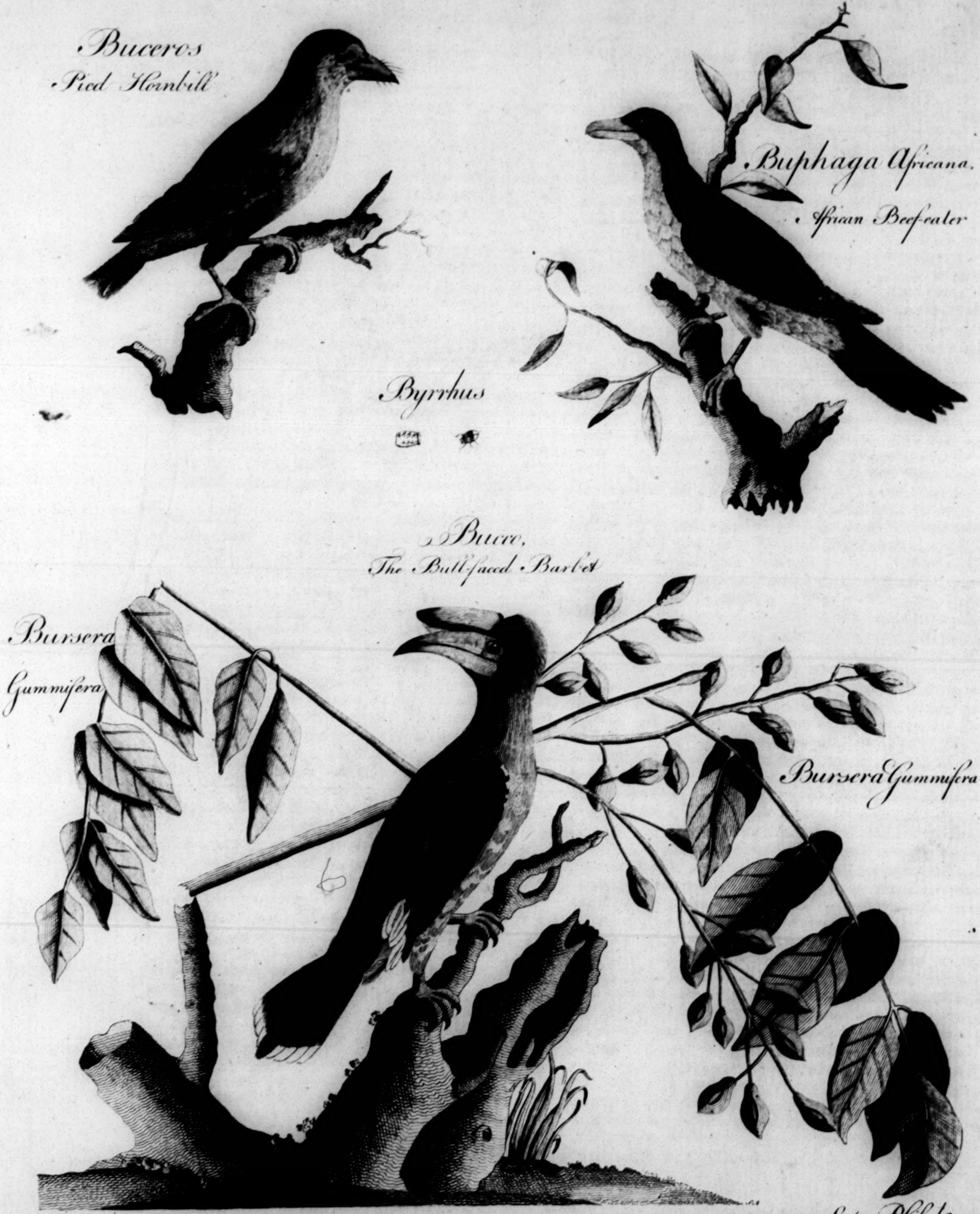
* See the article *Veſtals*.

Plate CXI


Buceros
Pied Hornbill
Buphaga Africana.
African Beef-eater
Byrrhus
Bucero,
The Bull-faced Barbet
Bursera
Gummifera
Bursera Gummifera

Scot Philad.a

BRITISH MUSEUM

ward VI. taken a wife he was, on the acceſſion of Mary, deprived of his dignity, and ſpent the remainder of his life in a private ſtation at Briſtol, where he died in the year 1558, aged 68, and was buried on the north ſide of the choir of the cathedral. Wood ſays, that while he was a ſtudent at Oxford, he was numbered among the celebrated poets of that univerſity; and Pits gives him the character of a faithful catholic, his want of chaſtity notwithſtanding. He wrote, 1. An exhortation to Margaret Burges, wife to John Burges, clothier of King's-wood, in the county of Wilts. Lond. printed in the reign of Edward VI. 8vo. 2. Notes on the Pſalms. 3. Treatiſe in praiſe of the croſs. Anſwers to certain queries concerning the abuſes of the maſs. Records, No. 25. 5. Dialogues between Chriſt and the Virgin Mary. 6. Treatiſe of ſalves and curing remedies. 7. A little treatiſe in Engliſh, called *The extirpation of ignorancy*, &c. in verſe, Lond. by Pinſon, 4to. 8. *Carmina diverſa.*

BUSH, a term uſed for ſeveral ſhrubs of the ſame kind growing cloſe together: thus we ſay, a *furze-buſh*, *bramble-buſh*, &c.

BUSH is ſometimes uſed, in a more general ſenſe, for any aſſemblage of thick branches interwoven and mixed together.

BUSH alſo denotes a coronated frame of wood hung out as a ſign at taverns. It takes the denomination from hence, that, anciently ſigns where wine was ſold were *buſhes* chiefly of ivy, cypreſs, or the like plant, which keeps its verdure long. And hence the Engliſh proverb, "Good wine needs no *buſh*."

Burning-BUSH, that buſh wherein the Lord appeared to Moſes at the foot of mount Horeb, as he was feeding his father-in-law's flocks.

As to the perſon that appeared in the buſh, the text ſays, "That the angel of the Lord appeared unto him in a flame of fire, out of the middle of the buſh;" but whether it was a created angel, ſpeaking in the perſon of God, or God himſelf, or (as the moſt received opinion is) Chriſt the ſon of God, has been matter of ſome controverſy among the learned. Thoſe who ſuppoſe it no more than an angel ſeem to imply that it would be a diminution of the majeſty of God, to appear upon every occaſion, eſpecially when he has ſuch a number of celeſtial miniſters, who may do the buſineſs as well. But conſidering that God is preſent every where, the notification of his preſence by ſome outward ſign in one determinate place (which is all we mean by his appearance), is in our conception leſs laborious (if any thing laborious could be conceived of God) than a delegation of angels upon every turn from heaven, and ſeems in the main to illuſtrate rather than debaſe the glory of his nature and exiſtence. But however this be, it is plain that the angel here ſpoken of was no created being, from the whole context, and eſpecially from his ſaying, "I am the Lord God, the Jehovah," &c. ſince this is not the language of angels, who are always known to expreſs themſelves in ſuch humble terms as theſe, "I am ſent from God; I am thy fellow-ſervant," &c. It is a vain pretext to ſay, that an angel, as God's ambaſſador, may ſpeak in God's name and perſon; for what ambaſſador of any prince ever yet ſaid, "I am the king?" Since therefore no angel, without the guilt of blaſphemy, could aſſume theſe titles; and ſince neither God the Father, nor the Holy Ghoſt, are ever called by the name of *angel*, *i. e.* "meſſenger, or perſon ſent," whereas God the Son is called by the prophet Malachi (chap. iii. 1.), "The angel of the covenant;" it hence ſeems to follow, that this angel of the Lord was God the Son, who might very properly be called an *angel*, becauſe in the fulneſs of time he was ſent into the world in our fleſh, as a meſſenger from God, and might therefore make theſe his temporary apparitions preſages, and forerunners, as it were, of his more ſolemn miſſion. The emblem of the burning-buſh is uſed as the ſeal of the church of Scotland, with this motto: *i. e.* "Tho' burning, is never conſumed."

BUSHEL, a meaſure of capacity for things dry; as grains, pulſe, dry fruits, &c. containing four pecks, or eight gallons, or one-eighth of a quarter.

Du Cange derives the word from *buſſellus*, *buſtellus*, or *biſſellus*, a diminutive of *buz*, or *buza*, uſed in the corrupt Latin for the ſame thing; others derive it from *buſſullus*, an *urn*, wherein lots were caſt; which ſeems to be a corruption from *buxulus*. *Buſſellus* appears to have been firſt uſed for a liquid meaſure of wine, equal to eight gallons. *Octo libræ faciunt galonem vini, & octo galones vini faciunt* buſſellum *London, quæ eſt octava pars quaterii.* It was ſoon after transferred to the dry meaſure of corn of the ſame quantity —*Pondus octo librarum frumenti facit* buſſellum, *de quibus octo conſiſtit quarterium.*

By 12 Hen. VII. cap. 5. a buſhel is to contain eight gallons of wheat; the gallon eight pounds of wheat troy-weight; the pound twelve ounces troy-weight; the ounce twenty ſterlings; and the ſterling thirty-two grains, or corn of wheat, growing in the midſt of the ear. This ſtandard buſhel is kept in the Exchequer; when being filled with common ſpring water, and the water meaſured before the houſe of commons in 1696, in a regular parallelopiped, it was found to contain 2145,6 ſolid inches; and the ſaid water being weighed, amounted to 1131 ounces and 14 penny weights troy. Beſides the ſtandard or legal buſhel, there are ſeveral local buſhels, of different dimenſions in different places. At Abingdon and Andover, a buſhel contains nine gallons; at Appleby and Penrith, a buſhel of peaſe, rye, and wheat, contains 16 gallons; of barley, big, malt, mixt malt, and oats, 20 gallons. A buſhel contains, at Carliſle, 24 gallons; at Cheſter, a buſhel of wheat, rye, &c. contains 32 gallons, and of oats 40; at Dorcheſter, a buſhel of malt and oats contains 10 gallons; at Falmouth, the buſhel of ſtricken coals is 16 gallons, of other things 20, and uſually 21 gallons; at Kingſton upon Thames, the buſhel contains eight and a half; at Newbury 9; at Wycomb and Reading, eight and three-fourths; at Stamford 16 gallons. Houghton. Collect. tom. i. n. 46 p. 42.

At Paris, the buſhel is divided into two half buſhels; the half buſhel into two quarts; the quart into two half quarts; the half quart into two litrons; and the litron into two half litrons. By a ſentence of the provoſt of the merchants of Paris, the buſhel is to be eight inches two lines and an half high, and ten inches in diameter; the quart four inches nine lines high, and ſix inches nine lines wide; the half quart four inches three lines high, and five inches diameter; the litron three inches and an half high, and three inches ten lines

lines in diameter. Three buſhels make a minot, ſix a mine, twelve a ſeptier, and an hundred and forty-four a muid. In other parts of France, the buſhel varies: fourteen one-eighth buſhels of Amboiſe and Tours make the Paris ſeptier. Twenty buſhels of Avignon make three Paris ſeptiers. Twenty buſhels of Blois make one Paris ſeptier. Two buſhels of Bourdeaux make one Paris ſeptier. Thirty-two buſhels of Rochel make nineteen Paris ſeptiers. Oats are meaſured in a double proportion to other grains; ſo that twenty-four buſhels of oats make a ſeptier, and 248 a muid. The buſhel of oats is divided into four picotins, the picotin into two half quarts, or four litrons. For ſalt four buſhels make one minot, and ſix a ſeptier. For coals eight buſhels make one minot, ſixteen a mine, and 320 a muid. For lime, three buſhels make a minot, and forty-eight minots a muid. See MEASURE and WEIGHT.

BUSIRIS, (anc. geog.); a city of the Lower Egypt, to the ſouth of Leontopolis, on that branch of the Nile called Buſiriticus: Built by Buſiris, noted for his cruelty, and ſlain by Hercules, (Ovid, Virgil, Diodorus Siculus). Strabo denies ſuch a tyrant ever exiſted; Iſocrates has written his panegyric. In this city there ſtood a grand temple of Iſis, which gave it the appellation of the city of Iſis. It was deſtroyed on a revolt by Diocleſian.

BUSIRITICUS FLUVIUS, (anc. geog.) that branch of the Nile which empties itſelf at the mouth called Oſtium Pathmeticum, or Phatniticum, (Ptolemy); alſo a part, according to an ancient map, at the Oſtium Mendeſium; this river, or branch, dividing itſelf at Dioſpolis into two branches: called Buſiriticus, from the city of Buſiris, which ſtood on its left, or weſt branch. It is the ſecond branch of the Nile, reckoning from the eaſt.

BUSIRITICUS Nomos, (anc. geog.), a prefecture, or diviſion of the lower Egypt; ſo called from the city Buſiris, (Herodotus, Pliny, Ptolemy).

BUSITIS, (anc. geog.), a diſtrict of Arabia Deſerta; ſo called from Bus, or Buz, Nahor's ſecond ſon; the country of Elihu, the fourth interlocutor in Job; called *Buzites*, by the Septuagint.

BUSKIN, a kind of ſhoe, ſomewhat in manner of a boot, and adapted to either foot, and worn by either ſex. This part of dreſs, covering both the foot and mid-leg, was tied underneath the knee; it was very rich and fine, and principally uſed on the ſtage by actors in tragedy. It was of a quadrangular form; and the ſole was ſo thick, as that, by means thereof, men of the ordinary ſtature might be raiſed to the pitch and elevation of the heroes they perſonated. The colour was generally purple on the ſtage; herein it was diſtinguiſhed from the ſock worn in comedy, that being only a low common ſhoe. The buſkin ſeems to have been worn not only by actors but by girls, to raiſe their height; travellers and hunters alſo made uſe of it, to defend themſelves from the mire. In claſſic authors, we frequently find the buſkin uſed to ſignify tragedy itſelf, in regard it was a mark of tragedy on the ſtage. It was alſo to be underſtood for a lofty ſtrain or high ſtyle.

BUSS, in maritime affairs, a ſmall ſea-veſſel, uſed by the Britiſh and the Dutch in the herring fiſhery, commonly from 48 to 60 tons burden, and ſometimes more: a buſs has two ſmall ſheds or cabins, one at the prow and the other at the ſtern; that at the prow ſerves for a kitchen. Every buſs has a maſter, an aſſiſtant, a mate, and ſeamen in proportion to the veſſel's bigneſs; the maſter commands in chief, and without his expreſs orders the nets cannot be caſt nor taken up; the aſſiſtant has the command after him; and the mate next, whoſe buſineſs is to ſee the ſeamen manage their rigging in a proper manner, to mind thoſe who draw in their nets, and thoſe who kill, gut, and cure the herrings, as they are taken out of the ſea: the ſeamen do generally engage for a whole voyage in the lump. The proviſion which they take on board the buſſes, conſiſt commonly in biſket, oat-meal, and dried or ſalt fiſh; the crew being content for the reſt with what freſh fiſh they catch. See FISHERIES.

BUST, or BUSTO, in Sculpture, denotes the figure or portrait of a perſon in relievo, ſhowing only the head, ſhoulders, and ſtomach, the arms being lopped off; ordinarily placed on a pedeſtal, or conſole.

In ſpeaking of an antique, we ſay the head is marble, and the buſt porphyry, or bronze, that is, the ſtomach and ſhoulders. Felibien obſerves, that though in painting, one may ſay a figure appears in buſto, yet it is not properly called a *buſt*, that word being confined to things in relievo.

The buſt is the ſame with what the Latins called *Herma*, from the Greek Hermes, Mercury, the image of that god being frequently repreſented in this manner among the Athenians.

BUST is alſo uſed, eſpecially by the Italians, for the trunk of an human body, from the neck to the hips.

BUSTA Gallica, was a place in ancient Rome, wherein the bones of the Gauls, who firſt took the city, and were ſlain by Camillus, were depoſited. It differed from

BUSTA Gallorum, a place on the Apennines, thus called by reaſon of many thouſand of Gauls killed there by Fabius.

BUSTARD, in ornithology. See OTIS.

BUSTUARIÆ MOECHÆ, according to ſome, women that were hired to accompany the funeral and lament the loſs of the deceaſed: but others are of opinion, that they were rather the more common proſtitutes, that ſtood among the tombs, graves, and other ſuch lonely places.

BUSTUARII, in Roman antiquity, gladiators who fought about the buſtum or funeral pile of a perſon of diſtinction, that the blood which was ſpilt might ſerve as a ſacrifice to the infernal gods, and render them more propitious to the manes of the deceaſed. This cuſtom was introduced in the room of the more inhuman one of ſacrificing captives at the buſtum, or on the tombs of warriors.

BUSTUM, in antiquity, denotes a pyramid or pile of wood, whereon were anciently placed the bodies of the deceaſed, in order to be burnt.

The Romans borrowed the cuſtom of burning their dead from the Greeks. The deceaſed, crowned with flowers, and dreſſed in his richeſt habits, was laid on the buſtum. Some authors ſay, it was only called *buſtum*, after the burning, *quaſi bene uſtum*: before the burning it was more properly called *pyra*; during it, *rogus*; and afterwards, *buſtum*. When the body was only burnt there, and buried elſewhere, the place was not properly called *buſtum*, but *uſtrina*, or *uſtrinum*.

BUSTUM, in the Campus Martius, was a ſtructure whereon the emperor Auguſtus firſt, and, after him, the bodies of his ſucceſſors were burnt. It was built of white ſtone, ſurrounded with an iron paliſade, and planted withinſide with alder trees.

BUSTUM was alſo figuratively applied to denote any tomb. Whence thoſe phraſes, *facere buſtum*, *violare buſtum*, &c.

BUSTUM of an altar, was the hearth or place where the fire was kindled.

BUTCHER, a perſon who ſlaughters cattle for the uſe of the table, or who cuts up and retails the ſame.

Among the ancient Romans, there were three kinds of eſtabliſhed butchers, whoſe office it was to furniſh the city with the neceſſary cattle, and to take care of preparing and vending their fleſh. The ſuarii provided hogs; the pecuarii or boarii, other cattle, eſpecially oxen; and under theſe was a ſubordinate claſs, whoſe office was to kill, called *lanii*, and *carnifices*.

To exerciſe the office of butcher among the Jews with dexterity, was of more reputation than to underſtand the liberal arts and ſciences. They have a book concerning ſhamble-conſtitution; and in caſe of any difficulty, they apply to ſome learned rabbi for advice: nor was any allowed to practiſe this art, without a licence in form; which gave the man, upon evidence of his abilities, a power to kill meat, and others to eat what he killed; provided he carefully read every week for one year, and every month the next year, and once a quarter during his life, the conſtitution abovementioned.

There are ſome very good laws in England for the better regulation and preventing the abuſes committed by butchers. A butcher that ſells ſwine's fleſh meaſled, or dead of the murrain, for the firſt offence ſhall be amerced; forthe ſecond, have the pillory; for the third, be impriſoned, and make fine; and for the fourth, abjure the town. Butchers not ſelling meat at reaſonable prices, ſhall forfeit double the value, leviable by warrant of two juſtices of the peace. No butcher ſhall kill any fleſh in his ſcalding-houſe, or within the walls of London, on pain to forfeit for every ox ſo killed, 12d. and for every other beaſt, 8d. to be divided betwixt the king and the proſecutor.

BUTCHER-Bird, in ornithology. See LANIUS.

BUTCHER-Broom, in botany. See RUSCUS.

BUTCHER's Iſland, in the Eaſt-Indies, a ſmall iſland about two miles long, and ſcarce one broad. It has its name from cattle being kept there for the uſe of Bombay, from which it is about three miles diſtant. It has a ſmall fort, but of very little conſequence.

BUTE, an iſland lying to the weſt of Scotland, being ſeparated from Cowal, a diſtrict of Argyleſhire, only by a narrow channel. In length it is about 18 miles; the broadeſt part from eaſt to weſt is about five. Part of it is rocky and barren; but from the middle ſouthwards, the ground is cultivated, and produces peaſe, oats, and barley. Here is a quarry of red ſtone, which the natives have uſed in building a fort and chapel in the neighbourhood of Rothſay, which is a very ancient royal borough, head town of the ſhire of Bute and Arran; but very thinly peopled, and maintained chiefly by the herring fiſhery, with the profits of which all the rents of this iſland are chiefly paid. On the north ſide of Rothſay are the ruins of an ancient fort, with its draw-bridge, chapel, and barracks. Here are likewiſe the remains of ſome Daniſh towers. The natives are healthy and induſtrious, ſpeak the Erſe and the dialect of the Lowlands indifferently, and profeſs the Proteſtant religion. The iſland is divided into two pariſhes, accommodated with four churches; and belongs chiefly to the earl of Bute, who poſſeſſes an elegant ſeat near Rothſay. This iſland, with that of Arran, the greater and leſſer Cumbray, and *Inch-marnoc* form a county under the name of *Bute*. This ſhire, and that of Caithneſs ſend a member to parliament alternately. The earl of Bute is admiral of the county, by commiſſion from his majeſty; but no way dependent on the lord high admiral of Scotland: ſo that if any maritime caſe occurs within this juriſdiction, (even crimes of as high a nature as murder or piracy), his lordſhip, by virtue of the powers as admiral, is ſufficient judge, or he may delegate his authority to any deputies. The name of this iſle has by ſeveral authors, and in different periods, been very differently written, as *Bote*, *Both*, *Bothe*, *Boot*, but now generally *Bute*. Ancient writers ſuppoſe that it derived its name from a cell erected therein by St Brendan, an Iriſh abbot who flouriſhed in the 6th century, becauſe in his language ſuch a cell was called *Both*. It is, however, probable, that this name was of greater antiquity, ſince we find it denominated *Botis* by the anonymous geographer of Ravenna. It was from very early times part of the patrimony of the Stuarts: large poſſeſſions in it were granted to Sir John Stuart, ſon of Robert II. by his beloved miſtreſs Elizabeth Moore; and it has continued in that line to the preſent time.

BUTEO, in ornithology, the trivial name of a ſpecies of FALCO.

BUTLER (Charles), a native of Wycomb in the county of Bucks, and a maſter of arts in Magdalen college, Oxford, publiſhed a book with this title, "The principles of muſic in ſinging and ſetting; with the two-fold uſe thereof, eccleſiaſtical and civil." Quarto, London 1636. The author of this book was a perſon of ſingular learning and ingenuity, which he manifeſted in ſundry other works enumerated by Wood in the *Athen Oxon*. Among the reſt is an Engliſh grammar, publiſhed in 1633, in which he propoſes a ſcheme of regular orthography, and makes uſe of characters, ſome borrowed from the Saxon, and others of his own invention, ſo ſingular, that we want types to exhibit them: and of this imagined improvement he appears to have been ſo fond, that all his tracts are printed in like manner with his grammar; the conſequence whereof has been an almoſt general diſguſt to all that he has written. His "Principles of muſic" is, however, a very learned, curious, and entertaining book; and, by the help of the advertiſement from the printer to the reader, prefixed to it, explaining the powers of the ſeveral characters made uſe of by him, may be read to great advantage, and may be conſidered as a judicious ſupplement to Morley's introduction.

BUTLER (Samuel), a celebrated poet of the laſt century, was the ſon of a reputable Worceſterſhire farmer, and born in 1612. He paſſed ſome time at Cambridge, but was never matriculated in that univerſity. Returning to his native county, he lived ſome years as clerk to a juſtice of peace; where he found ſufficient time to apply himſelf to hiſtory, poetry, and painting. Being recommended to Elizabeth counteſs of Kent, he enjoyed in her houſe, not only the uſe of all kinds of books, but the converſation of the great Mr Selden, who often employed Butler to write letters, and tranſlate for him. He lived alſo ſome time with Sir Samuel Luke, a gentleman of an ancient family in Bedfordſhire, and a famous commander under Oliver Cromwell: and he is ſuppoſed at this time to have wrote, or at leaſt to have planned, his celebrated *Hudibras*; and under that character to have ridiculed the knight. The poem itſelf furniſhes this key; where, in the firſt canto, Hudibras ſays,

" 'Tis ſung, there is a valiant mamaluke
" In foreign land yclep'd — —
" To whom we oft have been compar'd
" For perſon, parts, addreſs, and beard."

After the reſtoration, Mr Butler was made ſecretary to the earl of Carbury, lord-preſident of Wales, who appointed him ſteward of Ludlow caſtle, when the court was revived there. No one was a more generous friend to him than the earl of Dorſet and Middleſex, to whom it was owing that the court taſted his *Hudibras*. He had promiſes of a good place from the earl of Clarendon, but they were never accompliſhed; though the king was ſo much pleaſed with the poem, as often to quote it pleaſantly in converſation. It is indeed ſaid, that Charles ordered him the ſum of 3000l: but the ſum being expreſſed in figures, ſomebody through whoſe hands the order paſſed, by cutting off a cypher, reduced it to 300l. which, though it paſſed the offices without fees, proved not ſufficient to pay what he then owed; ſo that Butler was not a ſhilling the better for the king's bounty. He died in 1680: and though he met with many diſappointments, was never reduced to any thing like want, nor did he die in debt. Mr Granger obſerves, that Butler "ſtands without rival in burleſque poetry. His Hudibras (ſays he) is, in its kind, almoſt as great an effort of genius, as the Paradiſe Loſt itſelf. It abounds with uncommon learning, new rhimes, and original thoughts. Its images are truly and naturally ridiculous. There are many ſtrokes of temporary ſatire, and ſome characters and alluſions which cannot be diſcovered at this diſtance of time."

Butler (Joſeph), late biſhop of Durham, a prelate diſtinguiſhed by his piety and learning, was the youngeſt ſon of Mr Thomas Butler, a reputable ſhopkeeper at Wantage, in Berkſhire, where he was born in the year 1692. His father, who was a preſbyterian, obſerving that he had a ſtrong inclination to learning, after his being at a grammar-ſchool, ſent him to an academy in Glouceſterſhire, in order to qualify him for a diſſenting miniſter; and while there, he wrote ſome remarks on Dr Clerk's firſt ſermon at Boyle's lecture. Afterwards, reſolving to conform to the eſtabliſhed church, he ſtudied at Oriel college, where he contracted an intimate friendſhip with Mr Edward Talbot, ſon of the biſhop of Durham, and brother to the lord chancellor, who laid the foundation of his ſubſequent advancement. He was firſt appointed preacher at the Rolls, and rector of Haughton and Stanhope, two rich benefices in the biſhopric of Durham. He quitted the Rolls in 1726; and publiſhed in 8vo a volume of ſermons, preached at that chapel. After this he conſtantly reſided at Stanhope, in the regular diſcharge of all the duties of his office, till the year 1733, when he was called to attend the lord chancellor Talbot as his chaplain, who gave him a prebend in the church of Rocheſter. In the year 1736, he was appointed clerk of the cloſet to queen Caroline, whom he attended every day, by her majeſty's ſpecial command, from ſeven to nine in the evening. In 1738 he was appointed to the biſhopric of Briſtol; and not long afterwards to the deanery of St Paul's London. He now reſigned his living of Stanhope. In the year 1746, he was made clerk of the cloſet to the king; and in 1750, was tranſlated to Durham. This rich preferment he enjoyed but a ſhort time; for he died at Bath June 16th, 1752. His corpſe was interred in the cathedral at Briſtol; where there is a monument, with an inſcription, erected to his memory. He died a bachelor. His deep learning and comprehenſive mind appear ſufficiently in his writings, particularly in that excellent treatiſe intitled, *The analogy of religion, natural and revealed, to the conſtitution and courſe of nature*, publiſhed in 8vo, 1736.

Butler, the name anciently given to an officer in the court of France, being the ſame as the grand echanſon, or great cup-bearer of the preſent times.

Butler, in the common acceptation of the word, is an officer in the houſes of princes and great men, whoſe principal buſineſs is to look after the wine, plate, &c.

BUTLERAGE of wine in England, is a duty of 2s. for every ton of wine imported by merchants ſtrangers; being a compoſition in lieu of the liberties and freedoms granted to them by king John and Edward I. by a charter called *charta mercatoria*.

Butlerage was originally the only cuſtom that was payable upon the importation of wines, and was taken and received by virtue of the regal prerogative, for the proper uſe of the crown. But for many years paſt, there having been granted by parliament ſubſidies to the kings of England, and the duty of butlerage not repealed, but confirmed, they have been pleaſed to grant the ſame away to ſome nobleman, who, by virtue of ſuch grant, is to enjoy the full benefit and advantage thereof, and may cauſe the ſame to be collected in the ſame manner that the kings themſelves were formerly wont to do.

BUTMENT. Butments of arches are the ſame with buttreſſes. They anſwer to what the Romans call *ſublicas*, the French *culees* and *butees*.

Butments, or *Abutments*, of a bridge, denote the two maſſives at the end of a bridge, whereby the two extreme arches are ſuſtained and joined with the ſhore on either ſide.

BUTOMUS, the Flowering-rush, or *Water-gladiole*: A genus of the hexagynia order, belonging to the enneandria claſs of plants. There is no calyx, but it has ſix petals, and as many monoſpermous capſules. There is but one ſpecies, *viz.* the umbellatus; of which there are two varieties, the one with a white, the other with a roſe-coloured flower. Though common plants, they are very pretty, and are worth propagating in a garden where there is conveniency for an artificial bog, or where there are ponds of ſtanding water,

ter, as is many times the caſe. Where theſe conveniences are wanting, they may be planted in ciſterns, which ſhould be kept filled with water, with about a foot thickneſs of earth in the bottom; and into this earth the roots ſhould be planted, or the ſeeds ſown as ſoon as they are ripe.

BUTRINTO, a port-town of Epirus, or Canina, in Turkey in Europe, ſituated oppoſite to the iſland of Corfu, at the entrance of the gulph of Venice. E. Long. 20. 40. N. Lat. 39. 45.

BUTT is uſed for a veſſel, or meaſure of wine, containing two hogſheads, or 126 gllons; otherwiſe called *pipe*. A butt of currans is from 15 to 2200 weight.

Butt, or Butt-ends, in the ſea-language, are the fore-ends of all planks under water, as they riſe, and are joined one end to another.—Butt-ends in great ſhips are moſt carefully bolted; for if any one of them ſhould ſpring, or give way, the leak would be very dangerous and difficult to ſtop.

BUTTS, the place where archers meet with their bows and arrows to ſhoot at a mark, which is called ſhooting at the *butts*: (See ARCHERY.)—Alſo *butts* are the ſhort pieces of land in arable ridges and furrows.

BUTTER, a fat unctuous ſubſtance, prepared from milk by heating or churning.

It was late ere the Greeks appear to have had any notion of butter; their poets make no mention of it, and yet are frequently ſpeaking of milk and cheeſe.

The Romans uſed butter no otherwiſe than as a medicine, never as a food.

The ancient Chriſtians of Egypt burnt butter in their lamps inſtead of oil; and in the Roman churches, it was anciently allowed, during Chriſtmas time, to burn butter inſtead of oil, on account of the great conſumption of it otherwiſe.

Butter is the fat, oily, and inflammable part of the milk. This kind of oil is naturally diſtributed through all the ſubſtance of the milk in very ſmall particles, which are interpoſed betwixt the caſeous and ſerous parts, amongſt which it is ſuſpended by a ſlight adheſion, but without being diſſolved. It is in the ſame ſtate in which oil is in emulſions: hence the ſame whiteneſs of milk and emulſions; and hence, by reſt, the oily parts, ſeparate from both theſe liquors to the ſurface and form a cream. See EMULSION.

When butter is in the ſtate of cream, its proper oily parts are not yet ſufficiently united together to form an homogeneous maſs. They are ſtill half ſeparated by the interpoſition of a pretty large quantity of ſerous and caſeous particles. The butter is completely formed by preſſing out theſe heterogeneous parts by means of continued percuſſion. It then becomes an uniform ſoft maſs.

Freſh butter which has undergone no change, has ſcarcely any ſmell; its taſte is mild and agreeable, it melts with a weak heat, and none of its principles are diſengaged by the heat of boiling water. Theſe properties prove that the oily part of butter is of the nature of the fat, fixed and mild oils obtained from many vegetable ſubſtances by expreſſion. See OILS.—The half fluid conſiſtance of butter, as of moſt other concrete oily matters, is thought to be owing to a conſiderable quantity of acid united with the oily part; which acid is ſo well combined, that it is not perceptible while the butter is freſh and has undergone no change; but when it grows old, and undergoes ſome kind of fermentation, then the acid is diſengaged more and more; and this is the cauſe that butter, like oils of the ſame kind, becomes rancid by age.

Butter is conſtantly uſed in food, from its agreeable taſte: but to be wholeſome, it muſt be very freſh and free from rancidity, and alſo not fried or burnt; otherwiſe its acrid and even cauſtic acid being diſengaged, diſorders digeſtion, renders it difficult and painful, excites acrid empyreumatic belchings, and introduces much acrimony into the blood. Some perſons have ſtomachs ſo delicate, that they are even affected with theſe inconveniences by freſh butter and milk. This obſervation is alſo applicable to oil, fat, chocolate, and in general to all oleaginous matters.

For the making of butter: When it has been churned, open the churn, and with both hands gather it well together, take it out of the butter-milk, and lay it into a very clean bowl, or earthen pan; and if the butter be deſigned to be uſed ſweet, fill the pan with clear water, and work the butter in it to and fro, till it is brought to a firm conſiſtence of itſelf, without any moiſture. When this has been done, it muſt be ſcotched and ſliced over with the point of a knife, every way as thick as poſſible, in order to fetch out the ſmalleſt hair, mote, bit of rag, ſtrainer, or any thing that may have happened to fall into it. Then ſpread it thin in a bowl, and work it well together, with ſuch a quantity of ſalt, as you think fit, and make it up into diſhes, pounds, half pounds, &c.

In the Georgical Eſſays, Vol. V. p. 209, we have the following method of making well-taſted butter from the milk of cows fed on turnips. "Let the bowls, either lead or wood, be kept conſtantly clean, and well ſcalded with boiling water before uſing. When the milk is brought into the dairy, to every eight quarts mix one quart of boiling water; then put up the milk into the bowls to ſtand for cream."

The trade in butter in England is very conſiderable. Some compute 50,000 tons annually conſumed in London. It is chiefly made within 40 miles round the city. Fifty thouſand firkins are ſaid to be ſent yearly from Cambridge and Suffolk alone; each firkin containing 56 lbs. Utoxeter in Staffordſhire is a market famous for good butter, inſomuch that the London merchants have eſtabliſhed a factory there for that article. It is bought by the pot, of a long cylindrical form, weighing 14lb.

But no butter is eſteemed equal to that which is made in the county of Eſſex, well known by the name of Epping butter, and which in almoſt every ſeaſon of the year yields at London from one ſhilling to 14 pence per pound averdupoiſe. The following directions concerning the making and management of butter, including the Epping method, are extracted from the 3d volume of the Bath Society Papers.

In general it is to be obſerved, that the greater the quantity made from a few cows, the greater will be the farmer's profit; therefore he ſhould never keep any but what are eſteemed good milkers. A bad cow will be equally expenſive in her keep, and will not perhaps (by the butter and cheeſe that is made from her) bring in more than from three to ſix pounds a-year; whereas a good one will bring from ſeven to ten pounds per annum: therefore it is obvious that bad cows ſhould be parted with, and good ones purchaſed in their room.

Butter.

Butter.

When ſuch are obtained, a good ſervant ſhould be employed to milk them; as through the neglect and miſmanagement of ſervants, it frequently happens that the beſt cows are ſpoiled. No farmer ſhould truſt entirely to ſervants, but ſometimes to ſee themſelves that their cows are milked clean; for if any milk is ſuffered to remain in the udder, the cow will daily give leſs, till at length ſhe will become dry before the proper time, and the next ſeaſon ſhe will ſcarce give milk ſufficient to pay for her keep.

It ſometimes happens that ſome of a cow's teats may be ſcratched or wounded ſo as to produce foul or corrupted milk: when this is the caſe, we ſhould by no means mix it with the ſweet milk, but give it to the pigs; and that which is conveyed to the dairy-houſe ſhould remain in the pail till it is nearly cool, before it be ſtrained, that is, if the weather be warm; but in froſty weather it ſhould be immediately ſtrained, and a ſmall quantity of boiling water may be mixed with it, which will cauſe it to produce cream in abundance, and the more ſo if the pans or vats have a large ſurface.

During the hot ſummer-months, it is right to riſe with or before the ſun, that the cream may be ſkimmed from the milk ere the dairy becomes warm; nor ſhould the milk at that ſeaſon ſtand longer in the vats, &c. than 24 hours, nor be ſkimmed in the evening till after ſun-ſet. In winter milk may remain unſkimmed for 36 or 48 hours; the cream ſhould be depoſited in a deep pan, which ſhould be kept during the ſummer in the cooleſt part of the dairy; or in a cool cellar where a free air is admitted, which is ſtill better. Where people have not an opportunity of churning every other day, they ſhould ſhift the cream daily into clean pans, which will keep it cool, but they ſhould never fail to churn at leaſt twice in the week in hot weather; and this work ſhould be done in a morning before the ſun appears, taking care to fix the churn where there is a free draught of air. If a pump-churn be to be uſed, it may be plunged a foot deep into a tub of cold water, and ſhould remain there during the whole time churning, which will very much harden the butter. A ſtrong rancid flavour will be given to butter, if we churn ſo near the fire as to heat the wood in the winter ſeaſon.

After the butter is churned, it ſhould be immediately waſhed in many different waters till it is perfectly cleanſed from the milk; but here it muſt be remarked, that a warm hand will ſoften it and make it appear greaſy, ſo that it will be impoſſible to obtain the beſt price for it. The cheeſemongers uſe two pieces of wood for their butter; and if thoſe who have a very hot hand were to have ſuch, they might work the butter ſo as to make it more ſaleable.

The Epping butter is made up for market in long rolls, weighing a pound each; in the county of Somerſet they diſh it in half pounds for ſale; but if they forget to rub ſalt round the inſide of the diſh, it will be difficult to work it ſo as to make it appear handſome.

Butter will require and endure more working in winter than in ſummer, but it is remarked, that no perſon whoſe hand is warm by nature makes good butter.

Thoſe who uſe a pump-churn muſt endeavour to keep a regular ſtroke; nor ſhould they admit any perſon to aſſiſt them, except they keep nearly the ſame ſtroke: for if they churn more ſlowly, the butter will in the winter *go back*, as it is called; and if the ſtroke be more quick and violent in the ſummer, will cauſe a fermentation by which means the butter will imbibe a very diſagreeable flavour.

Where people keep many cows, a barrel-churn is to be preferred; but if this be not kept very clean, the bad effects will be diſcovered in the butter; nor muſt we forget to ſhift the ſituation of the churn when we uſe it, as the ſeaſons alter, ſo as to fix it in a warm place in winter, and where there is a free air in ſummer.

In many parts of Britain they colour their butter in winter, but this adds nothing to its goodneſs: and it rarely happens that the farmers in or near Epping uſe any colour, but when they do, it is very innocent. They procure ſome ſound carrots, whoſe juice they expreſs through a ſieve, and mix with the cream when it enters the churn, which makes it appear like May butter; nor do they at any time uſe much ſalt, though a little is abſolutely neceſſary.

As they make in that country but very little cheeſe, ſo of courſe very little whey-butter is made: nor indeed ſhould any perſon make it, except for preſent uſe, as it will not keep good more than two days; and the whey will turn to better account to fatten pigs with. Nothing feeds theſe faſter, nor will any thing make them ſo delicately white. At the ſame time it is to be obſerved, that no good bacon can be made from pigs thus fatted; where much butter is made, good cheeſe for ſervants may be obtained from ſkimmed milk, and the whey will afterwards do for ſtore pigs.

The foregoing rules will ſuffice for making good butter in any country; but as ſome people are partial to the weſt-country method, it ſhall be deſcribed as briefly as poſſible.

In the firſt place, they depoſite their milk in earthen pans in their dairy-houſe, and (after they have ſtood twelve hours in the ſummer, and double that ſpace in the winter) they remove them to ſtoves made for that purpoſe, which ſtoves are filled with hot embers; on theſe they remain till bubbles riſe, and the cream changes its colour, it is then deemed heated enough, and this they call ſcalded cream; it is afterwards removed ſteadily to the dairy, where it remains twelve hours more, and is then ſkimmed from the milk and put into a tub or churn; if it be put into a tub, it is beat well with the hand, and thus they obtain butter; but a cleanlier way is to make uſe of a churn. Some ſcald it over the fire, but then the ſmoke is apt to effect it; and in either caſe, if the pans touch the fire, they will crack or fly, and the milk and cream will be waſted.

The Cambridgeſhire ſalt butter is held in the higheſt eſteem, and is made nearly after the ſame method as the Epping; and by waſhing and working the ſalt from it the cheeſemongers in London often ſell it at a high price for freſh butter. They depoſite it when made into wooden tubs or firkins, which they expoſe to the air for two or three weeks, and often waſh them; but a readier way is to ſeaſon them with unſlacked lime, or a large quantity of ſalt and water well boiled will do: with this they muſt be ſcrubbed ſeveral times, and afterwards thrown into cold water, where they ſhould remain three or four days, or till they are wanted; then they ſhould be ſcrubbed as before, and well rinſed with cold water; but before they receive the butter, care muſt be taken to rub every part of the firkin with ſalt; then if the butter be properly made, and perfectly ſweet, it may be gently preſſed into the firkin; but it muſt be well ſalted when it is made up, and the ſalt ſhould be equally diſtributed through the whole maſs, and a good handful of ſalt muſt be ſpread on the top of the firkin before it is headed, after which the head ſhould be immediately put on.

They purſue nearly the ſame method in Suffolk and Yorkſhire; nor is the butter that is made in theſe counties much inferior to that made in Cambridgeſhire; indeed it is often ſold in London for Cambridge butter; and no people make more butter from their cows than the Yorkſhire farmers do, which is certainly owing to the care they take of their cows in the winter; as at that ſeaſon they houſe them all, feed them with good hay, and never ſuffer them to go out (except to water) but when the weather is very ſerene; and when their cows calve, they give them comfortable malt meſhes for two or three days after; but theſe cows never anſwer if they are removed to other counties, except the ſame care and attendance be given them, and then none anſwer better.

Land whereon cows feed does very often affect the butter. If wild garlic, charlock, or May-weed be found in a paſture ground, cows ſhould not feed therein till after they have been mown, when ſuch pernicious plants will appear no more till the following ſpring; but thoſe cows that give milk muſt not partake of the hay made therefrom, as that will alſo diffuſe its bad qualities.

Great part of the Epping butter is made from cows that feed during the ſummer months in Epping foreſt, where the leaves and ſhrubby plants contribute greatly to the flavour of the butter. The mountains of Wales, the highlands of Scotland, and the moors, commons, and heaths in England, produce excellent butter where it is properly managed; and though not equal in quantity, yet far ſuperior in quality to that which is produced from the richeſt meadows; and the land is often blamed when the butter is bad through miſmanagement, ſluttiſhneſs, or inattention.

Turnips and rape affect milk and butter, but brewers grains are ſweet and wholeſome food, and will make cows give abundance of milk; yet the cream thereon will be thin, except good hay be given at the ſame time, after every meal of grains. Coleworts and cabbages are alſo excellent food; and if theſe and ſavoys were cultivated for this purpoſe, the farmers in general would find their account in it.

Cows ſhould never be ſuffered to drink improper water; ſtagnated pools, water wherein frogs, &c. ſpawn, common ſewers, and ponds that receive the drainings of ſtables, are improper.

Divers abuſes are committed in the packing and ſalting of butter, to increaſe its bulk and weight, againſt which there is a ſtatute expreſs. Pots are frequently laid with good butter for a little depth at the top, and with bad at the bottom; ſometimes the butter is ſet in rolls, only touching at top, and ſtanding hollow at bottom. To prevent theſe cheats, the factors at Utoxeter keep a ſurveyor, who, in caſe of ſuſpicion, tries the pots with an iron inſtrument called a *butter-bore*, made like a cheeſe-taſter, to be ſtruck in obliquely to the bottom.

Shower of BUTTER. Naturaliſts ſpeak of ſhowers and dews of a butyraceous ſubſtance. In 1695, there fell in Ireland, during the winter and enſuing ſpring, a thick yellow dew, which had the medicinal properties of butter.

BUTTER, among chemiſts, a name given to ſeveral preparations, on account of their conſiſtence reſembling that of butter; as butter of antimony, &c. See CHEMISTRY-*Index*.

Butter-Bur, in botany. See TUSSILAGO.

Butter-Milk, the milk which remains after the butter is come by churning. Butter-milk is eſteemed an excellent food, in the ſpring eſpecially, and is particularly recommended in hectic fevers. Some make curds of butter milk, by pouring into it a quantity of new milk hot.

Butter-Wort. In botany. See PINGUICULA.

BUTTERFLY, the Engliſh name of a numerous genus of inſects. See PAPILIO.

Butterfly-Shell, in natural hiſtory. See VOLUTA.

Method of preſerving BUTTERFLIES. See INSECTS.

Method of making Pictures of BUTTERFLIES. "Take butterflies or field moths, either thoſe catched abroad, or ſuch as are taken in caterpillars and nurſed in the houſe till they be flies; clip off their wings very cloſe to their bodies, and lay them on clean paper, in the form of a butterfly when flying; then have ready prepared gum arabic that hath been ſome time diſſolved in water, and is pretty thick; if you put a drop of ox-gall into a ſpoonful of this, it will be better for the uſe; temper them well with your finger, and ſpread a little of it on a piece of thin white paper, big enough to take both ſides of your fly; when it begins to be clammy under your finger, the paper is in proper order to take the feathers from the wings of the fly; then lay the gummed ſide on the wings, and it will take them up; then double your paper ſo as to have all the wings between the paper; then lay it on a table, preſſing it cloſe with your fingers; and you may rub it gently with ſome ſmooth hard thing; then open the paper and take out the wings, which will come forth tranſparent; the down of the upper and under ſide of the wings, ſticking to the gummed paper, form a juſt likeneſs of both ſides of the wings in their natural ſhape and colours. The nicety of taking off flies depends on a juſt degree of moiſture of the gummed paper: for if it be too wet, all will be blotted and confuſed; and if too dry, your paper will ſtick ſo faſt together, that it will be torn in ſeparation. When you have opened your gummed papers, and they are dry, you muſt draw the bodies from the natural ones, and paint them in water colours; you muſt take paper that will bear ink very well for this uſe; for ſinking paper will ſeparate with the reſt, and ſpoil all."

BUTTERIS, in the manege, an inſtrument of ſteel, fitted to a wooden handle, wherewith they pare the foot, or cut off the hoof, of a horſe.

BUTTOCK *of a* SHIP, is that part of her which is her breadth right aſtern, from the tuck upwards; and a ſhip is ſaid to have a broad or a narrow buttock, according as ſhe is built broad or narrow at the tranſum.

BUTTON, an article in dreſs, whoſe form and uſe are too well known to need deſcription. They are made of various materials, as mohair, ſilk, horſe-hair, metal, &c.

Method of making common BUTTONS. Common buttons are generally made of mohair; ſome indeed are made of ſilk, and others of thread; but the latter are of a very inferior ſort. In order to make a button, the mohair muſt be previouſly wound on a bobbin; and the mould fixed to a board by means of a bodkin thruſt through the hole in the middle of it. This being done, the workman wraps the mohair round the mould in three, four, or ſix columns, according to the button.

Horſe-hair BUTTONS. The moulds of theſe buttons are covered with a kind of ſtuff compoſed of ſilk and hair; the warp being belladine ſilk, and the ſhoot horſe-hair. This ſtuff is wove with two ſelvedges, in the ſame manner and in the ſame loom as ribbands. It is then cut into ſquare pieces proportional to the ſize of the button, wrapped round the moulds and their ſelvedges ſtitched together, which form the under part of the button.

Cleanſing of BUTTONS. A button is not finiſhed when it comes from the maker's hands; the ſuperfluous hairs and hubs of ſilk muſt be taken off, and the button rendered gloſſy and beautiful before it can be ſold. This is done in the following manner: A quantity of buttons are put into a kind of iron ſieve, called by workmen a *ſingeing box*. Then a little ſpirit of wine being poured into a kind of ſhallow iron diſh, and ſet on fire, the workman moves and ſhakes the ſingeing box, containing the buttons, briſkly over the flame of the ſpirit, by which the ſuperfluous hairs, hubs of ſilk, &c. are burnt off, without damaging the buttons. Great care, however, muſt be taken that the buttons in the ſingeing box be kept continually in motion; for if they are ſuffered to reſt over the flame, they will immediately burn. When all theſe looſe hairs, &c. are burnt off by the flame of the ſpirit, the buttons are taken out of the ſingeing box, and put, with a proper quantity of the crums of bread, into a leather bag, about three feet long, and of a conical ſhape; the mouth or ſmaller end of which being tied up, the workman takes one of the ends in one hand and the other in the other, and ſhakes the hand briſkly with a particular jerk. This operation cleanſes the buttons, renders them very gloſſy, and fit for ſale.

Gold-twiſt BUTTONS. The mould of theſe buttons is firſt covered in the ſame manner with that of common buttons. This being done, the whole is covered with a thin plate of gold or ſilver, and then wrought over of different forms, with purle and gimp. The former is a kind of thread compoſed of ſilk and gold-wire twiſted together; and the latter, capillary tubes of gold or ſilver, about the tenth of an inch long. Theſe are joined together by means of a fine needle, filled with ſilk, thruſt through their apertures, in the ſame manner as beeds or bugles.

*The manner of making Metal-*BUTTONS. The metal with which the moulds are intended to be covered is firſt caſt into ſmall ingots, and then flatted into thin plates or leaves, of the thickneſs intended, at the flatting-mills; after which it is cut into ſmall round pieces proportionable to the ſize of the mould they are intended to cover, by means of proper punches on a block of wood covered with a thick plate of lead. Each piece of metal thus cut out of the plate is reduced into the form of a button, by beating it ſucceſſively in ſeveral cavities, or concave moulds, of a ſpherical form, with a convex puncheon of iron, always beginning with the ſhalloweſt cavity or mould, and proceeding to the deeper, till the plate has acquired the intended form: and the better to manage ſo thin a plate, they form ten, twelve, and ſometimes even twenty-four, to the cavities, or concave moulds, at once; after nealing the metal during the operation, to make it more ductile. This plate is generally called by workmen the *cap of the button*.

The form being thus given to the plates or caps, they ſtrike the intended impreſſion on the convex ſide, by means of a ſimilar iron puncheon, in a kind of mould engraven *en creux*, either by the hammer or the preſs uſed in coining. The cavity or mould, wherein the impreſſion is to be made, is of a diameter and depth ſuitable to the ſort of button intended to be ſtruck in it; each kind requiring a particular mould. Between the puncheon and the plate is placed a thin piece of lead called by workmen a *hob*, which greatly contributes to the taking off all the ſtrokes of the engraving; the lead, by reaſon of its ſoftneſs, eaſily giving way to the parts that have relievo, and as eaſily inſinuating itſelf into the traces or indentures.

The plate thus prepared makes the cap or ſhell of the button. The lower part is formed of another plate, in the ſame manner, but much flatter, and without any impreſſion. To the laſt or under plate is ſoldered a ſmall eye made of wire, by which the button is to be faſtened.

The two plates being thus finiſhed, they are ſoldered together with ſoft ſolder, and then turned into a lathe. Generally indeed they uſe a wooden mould, inſtead of the under plate; and in order to faſten it, they paſs a thread or gut acroſs, through the middle of the mould, and fill the cavity between the mould and the cap with cement, in order to render the button firm and ſolid; for the cement entering all the cavities formed by the relievo of the other ſide, ſuſtains it, prevents its flattening, and preſerves its boſſe or deſign.

BUTTON, in the manege. Button of the reins of a bridle, is a ring of leather, with the reins paſſed thro' it, which runs all along the length of the reins. To put a horſe under the button, is when a horſe is ſtopped without a rider upon his back, the reins being laid on his neck, and the button lowered ſo far down that the reins bring in the horſe's head, and fix it to the true poſture or carriage. It is not only the horſes which are managed in the hand that muſt be put under the button; for the ſame method muſt be taken with ſuch horſes as are bred between two pillars, before they are backed.

BUTTON-Wood. See CEPHALANTHUS.

BUTTON's-Bay, the name of the north part of Hudſon's bay, in North America, whereby Sir Thomas Button attempted to find out a north-weſt paſſage to the Eaſt Indies. It lies between 80° and 100° weſt longitune, and between 60° and 66° north latitude.

BUTTON-Stone, in natural hiſtory, a kind of figured ſtone, ſo denominated from its reſembling the button of a garment. Dr Hook gives the figure of three ſorts of button-ſtones, which ſeem to have been nothing elſe but the filling up of three ſeveral ſorts of ſhells. They are all of them very hard flints; and have this in common, that they conſiſt of two bodies, which ſeem to have been the filling up of two holes or vents in the ſhell. Dr Plot deſcribes a ſpecies finely ſtriated from the top, after the manner of ſome hair buttons. This name is alſo given to a peculiar ſpecies of ſlate found in the marquiſate of Bareith, in a mountain called *Fichtelberg;* which is extremely different from the common ſorts of ſlate, in that it runs with great eaſe into glaſs in five or ſix hours time, without the addition of any ſalt or other foreign ſubſtance, to promote its vitrification, as other ſtones require. It contains in itſelf all the principles of glaſs, and really has mixed in its ſubſtance the things neceſſary to be added to promote the fuſion of other ſtony bodies. The Swedes and Germans make buttons of the glaſs produced from it, which is very black and ſhining, and it has hence its name *button-ſtone*. They make ſeveral other things alſo of this glaſs, as the handles of knives and the like, and ſend a large quantity of it unwrought in round cakes as it cools from the fuſion into Holland.

BUTTRESS, a kind of butment built archwiſe, or a maſs of ſtone or brick, ſerving to prop or ſupport the ſides of a building, wall, &c. on the outſide, where it is either very high, or has any conſiderable load to ſuſtain on the other ſide, as a bank of earth, &c.—Buttreſſes are uſed againſt the angles of ſteeples and other buildings of ſtone, &c. on the outſide and along the walls, of ſuch buildings as have great and heavy roofs, which would be ſubject to thruſt the walls out, unleſs very thick, if no buttreſſes were placed againſt them. They are alſo placed for a ſupport and butment againſt the feet of ſome arches, that are turned acroſs great halls in old palaces, abbeys, &c.

BUTUS (anc. geog.), a town of Lower Egypt, on the weſt ſide of the branch of the Nile, called *Thermuthiacus;* towards the mouth called *Oſtium Sebennyticum:* in this town ſtood an oracle of Latona, (Strabo, Herodotus). Ptolemy places Butus in the Nomos Phthenotes: it is alſo called *Buto, us,* (Herodotus, Stephanus). It had temples of Apollo and Diana, but the largeſt was that of Latona where the oracle ſtood.

BUTZAW, a town of lower Saxony, in Germany; it ſtands upon the river Varnow, on the road from Schwerin to Roſtock, lying in E. Long. 13. 12. N. Lat. 54. 50.

BUVETTE, or BEUVETTE, in the French laws, an eſtabliſhed place in every court, where the lawyers and counſellors may retire, warm themſelves, and take a glaſs of wine by way of refreſhment, at the king's charge. There is one for each court of parliament, but theſe are only for perſons belonging to that body; there are others in the *palais*, whither other perſons alſo reſort.

BUXENTUM, (Livy, Velleius, Ptolemy, Mela, Pliny); PYXUS, (Strabo, Pliny): a town of Lucania, firſt built by the people of Meſſana, but afterwards deſerted, (Strabo). A Roman colony was ſent thither, (Livy, Velleius); and when found ſtill thin of inhabitants, a new colony was ſent by a decree of the ſenate. Its name is from *buxus*, the box-tree, growing plentifully there. Strabo ſays, the name *Pyxus* includes a promontory, port, and river, under one. Now *Policaſtro*, in the hither Principato of Naples. E. Long. 15. 40. N. Lat. 40. 20.

BUXTON, a place in the peak of Derbyſhire, in England, celebrated for its medicinal waters, and lying in W. Long. 0. 20. N. Lat. 53. 20.

It has been always believed by antiquaries, that the Romans were acquainted with theſe wells, and had frequented them much, as there is a military way ſtill viſible, called the *Bath-gate*, from Burgh to this place. This was verified about 50 years ago, when Sir Thomas Delves, of Cheſhire, in memory of a cure he received here, cauſed an arch to be erected; in digging the foundations for which, they came to the remains of a ſolid and magnificent ſtructure of Roman workmanſhip; and in other places of the neighbourhood, very capacious leaden veſſels, and other utenſils, of Roman workmanſhip, have been diſcovered. Theſe waters have always been reckoned inferior to thoſe in Somerſetſhire; but ſeem never to have been totally diſuſed. They are mentioned by Leland, as well known 200 years ago; but it is certain they were brought into greater credit by Dr Jones in 1572, and by George earl of Shrewſbury, who erected a building over the bath, then compoſed of nine ſprings. This building was afterwards pulled down, and a more commodious one erected at the expence of the earl of Devonſhire. In doing this, however, the ancient regiſter of cures drawn up by the bath-warden, or phyſician attending the baths, and ſubſcribed by the hands of the patients, was loſt.

The warm waters of Buxton are, the bath, conſiſting of nine ſprings, as already mentioned, St Ann's well, and St Peter's or Bingham well. St Ann's well riſes at the diſtance of ſomewhat more than 32 yards north-eaſt from the bath. It is chiefly ſupplied from a ſpring on the north ſide, out of a rock of black limeſtone or baſtard marble. It formerly roſe into a ſtone baſon, ſhut up within an ancient Roman brick wall, a yard ſquare within, a yard high on three ſides, and open on the fourth. But, in 1709, Sir Thomas Delves, as already mentioned, erected an arch over it which ſtill continues. It is 12 feet long, and as many broad, ſet round with ſtone ſteps on the inſide. In the midſt of this dome the water now ſprings up into a ſtone baſon two feet ſquare. St Peter's or Bingham well riſes about 20 yards ſouth-eaſt of St Ann's. It is alſo called *Leigh's well*, from a memorable cure received from it by a gentleman of that name. It riſes out of a black limeſtone, in a very dry ground; and is not ſo warm as St Ann's well.

From the great reſort of company to the waters, this place has grown into a large ſtraggling town, which is daily increaſing. The houſes are chiefly, or rather ſolely, built for the reception of invalids; and many of them are not only commodious, but elegant. The duke of Devonſhire has lately erected a moſt magnificent building in the form of a creſcent, with piazzas, under which the company walk in wet or cold weather. It is divided into different hotels, ſhops, &c. with a public coffee-room, and a very elegant room for aſſemblies and concerts.

The hot water reſembles that of Briſtol. It has a ſweet and pleaſant taſte. It contains the calcareous earth, together with a ſmall quantity of ſea ſalt, and an inconſiderable portion of a purging ſalt; but no iron can be diſcovered in it. This water taken inwardly is eſteemed good in the diabetes; in bloody urine; in the bilious cholic; in loſs of appetite, and coldneſs of the ſtomach; in inward bleedings; in atrophy; in contraction of the veſſels and limbs, eſpecially from age; in cramps and convulſions; in the dry aſthma without a fever; and alſo in barrenneſs. Inwardly and outwardly, it is ſaid to be good in rheumatic and ſcorbutic complaints; in the gout; in inflammation of the liver and kidneys, and in conſumptions of the lungs; alſo in old ſtrains; in hard callous tumours; in withered and contracted limbs; in the itch, ſcabs, nodes, chalky ſwellings, ring-worms, and other ſimilar complaints.—Beſides the hot water, there is alſo a cold chalybeate water, with a rough irony taſte: It reſembles the Tunbridge water in virtues.

For the methods of compoſing artificial Buxton water, or of impregnating the original water with a greater quantity of its own gas, or with other gaſes, ſee Waters (*Medicinal*).

Buxton (Jedediah), a prodigy with reſpect to ſkill in numbers. His father, William Buxton, was ſchoolmaſter of the ſame pariſh, where he was born in 1704; yet Jedediah's education was ſo much neglected, that he was never taught to write; and with reſpect to any other knowledge but that of numbers, ſeemed always as ignorant as a boy of ten years of age. How he came firſt to know the relative proportions of numbers, and their progreſſive denominations, he did not remember; but to this he applied the whole force of his mind, and upon this his attention was conſtantly fixed, ſo that he frequently took no cognizance of external objects, and when he did it, it was only with reſpect to their numbers. If any ſpace of time was mentioned, he would ſoon after ſay it was ſo many minutes; and if any diſtance of way, he would aſſign the number of hairs breadths, without any queſtion being aſked, or any calculation expected by the company. When he once underſtood a queſtion, he began to work with amazing facility, after his own method, without the uſe of a pen, pencil, or chalk, or even underſtanding the common rules of arithmetic as taught in the ſchools. He would ſtride over a piece of land or a field, and tell you the contents of it almoſt as exact as if you had meaſured it by the chain. In this manner he meaſured the whole lordſhip of Elmton, of ſome thouſand acres, belonging to Sir John Rhodes, and brought him the contents, not only in acres, roods, and perches, but even in ſquare inches. After this, for his own amuſement, he reduced them into ſquare hair-breadths, computing 48 to each ſide of the inch. His memory was ſo great, that while reſolving a queſtion, he could leave off, and reſume the operation again where he left off the nex morning, or at a week, a month, or at ſeveral months, and proceed regularly till it was completed. His memory would doubtleſs have been equally retentive with reſpect to other objects, if he had attended to other objects with equal diligence; but his perpetual application to figures prevented the ſmalleſt acquiſition of any other knowledge. He was ſometimes aſked, on his return from church, whether he remembered the text, or any part of the ſermon, but it never appeared that he brought away one ſentence; his mind, upon a cloſer examination, being found to have been buſied, even during divine ſervice, in his favourite operation, either dividing ſome time, or ſome ſpace, into the ſmalleſt known parts, or reſolving ſome queſtion that had been given him as a teſt of his abilities.

This extraordinary perſon living in laborious poverty, his life was uniform and obſcure. Time, with reſpect to him, changed nothing but his age; nor did the ſeaſons vary his employment, except that in winter he uſed a flail, and in ſummer a ling-hook. In the year 1754, he came to London, where he was introduced to the royal ſociety, who, in order to prove his abilities, aſked him ſeveral queſtions in arithmetic, and he gave them ſuch ſatisfaction, that they diſmiſſed him with a handſome gratuity. In this viſit to the metropolis, the only object of his curioſity, except figures, was his deſire to ſee the king and royal family; but they being juſt removed to Kenſington, Jedediah was diſappointed. During his reſidence in London, he was taken to ſee King Richard III. performed at Drury-lane playhouſe; and it was expected, either that the novelty and the ſplendor of the ſhow would have fixed him in aſtoniſhment, or kept his imagination in a continual hurry, or that his paſſions would, in ſome degree, have been touched by the power of action, if he had not perfectly underſtood the dialogue. But Jedediah's mind was employed in the playhouſe juſt as it was employed in every other place. During the dance, he fixed his attention upon the number of ſteps; he declared, after a fine piece of muſic, that the innumerable ſounds produced by the inſtruments had perplexed him beyond meaſure; and he attended even to Mr Garrick, only to count the words that he uttered, in which he ſaid he perfectly ſucceeded. Jedediah returned to the place of his birth, where, if his enjoyments were few, his wiſhes did not ſeem to be more. He applied to his labour, by which he ſubſiſted with cheerfulneſs; he regretted nothing that he left behind him in London; and it continued to be his opinion, that a ſlice of ruſty bacon afforded the moſt delicious repaſt.

BUXTORF (John), a learned profeſſor of Hebrew at Baſil, who, in the 17th century, acquired the higheſt reputation for his knowledge of the Hebrew and Chaldee languages. He died of the plague at Baſil in 1629, aged 65. His principal works are, 1. A ſmall but excellent Hebrew grammar; the beſt edition of which is that of Leyden in 1701, reviſed by Leuſden. 2. A treaſure of the Hebrew grammar. 3. An Hebrew concordance, and ſeveral Hebrew lexicons. 4. *Inſtitutio epiſtolaris Hebraica.* 5. *De abbreviaturis Hebræorum, &c.*

Buxtorf (John), the ſon of the former, and a learned profeſſor of the oriental languages at Baſil, diſtinguiſhed himſelf, like his father, by his knowledge of the Hebrew language, and his rabbinical learning. He died at Baſil in 1664, aged 65 years. His principal works are, 1. His tranſlation of the *More Nevochim*, and the *Cozri*. 2. A Chaldee and Syriac lexicon. 3. An anticritic againſt Cappel. 4. A treatiſe on the Hebrew points and accents againſt the ſame Cappel.

BUXUS, the box-tree: A genus of the tetrandria order, belonging to the monœcia claſs of plants; and in the natural method ranking under the 38th order, *Tricoccæ*. The male calyx is triphyollus, the germen an embryo, or imperfect rudiment. The female calyx is tetraphyllous: there are three petals, and as many ſtyles: the capſule three beaked and trilocular, with three ſeeds.

Species. 1. The arboreſcens, with oval leaves. 2. The anguſtifolia, or narrow-leaved box. Theſe two ſorts grow in great plenty upon Boxhill near Dorking in Surry in England. Here were formerly large trees of that kind; but now they are much fewer in number. There are two or three varieties of the firſt ſort which are propagated in gardens; one with yellow, and the other with white ſtriped leaves. And another hath the tips of the leaves only marked with yellow, and is called *tipped box*. 3. The ſuffruticoſa, dwarf, or Dutch box, commonly uſed for bordering of flower-beds.

Culture. The two firſt ſorts may be raiſed from ſeeds; and may be alſo propagated by cuttings, which are to be planted in the autumn in a ſhady border. The beſt ſeaſon for removing theſe trees is in October; though, if care be uſed to take them up with a good ball of earth, they may be tranſplanted almoſt at any time except the middle of ſummer. The dwarf box is increaſed by parting the roots, or planting the ſlips; but as it makes ſo great an increaſe of itſelf, and ſo eaſily parts, it is hardly worth while to plant the ſlips that have no roots.

Uſes. The tree or large box is proper to intermix in clumps of evergreens, &c. where it adds to the variety of ſuch plantations: they are a very great ornament to cold and barren ſoils where few other things will grow. The dwarf kind of box is uſed for bordering flower-beds, or other purpoſes of that nature; and for this it far excels any other plant, being ſubject to no injuries from cold or heat. It is of long duration; is eaſily kept handſome; and, by the firmneſs of its rooting, keeps the mould in the borders from waſhing into the gravel walks more effectually than any plant whatever.—Boxwood is extremely hard and ſmooth, and therefore well adapted to the uſe of the turner. Combs, mathematical inſtruments, knife-handles, and button-moulds, are made of it. It may properly enough be ſubſtituted in default of ebony, the yellow alburnum of which it perfectly reſembles. In the Ephemerides of the curious there is the following account of the efficacy of boxwood in making hair grow. "A young woman of Gunberge in Lower Sileſia, having had a malignant dyſentery which occaſioned the falling off of all her hair, was adviſed by a perſon, ſome time after her recovery (as her hair was not likely to grow again of itſelf, her head being then as bare as the hand), to waſh it all over with a decoction of boxwood; which ſhe readily did, without the addition of any other drug. Hair of a cheſnut colour grew on her head, as ſhe was told it would do; but having uſed no precaution to ſecure her neck and face from the lotion, they became covered with red hair to ſuch a degree, that ſhe ſeemed little different from an ape or monkey." This decoction has been recommended by ſome as a powerful ſudorific, preferable even to guiacum; but the taſte readily diſcovers that it wants the qualities of that wood. Neither the wood nor the leaves of the box-tree at preſent are uſed for any other medicinal purpoſe than the diſtillation of an empyreumatic oil; and an oil of nearly the ſame quality is obtained from almoſt every other wood.

BUYING, the act of making a purchaſe, or of acquiring the property of a thing for a certain price.

Buying ſtands oppoſed to ſelling, and differs from borrowing or hiring, as in the former the property of the thing is alienated for perpetuity, which in the latter is not. By the civil law, perſons are allowed to buy hope, *ſpem pretio emere*, that is, to purchaſe the event or expectation of any thing. E. gr. The fiſh or birds a perſon ſhall catch, or the money he ſhall win in gaming.

There are different ſpecies of buying in uſe among traders; as, buying on one's own account, oppoſed to buying on commiſſion; buying for ready money, which is when the purchaſer pays in actual ſpecie on the ſpot; buying on credit, or for a time certain, is when the payment is not to be preſently made, but in lieu thereof, an obligation given by the buyer for payment at a time future; buying on delivery, is when the goods purchaſed are only to be delivered at a certain time future.

BUYING *the refuſal*, is giving money for the right or liberty of purchaſing a thing at a fixed price, in a certain time to come; chiefly uſed in dealing for ſhares in ſtock. This is ſometimes alſo called by a cant name, *buying the bear*.

BUYING *the ſmall-pox*, is an appellation given to a method of procuring that diſeaſe by an operation ſimilar to inoculation; frequently in South Wales, where it has obtained time out of mind. It is performed either by rubbing ſome of the *pus* taken out of a puſtule of a variolous perſon on the ſkin, or by making a puncture in the ſkin with a pin dipped in ſuch pus.

BUYS, a town of Dauphiny in France, ſituated on the borders of Province. E. Long. 5. 20. N. Lat. 44. 25.

BUZANCOIS, a ſmall town of Berry in France, ſituated on the borders of Tourain, in E. Long. 1. 29. N. Lat. 46. 38.

BUZBACH, a town of Germany, in Weſteravia and the county of Holmes, on the confines of Hanau. E. Long. 10. 51. N. Lat. 50. 22.

BUZET, a ſmall town of France, in Languedoc, ſeated on the river Torne, in E. Long. 1. 45. N. Lat. 43. 47.

BUZZARD, in ornithology, the name of ſeveral ſpecies of the hawk kind. See FALCO.

BYBLUS, (anc. geog) a town of Phœnicia, ſituated between Berytus and Botrys: it was the royal reſidence of Cinyras; ſacred to Adonis. Pompey delivered it from a tyrant, whom he cauſed to be beheaded. It ſtood at no great diſtance from the ſea, on an eminence, (Strabo); near it ran the Adonis into the Mediterranean. Now in ruins.

BYCHOW, a ſmall town of Lithuania in Poland, ſituated on the river Nieper, in E. Long. 30. 2. N. Lat. 53. 57.

BY-LAWS, are laws made *obiter*, or by the by; ſuch as orders and conſtitutions of corporations for the governing of their members, of court-leets, and courts baron; commoners, or inhabitants in vills, &c. made by common aſſent, for the good of thoſe that made them, in particular caſes whereunto the public law doth not extend; ſo that they bind farther than the common or ſtatute law: guilds and fraternities of trades by letters patent of incorporation, may likewiſe make by-laws for the better regulation of trade among themſelves or with others. In Scotland theſe laws are called law, of *birlaw* or *burlaw*; which are made by neighbours elected by common conſent in the *birlaw court*, wherein knowledge is taken of complaints, betwixt neighbour and neighbour; which men ſo choſen are judges and arbitrators, and ſtyled *birlaw-men*. And birlaws, according to Skene, are *leges ruſticorum*, laws made by huſbandmen, or townſhips, concerning neighbourhood among them. All by-laws are to be reaſonable, and for the common benefit, not private advantage of particular perſons, and muſt be agreeable to the public laws in being.

BYNG (George), lord viſcount Torrington, was the ſon of John Byng, Eſq; and was born in 1663.

At the age of 15, he went volunteer to ſea with the king's warrant. His early engagement in this courſe of life gave him little opportunity of acquiring learning or cultivating the polite arts; but by his abilities and activity as a naval commander he furniſhed abundant matter for the pens of others. After being ſeveral times advanced, he was in 1702 raiſed to the command of the Naſſau, a third rate, and was at the taking and burning the French fleet at Vigo; and the next year he was made rear-admiral of the red. In 1704 he ſerved in the grand fleet ſent to the Mediterranean under Sir Cloudeſly Shovel, as rear-admiral of the red; and it was he who commanded the ſquadron that attacked, cannonaded, and reduced Gibraltar. He was in the battle of Malaga, which followed ſoon after; and for his behaviour in that action queen Anne conferred on him the honour of knighthood. In 1705, in about two months time, he took 12 of the enemies largeſt privateers, with the Thetis, a French man of war of 44 guns; and alſo ſeveral merchant ſhips, moſt of them richly laden. The number of men taken on board was 2070, and of guns 334. In 1718, he was made admiral and commander in chief of the fleet; and was ſent with a ſquadron into the Mediterranean for the protection of Italy, according to the obligation England was under by treaty, againſt the invaſion of the Spaniards; who had the year before ſurpriſed Sardinia, and had this year landed an army in Sicily. In this expedition he diſpatched captain Walton in the Canterbury, with five more ſhips in purſuit of ſix Spaniſh men of war, with galleys, fire-ſhips, bomb-veſſels, and ſtore-ſhips, who ſeparated from the main fleet, and ſtood in for the Sicilian ſhore. The captain's laconic epiſtle on this occaſion is worthy of notice; which ſhewed that fighting was his talent as well as his admiral's, and not writing.

"Sir,

"We have taken and deſtroyed all the Spaniſh ſhips "and veſſels which were upon the coaſt, as per margin.

Canterbury, off Syracuſe, "I am, &c.
August 16th, 1718. G. Walton."

From the account referred to, it appeared that he had taken four Spaniſh men of war, with a bomb-veſſel and a ſhip laden with arms; and burned four, with a fire-ſhip and bomb-veſſel. The king made the admiral an handſome preſent, and ſent him plenipotentiary powers to negociate with the princes and ſtates of Italy as there ſhould be occaſion. He procured the emperor's troops free acceſs into the fortreſſes that ſtill held out in Sicily; ſailed afterwards to Malta, and brought out the Sicilian gallies, and a ſhip belonging to the Turkey company. Soon after he received a gracious letter from the emperor Charles VI. written with his own hand, accompanied with a picture of his imperial majeſty, ſet round with very large diamonds, as a mark of the grateful ſenſe he had of his ſervices. It was entirely owing to his advice and aſſiſtance that the Germans retook the city of Meſſina in 1719, and deſtroyed the ſhips that lay in the baſon; which completed the ruin of the naval power of Spain. The Spaniards being much diſtreſſed, offered to quit Sicily; but the admiral declared, that the troops ſhould never be ſuffered to quit the iſland till the king of Spain had acceded to the quadruple alliance. And to his conduct it was entirely owing that Sicily was ſubdued, and his Catholic majeſty forced to accept the terms preſcribed him by the quadruple alliance. After performing ſo many ſignal ſervices, the king received him with the moſt gracious expreſſions of favour and ſatisfaction; made him rear-admiral of England and treaſurer of the navy, one of his moſt honorable privy-council, baron Byng of Southill in the county of Bedford, viſcount Torrington in Devonſhire, and one of the knights companions of the Bath upon the revival of that order. In 1727, George II. on his acceſſion to the crown, placed him at the head of his naval affairs, as firſt lord commiſſioner of the admiralty; in which high ſtation he died January 15th 1733, in the 70th year of his age, and was buried at Southill in Bedfordſhire.

BYNG (the honorable George), Eſq; the unhappy ſon of the former, was bred to ſea, and roſe to the rank of admiral of the blue. He gave many proofs of courage; but was at laſt ſhot, upon a dubious ſentence for neglect of duty, 1757. See BRITAIN, N° 433.

BYRLAW or *BURLAW-Laws* in Scotland. See BY-LAWS.

BYROM (John), an ingenious poet of Mancheſter, born in 1691. His firſt poetical eſſay appeared in the Spectator, N° 603, beginning, "My time, O ye muſes, was happily ſpent;" which, with two humorous letters on dreams, are to be found in the eighth volume. He was admitted a member of the royal ſociety in 1724; and having originally entertained thoughts of practiſing phyſic, to which the title of *doctor* is incident, that was the appellation by which he was always known: but reducing himſelf to narrow circumſtances by a precipitate marriage, he ſupported himſelf by teaching a new method of writing ſhort-hand, of his own invention; until an eſtate devolved to him by the death of an elder brother. He was a man of lively wit; of which, whenever a favourable opportunity tempted him to indulge it, he gave many humorous ſpecimens. He died in 1763; and a collection of his Miſcellaneous poems was printed at Mancheſter, in 2 vols 8vo. 1773.

BYRRHUS, in zoology, a genus of inſects belonging to the order of coleoptera. The feelers are clavated, pretty ſolid, and a little compreſſed. There are five ſpecies, all of which are to be found on particular plants; and principally diſtinguiſhed from one another by the colour and figure of the elytra, or cruſtaceous wing-caſes.

The byrrhus ſcrophulariæ, which is very common upon flowers, it is very hard to deſcribe properly. Its body is almoſt oval; the ground colour black; but the under part of the abdomen appears almoſt entirely white, owing to an infinite number of minute ſcales, of that colour with which it is covered. The head is ſmall, and often drawn back under the thorax, which latter is broad, covered with white and reddiſh ſcales, through which the black ground in ſome places appears.

pears. The elytra are bent in, and even rather incloſe the ſides and under part of the body. They are black, with white and red ſcales, which form a kind of embroidered work. Firſt, there is obſervable a white tranſverſal ſtripe, ſomewhat broad on the top of the elytra; at the bottom of them there are two white diſtinct ſpots near the ſuture, one upon each elytrum. The ruddy colour occupies chiefly the lower end of the ſuture of the elytra, and the upper part of them, near their connection with the thorax. This ſpecies is common in gardens. If rubbed, the ſmall coloured ſcale comes off, and the inſect appears almoſt entirely black.

The Byrrhus verbaſci is much ſmaller than the preceding ſpecies; its figure and form are however the ſame; only that the ſcales which cover the elytra are more numerous and cloſer ſet, ſo that the black colour, which conſtitutes the ground of the elytra, is no where to be ſeen. The ſcales form three ſtripes, white, tranſverſal, and undulated, between which intervene ſtripes of a reddiſh brown, ſhaped in the ſame manner. They are ſometimes to be met with ſtripped of part of their ſcales, which renders them ſo different as not to be known for the ſame creatures. The larvæ of this inſect, as alſo thoſe of the preceding ſpecies, are extremely voracious, and much reſemble thoſe of the dermeſtæ. People who collect ſubjects of natural hiſtory, are greatly peſtered, and but too well acquainted with them.

BYSSUS, in botany: A genus of the 57th natural order, *viz. Algæ*, belonging to the cryptogamia claſs of plants. It has a *down*, or very fine uniform powder. The character is taken from this circumſtance, that they are covered with a ſimple capillary filament or down, reſembling ſoft duſt. There are 15 ſpecies, all natives of Britain, growing upon rotten wood, old walls, &c.

Byssus, or *Byſſum*, a fine thready matter, produced in India, Egypt, and about Elis in Achaia, of which the richeſt apparel was anciently made, eſpecially that wore by the prieſts both Jewiſh and Egyptian. Some interpreters render the Greek Βυσσος, which occurs both in the Old and New Teſtament, by *fine linen*. But other verſions, as Calvin's, and the Spaniſh printed at Venice in 1556, explain the word by *ſilk*; and yet byſſus muſt have been different from our ſilk, as appears from a multitude of ancient writers, and particularly from Jul. Pollux. M. Simon, who renders the word by fine linen, adds a note to explain it; viz. "that there was a fine kind of linen very dear, which the great lords alone wore in this country as well as in Egypt." This account agrees perfectly well with that given by Heſychius, as well as what is obſerved by Bochart, that the byſſus was a finer kind of linen, which was frequently dyed of a purple colour. Some authors will have the byſſus to be the ſame with our cotton; others take it for the *linum aſbeſtinum*; and others for the lock or bunch of ſilky hair found adhering to the pinna marina, by which it faſtens itſelf to the neighbouring bodies. Authors uſually diſtinguiſh two ſorts of byſſus; that of Elis, and that of Judæa, which was the fineſt. Of this latter were the prieſtly ornaments made. Bonfrerius notes, that there muſt have been two ſorts of byſſus, one finer than ordinary, by reaſon there are two Hebrew words uſed in Scripture to denote byſſus; one of which is always uſed in ſpeaking of the habit of the prieſts, and the other of that of the Levites.

Byssus Aſbeſtinus, a ſpecies of Aſbeſtus or incombuſtible flax, compoſed of fine flexible fibres parallel to one another. It is found plentifully in Sweden, either white, or of different ſhades of green. At a copper mine in Weſtmannland it forms the greateſt part of the vein out of which the ore is dug; and by the heat of the furnace which ſmelts the metal, is changed into a pure ſemitranſparent ſlag or glaſs.

BYZANTIUM, an ancient city of Thrace, ſituated on the Boſphorus. It was founded, according to Euſebius, about the 30th Olympiad, while Tullus Hoſtilius reigned in Rome. But according to Diodorus Siculus, the foundations of this metropolis were laid in the time of the Argonauts, by one Byſas, who then reigned in the neighbouring country, and from whom the city was called *Byzantium*. This Byſas, according to Euſtathius, arrived in Thrace a little before the Argonauts came into thoſe ſeas, and ſettled there with a colony of Megarenſes. Velleius Paterculus aſcribes the founding of Byzantium to the Mileſians, and Ammianus Marcellinus to the inhabitants of Attica. Some ancient medals of Byzantium, which have reached our times, bear the name and head of Byſas, with the prow of a ſhip on the reverſe. The year after the deſtruction of Jeruſalem by Titus, Byzantium was reduced to the form of a Roman province. In the year 193 this city took part with Niger againſt Severus. It was ſtrongly garriſoned by Niger, as being a place of the utmoſt importance. It was ſoon after inveſted by Severus; and as he was univerſally hated on account of his cruelty, the inhabitants defended themſelves with the greateſt reſolution. They had been ſupplied with a great number of warlike machines, moſt of them invented and built by Periſcus a native of Nicæa, and the greateſt engineer of his age. For a long time they baffled all the attempts of the aſſailants, killed great numbers of them, cruſhed ſuch as approached the walls with large ſtones; and when ſtones began to fail, they uſed the ſtatues of their gods and heroes. At laſt they were obliged to ſubmit, through famine, after having been reduced to the neceſſity of devouring one another. The conqueror put all the magiſtrates and ſoldiers to the ſword; but ſpared the engineer Periſcus. Before this ſiege, Byzantium was the greateſt, moſt populous, and wealthieſt city of Thrace. It was ſurrounded by walls of an extraordinary height and breadth; and defended by a great number of towers, ſeven of which were built with ſuch art, that the leaſt noiſe heard in one of them was immediately conveyed to all the reſt. Severus, however, no ſooner became maſter of it, than he commanded it to be laid in aſhes. The inhabitants were ſtripped of all their effects, publicly ſold for ſlaves, and the walls levelled with the ground. But by the chronicle of Alexandria we are informed, that ſoon after this terrible cataſtrophe, Severus himſelf cauſed a great part of the city to be rebuilt, calling it *Antonina*, from his ſon Caracalla, who aſſumed the ſurname of *Antoninus*. In 262, the tyrant Gallienus wreaked his fury on the inhabitants of Byzantium. He intended to beſiege it; but on his arrival, deſpaired of being able to make himſelf maſter of ſuch a ſtrong place. He was admitted the next day, however, into the city; and without any regard to the terms he had agreed to, the

Byzantium

the ſword. Trebellius Pollio ſays, that not a ſingle perſon was left alive. What the reaſon was for ſuch an extraordinary maſſacre, we are no where informed. In the wars between the emperors Licinius and Maximin, the city of Byzantium was obliged to ſubmit to the latter, but was ſoon after recovered by Licinius. In the year 323, it was taken from Licinius by Conſtantine the Great, who in 330 enlarged and beautified it, with a deſign to make it the ſecond, if not the firſt, city in the Roman empire. He began with extending the walls of the ancient city from ſea to ſea; and while ſome of the workmen were buſied in rearing them, others were employed in raiſing within them a great number of ſtately buildings, and among others a palace no way inferior in magnificence and extent to that of Rome. He built a capitol and amphitheatre, made a circus maximus, ſeveral forums, porticoes, and public baths. He divided the whole city into 14 regions, and granted the inhabitants many privileges and immunities. By this means Byzantium became one of the moſt flouriſhing and populous cities of the empire. Vaſt numbers of people flocked thither from Pontus, Thrace, and Aſia, Conſtantine having by a law, enacted this year (330), decreed, that ſuch as had lands in thoſe countries ſhould not be at liberty to diſpoſe of them, nor even leave them to their proper heirs at their death, unleſs they had an houſe in his new city. But however deſirous the emperor was that his city ſhould be filled with people, he did not care that it ſhould be inhabited by any but Chriſtians. He therefore cauſed all the idols to be pulled down, and all their churches conſecrated to the true God. He built beſides an incredible number of churches, and cauſed croſſes to be erected in all the ſquares and public places. Moſt of the buildings being finiſhed, it was ſolemnly dedicated to the Virgin Mary, according to Cedrenus, but, according to Euſebius, to the God of Martyrs. At the ſame time Byzantium was equalled to Rome. The ſame rights, immunities and privileges, were granted to its inhabitants as to thoſe of the metropolis. He eſtabliſhed a ſenate and other magiſtrates, with a power and authority equal to thoſe of old Rome. He took up his reſidence in the new city; and changed its name to CONSTANTINOPLE.

Bzovius

BZOVIUS (Abraham), one of the moſt celebrated writers in the 17th century, with reſpect to the aſtoniſhing number of pieces compoſed by him. His chief work is the continuation of Baronius's annals. He was a native of Poland, and a Dominican friar. Upon his coming to Rome, he was received with open arms by the Pope, and had an apartment aſſigned him in the Vatican. He merited that reception, for he has imitated Baronius to admiration in his deſign of making all things conſpire to the deſpotic power and glory of the papal ſee. He died in 1637, aged 70

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